



ACTION REQUIRED

Date: June 15, 2017

To: TTC Board

From: TTC Audit & Risk Management Committee

Subject: Auditor General's Report – Toronto Transit Commission – Results of 2017
Follow-up of Previous Audit Recommendations

The subject report, reviewed at the TTC Audit and Risk Management Committee on May 29, 2017, is forwarded to the TTC Board for review and consideration, and forwarding to the next City of Toronto Audit Committee meeting.

Original signed by V. Rodo

Vincent Rodo
Chief Financial &
Administration Officer

Attachments: Auditor General's Report – Toronto Transit Commission – Results of 2017
Follow-up of Previous Audit Recommendations

Toronto Transit Commission – Results of 2017 Follow-up of Previous Audit Recommendations

Date: May 23, 2017

To: TTC Audit and Risk Management Committee

From: Auditor General

Wards: All

SUMMARY

The Auditor General's Office conducts an annual follow-up review to assess the implementation status of previously issued audit recommendations. This report provides the recommendation follow-up results for the following four Toronto Transit Commission (TTC) audit reports:

- Review of Bus Maintenance and Shops Department, Phase Two: Non-Revenue Fleet and Equipment Management and Maintenance, 2015
- Review of Toronto Transit Commission, Non-Revenue Vehicle Fuel Card Controls Need Immediate Improvement, 2015
- Review of Bus Maintenance and Shops Department, Phase One: Bus Maintenance and Warranty Administration, 2014
- Review of Wheel-Trans Services – Sustaining Level and Quality of Service Requires Changes to the Program, 2012

Of the total 39 recommendations assessed in the current follow-up process, 13 recommendations, or 33 per cent, have been determined as fully implemented. For the remaining 26 recommendations, TTC staff have made significant progress towards implementing the recommended changes.

RECOMMENDATIONS

The Auditor General recommends that:

1. The Toronto Transit Commission (TTC) Audit and Risk Management Committee receive this report for information and forward the report to the TTC Board.

FINANCIAL IMPACT

The recommendation in this report has no financial impact.

DECISION HISTORY

The Auditor General conducts an annual follow-up review to determine whether management has implemented recommendations in audit reports issued. The follow-up review is part of the Auditor General's Annual Work Plan.

We conducted this follow-up audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

The Auditor General's annual follow-up review on outstanding audit recommendations requires that management provides a written response on the implementation status of each recommendation contained in the audit reports. Where management indicates that a recommendation is not implemented, audit work is not performed. For those recommendations reported by management as implemented, audit staff conduct additional analysis and testing, and review relevant information to verify management assertions.

Our verification is based on audit work conducted between April and May 2017.

For recommendations verified as fully implemented by audit staff, no further work is conducted on those recommendations in subsequent audit follow-up cycles. Ongoing implementation and maintenance of audit recommendations, such as policy and procedure enhancements or improved controls, rely on management's continuous efforts beyond the audit follow-up process.

The Wheel-Trans audit report was presented to the TTC Audit and Risk Management Committee at its December 19, 2012 meeting and to the TTC Board on February 19, 2013. This is our fourth follow-up on Wheel-Trans audit recommendations.

The Bus Maintenance Phase One audit report was presented to the TTC Audit and Risk Management Committee at its February 11, 2014 meeting and to the TTC Board on February 24, 2014. This is our third follow-up review on Bus Maintenance Phase One audit recommendations.

Both the Bus Maintenance Phase Two audit report and the Non-Revenue Fuel Card report were presented to the TTC Audit and Risk Management Committee at its February 19, 2015 meeting and to the TTC Board on March 26, 2015. This is our second follow-up review on recommendations included in these two audit reports.

The previous Auditor General's follow-up reports on TTC audits are available at:

<http://www.toronto.ca/legdocs/mmis/2014/au/bgrd/backgroundfile-70598.pdf>

<http://www.toronto.ca/legdocs/mmis/2015/au/bgrd/backgroundfile-81442.pdf>

<http://www.toronto.ca/legdocs/mmis/2016/au/bgrd/backgroundfile-94489.pdf>

COMMENTS

Table 1 outlines our current assessment results of the implementation status of recommendations in the four TTC audit reports.

Table 1: Results of the Current Follow-up Review

Report Title and Date	Total Issued	Total Outstanding	Results of Current Review	
			Fully Implemented	Not Fully Implemented
Review of Bus Maintenance and Shops Department, Phase Two: Non-Revenue Fleet and Equipment Management and Maintenance (February 2015)	21	12	1	11
Review of Toronto Transit Commission Non-Revenue Vehicle Fuel Card Controls Need Immediate Improvement (February 2015)	4	3	3	0
Review of Bus Maintenance and Shops Department, Phase One: Bus Maintenance and Warranty Administration (January 2014)	18	13	4	9
Review of Wheel-Trans Services – Sustaining Level and Quality of Service Requires Changes to the Program (December 2012)	22	11	5	6
Total	65	39	13	26

Attachment 1 lists the fully implemented recommendations.

Attachment 2 lists recommendations not fully implemented, along with management comments and action plans. The outstanding recommendations in Attachment 2 will be reviewed in subsequent years until determined to be fully implemented.

A brief summary of the noteworthy 2017 follow-up results is provided below:

Review of Wheel-Trans Services – Sustaining Level and Quality of Service Requires Changes to the Program, December 2012

Of the total 22 recommendations in the audit report, 11 recommendations had been assessed as fully implemented in our previous follow-up reviews. Of the remaining 11 recommendations assessed this year, five were determined as fully implemented, and the remaining six as partially implemented.

Among the six partially implemented recommendations from our 2012 report, Recommendation 2 requests the TTC to develop and implement a comprehensive plan for integrating Wheel-Trans customers into the accessible conventional transit system.

Following the 2012 audit report, and in response to the new legislative requirements and growing service demand, TTC staff have undertaken significant work to develop a 10 Year Strategy to transform the delivery of Wheel-Trans services. Staff provided the Board with two reports in 2016 outlining the 10 Year Strategy and projected financial impact, and a progress update.

According to the September 2016 staff report, the implementation of the Wheel-Trans 10 Year Strategy will potentially result in approximately \$310.8 million cost avoidance (net of total \$47.6 million additional operating and capital costs) over 10 years.

It is important that staff expedite the work to address the outstanding audit recommendations.

Review of Bus Maintenance and Shops Department, Phase One: Bus Maintenance and Warranty Administration, January 2014

Our 2014 audit provided a total of 18 recommendations, of which four recommendations had been assessed as fully implemented and one no longer applicable in the previous follow-up reviews. Of the remaining 13 recommendations assessed this year, four were determined as fully implemented and the remaining nine partially implemented.

In our 2014 audit, we provided five recommendations to improve warranty administration. In response to our recommendations, multiple TTC departmental staff have worked together to develop and implement a new warranty process and controls to ensure defective parts eligible for warranty are identified and returned to the warranty administration group for claims submission. To date the new process has been rolled out to all bus garages.

While significant improvement was noted in the warranty claim process as a result of a concerted effort by TTC staff, the new process has just been implemented and it will take some time for staff to familiarize with it and to maximize the warranty claims.

During our current follow-up review, we noted that the parts return rate was 75 per cent in 2016 while the internal target is 90 per cent. The warranty claims rate for the first four months of 2017 was 20 per cent with a backlog of claims to be processed.

As a result, three of the five audit recommendations relating to warranty administration remain not fully implemented.

While there is still potential to improve the parts return and warranty claim process, to date the new process has already resulted in significant savings for the TTC. To assess the amount of savings from the new process, audit staff manually analysed a large volume of warranty related data, and contacted third parties to obtain their warranty costs. Based on the analysis, additional revenue in 2016 as a result of the new bus warranty claim process was assessed to be approximately \$5.8 million.

In addition, as a result of the new process and the diligence of the Bus Warranty Administration staff in pursuing new bus warranty claims, manufacturers provided proactive repairs for many TTC buses in 2016. The value of this work was approximately \$8 million in 2016.

In total, TTC achieved \$13.8 million additional warranty savings in 2016.

Review of Toronto Transit Commission Non-Revenue Vehicle Fuel Card Controls Need Immediate Improvement, December 2014

Our 2014 audit report provided a total of four recommendations of which one recommendation had been assessed as fully implemented in the previous follow-up review. Of the remaining three recommendations assessed this year, all of them were determined as fully implemented.

Recommendation 4 in the audit report requests TTC staff to work with the City of Toronto Fleet Services Division to determine the feasibility and merits of utilizing the City's fuel supply system, including the City operated fuel stations.

In April 2016 the TTC began using City fuelling sites which resulted in one-time savings of \$55,000 by avoiding the purchase of a database licence, server hardware, and other implementation costs. The TTC will also avoid annual recurring maintenance costs of \$133,000. In total, the TTC will save approximately \$720,000 over five years.

Next Steps

We will include the results of this follow-up review in a consolidated report to the City Audit Committee in June 2017. The consolidated report will include a summary of our review of outstanding recommendations for all City Agencies and Corporations.

We express our appreciation for the co-operation and assistance we received from management and staff of the Toronto Transit Commission.

CONTACT

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SIGNATURE



For Beverly Romeo-Beehler
Auditor General

ATTACHMENTS

Attachment 1: Recommendations – Fully Implemented
Attachment 2: Recommendations – Not Fully Implemented

Recommendations – Fully Implemented

Division: Toronto Transit Commission
 Report Date: 02/06/2015
 Report Title: Review of Toronto Transit Commission Bus Maintenance and Shops Department,
 Phase Two: Non-Revenue Fleet and Equipment Management and Maintenance

No.	Recommendation
08	<p>The Board request the Chief Executive Officer to review inventory management of non-revenue vehicles and fleet equipment to ensure the inventory is accurate, complete, and up-to-date. Steps to be taken should include but not be limited to:</p> <ul style="list-style-type: none"> a. Assigning a staff person responsible for the oversight and management of inventory; b. Establishing clear policy and criteria defining the type and value of assets to be tracked; c. Ensuring records kept in the Vehicle Work Order (VWO) system meet annual asset reporting requirements; and d. Expanding the current criteria for tracking fleet equipment in VWO to establish a centralized and complete fleet equipment database.

Division: Toronto Transit Commission
 Report Date: 02/06/2015
 Report Title: Review of Toronto Transit Commission, Non-Revenue Vehicle Fuel Card Controls
 Need Immediate Improvement

No.	Recommendation
01	The Board request the Chief Executive Officer to review and revise the current fuel card policy and procedures such that adequate controls are developed and implemented to facilitate effective monitoring of fuel card transactions and detection of questionable transactions.
03	<p>The Board request the Chief Executive Officer to strengthen existing fuel card administration and monitoring processes by the Systems Contract and Administration Unit. Steps to be taken should include but not be limited to:</p> <ul style="list-style-type: none"> a. Ensuring the issuance of fuel cards and personal identification numbers are in accordance with the policy and procedural requirements; b. Improving the effectiveness of transaction sample reviews by the Systems Contract and Administration Unit; and c. Defining exception reporting requirements and providing regular exception reports to aid management review of fuel card transactions and monitoring.
04	The Board request the Chief Executive Officer to, prior to issuing TTC's next fuel card contract in 2016, work with the Director of the City of Toronto Fleet Services Division to determine the feasibility and merits of utilizing the City's fuel supply system including the City operated fuel stations, the City fuel card, and the radio-frequency identification technology.

Division: Toronto Transit Commission
 Report Date: 01/28/2014
 Report Title: Review of Toronto Transit Commission Bus Maintenance and Shops Department,
 Phase One: Bus Maintenance and Warranty Administration

No.	Recommendation
04	<p>The Board request the Chief Executive Officer to improve efficiency of bus preventive maintenance inspections and increase bus availability for service by:</p> <ul style="list-style-type: none"> a. Avoiding duplication of a Safety Check when a comprehensive semi-annual inspection is scheduled; and b. Consistent alignment of Safety Checks and Lubrication Inspections where possible.
14	<p>The Board request the Chief Executive Officer to take necessary steps to minimize the number of warranty claims denied by bus manufactures based on “no fault found” in submitted defective parts or warranty administrative issues.</p>
16	<p>The Board request the Chief Executive Officer to provide an adequately designed and supported bus warranty management information system facilitating effective and efficient management of warranty claims and recoveries.</p>
18	<p>The Board request the Chief Executive Officer to develop a plan for hybrid buses to help minimize increasing maintenance costs in future operating budgets. Such a plan should include a review of alternatives and other transit agencies’ experiences in maintaining their hybrid bus fleets.</p>

Division: Toronto Transit Commission
 Report Date: 12/06/2012
 Report Title: Review of Wheel-Trans Services - Sustaining Level and Quality of Service Requires Changes to the Program

No.	Recommendation
03	<p>The Commission request the Chief Executive Officer to expedite the planning and implementation of an eligibility classification system for Wheel-Trans services in accordance with requirements set forth in the Integrated Accessibility Standards Regulation made under the Accessibility for Ontarians with Disabilities Act.</p>
04	<p>The Commission request the Chief Executive Officer, in consultation with the Advisory Committee on Accessible Transit, to review and enhance the Wheel-Trans eligibility assessment process and criteria to ensure that applicants’ abilities to use the conventional transit system are objectively and credibly appraised. Steps to be considered should include but not be limited to:</p> <ul style="list-style-type: none"> a. Requiring a medical or health certification regarding mobility conditions as part of the application process; b. Considering the merits and cost-effectiveness of incorporating functional evaluations into the eligibility assessment process; and c. Evaluating the effectiveness of the assessment criteria, scoring scheme, and threshold points for eligibility. <p>The review should also take into consideration the process used by other providers throughout Canada and the United States.</p>
06	<p>The Commission request the Chief Executive Officer, in consultation with the Advisory Committee on Accessible Transit, give consideration to the establishment of a policy to discourage repetitive late cancellations and “no-shows” for Wheel-Trans eligibility assessment or appeal appointments.</p>
10	<p>The Commission request the Chief Executive Officer, in consultation with the Advisory Committee on Accessible Transit, to consider developing procedures to identify and contact Wheel-Trans customers</p>

No.	Recommendation
	who consistently miss their scheduled trips to ensure they have a clear understanding of the pick-up and wait time rules.
15	The Commission request the Chief Executive Officer to re-assess the needs for the existing Wheel-Trans community bus routes, and cancel or develop alternate routes to ensure the services are cost efficient and effective.

Recommendations – Not Fully Implemented

Division: Toronto Transit Commission
 Report Date: 02/06/2015
 Report Title: Review of Toronto Transit Commission Bus Maintenance and Shops Department, Phase Two: Non-Revenue Fleet and Equipment Management and Maintenance

No.	Recommendation	Management Comments
02	<p>The Board request the Chief Executive Officer to consider implementing a chargeback process or other measures for non-revenue vehicle and equipment costs to help optimize use of vehicle and equipment resources by user departments and enhance accountability.</p>	<p>Improvements to the vehicle maintenance tracking system and a new vehicle GPS system are needed to better capture mileage and maintenance data. This data will then be used to create annual reports for distribution to the end users of the vehicles. Charge back will be applied to each end user using this data. Reports will identify the following:</p> <ul style="list-style-type: none"> • Total Annual Maintenance • Total Annual Fuel Costs • Total Vehicle Purchases and Vehicle Rental Costs <p>Improvements to the vehicle maintenance system and a pilot to install a GPS system commenced in 2015. The pilot was unsuccessful as the GPS software did not capture, transmit and report all the data in a timely manner.</p> <p>Action Plan & Schedule:</p> <ul style="list-style-type: none"> • A second pilot is being planned with an alternate manufacturer - Clever Devices. Clever Devices is contracted to supply a CAD/AVL system for the City Buses and Streetcars. The system proposed for the Non-Revenue Fleet will be a scaled down version. A contract amendment to the City Bus/Streetcar contract is being prepared for Q1-2017. The pilot is expected to be re-conducted in Q4 of 2017 and evaluated in Q1 of 2018. • User reports will be developed once GPS kilometer and stockroom parts tracking are available in VWO. These reports will allow costs and vehicle utilization to be shared with user departments. • Full GPS installation and stockroom parts tracking – Q4-2018
03	<p>The Board request the Chief Executive Officer to enhance the current review and approval process for non-revenue vehicle and equipment acquisitions such that the needs, purposes, and projected usage of the requested vehicles and equipment can be adequately evaluated.</p>	<p>The new process established in 2016 is in place, using standardized Fleet Asset Management forms (also called Business Case document) and with more review requirement being the focus of the review. The process is focused on the following key areas:</p> <ul style="list-style-type: none"> • Timely communication of needs by the user departments • Formal documented of internal approval using standard form • Adequate documentation on a standard form requesting user justification, advantages and impact on the user groups operations if the requested asset is not fulfilled • Formal review of the request by dedicated staff from the NRV Vehicle Engineering Section and formal documentation of the review on standard form is shared with the user requesting group <p>User departments have raised all their new requests using business case document and as per the new process the requests are flowing</p>

No.	Recommendation	Management Comments
		<p>through various levels of review and approvals. However, none of the requests are deemed complete for purchase approval, at this point of time.</p> <p>Once a new vehicle transaction cycle is completed under the new process for requisitions raised, all the documentation will be available for verification and to establish the successful implementation of the recommendation. We are expecting to have a full request to purchase approval cycle available for review by Q4 – 2017.</p>
04	<p>The Board request the Chief Executive Officer to conduct detailed reviews of utilization levels of non-revenue vehicles and equipment to identify and minimize underutilized vehicles and equipment.</p>	<p>Non-Revenue vehicle utilization was reviewed as part of the Business Case assessment described in Recommendation #3.</p> <p>Pilot installation of GPS tracking equipment to monitor mileage and utilization was completed Q4-2015. However the initial pilot company's data was deemed incomplete for vehicle tracking and therefore the pilot was unsuccessful and discontinued in early 2016. A proper analysis of vehicle utilization therefore could not be completed.</p> <p>Action Plan & Schedule:</p> <ul style="list-style-type: none"> • Reference Recommendation #2: <p>A second pilot is being planned with an alternate manufacturer - Clever Devices. Clever Devices is contracted to supply a CAD/AVL system for the City Buses and Streetcars. The system proposed for the Non-Revenue Fleet will be a scaled down version. A contract amendment to the City Bus/Streetcar contract is being prepared for Q1-2017. The pilot is expected to be re-conducted in Q4 of 2017 and evaluated in Q1 of 2018.</p> <p>User reports will be developed once GPS kilometer and stockroom parts tracking are available in VWO. These reports will allow costs and vehicle utilization to be shared with user departments.</p> <p>Full GPS installation and stockroom parts tracking – Q4-2018</p>
07	<p>The Board request the Chief Executive Officer to ensure that vehicle life cycle costs are actively monitored and analyzed as part of the non-revenue fleet management functions. A re-assessment of the current non-revenue vehicle replacement criteria should be undertaken to ensure the criteria are effective in preventing excessive maintenance and repair costs.</p>	<p>The TTC's replacement criteria were reviewed to ensure the vehicle lifecycle is maximized without incurring excessive maintenance costs. The TTC's replacement criteria are in sync with the City of Toronto's fleet and equipment criteria completed in Q2-2015.</p> <p>Upgrades to the IFS/VWO system were performed to better collect data and track lifecycle costs of city buses as part of the Phase 1 Audit recommendations. Similar upgrades will be performed to the Non-Revenue IFS/VWO system. In addition to the upgrade, process improvements will include implementing improved material inventory controls at Duncan and Lakeshore locations.</p> <p>Action Plan & Schedule:</p> <ul style="list-style-type: none"> • Lakeshore stockroom modification to allow monitoring of parts tracking is to begin implementation in Q2-2017, and then VWO systems will be updated to track parts to each work order. Duncan NR stockroom is still under review for other parts tracking options.

No.	Recommendation	Management Comments
		<ul style="list-style-type: none"> Completion is targeted for Q4-2017
13	<p>The Board request the Chief Executive Officer to take steps to improve non-revenue vehicle user compliance with scheduled maintenance, including steps to address user concerns.</p>	<p>Monthly inspection calls out reports have been improved, to identify current and future planned maintenance. The call outs aid users of upcoming pending maintenance activities, so the user can plan their work around the asset maintenance. Sample calls out sheets are available for review.</p> <p>More accurate maintenance scheduling will be developed with the implementation of GPS vehicle tracking. GPS mileage information is required to improve maintenance accuracy. This information needs to be automatically linked and uploaded to the IFS/VWO system. The GPS pilot installation completed in Q4-2015 was unsuccessful as identified earlier in this report. A second GPS pilot is planned for Q2-2017.</p> <p>Action Plan & Schedule:</p> <ul style="list-style-type: none"> A second pilot using alternate hardware is being scheduled for 2017.
14	<p>The Board request the Chief Executive Officer to ensure accurate and up-to-date non-revenue vehicle kilometrage data are obtained to facilitate effective preventive maintenance scheduling.</p>	<p>The first GPS pilot evaluation was completed Q4-2015, however the pilot was unsuccessful due to inaccurate asset GPS mapping as well as software issues which did not correctly transfer data into the TTC IFS/VWO system.</p> <p>Action Plan & Schedule:</p> <ul style="list-style-type: none"> Reference Recommendation #2: <p>A second pilot is being planned with an alternate manufacturer - Clever Devices. Clever Devices is contracted to supply a CAD/AVL system for the City Buses and Streetcars. The system proposed for the Non-Revenue Fleet will be a scaled down version. A contract amendment to the City Bus/Streetcar contract is being prepared for Q1-2017. The pilot is expected to be re-conducted in Q4 of 2017 and evaluated in Q1 of 2018.</p> <p>User reports will be developed once GPS kilometer and stockroom parts tracking are available in VWO. These reports will allow costs and vehicle utilization to be shared with user departments.</p> <p>Full GPS installation and stockroom parts tracking – Q4-2018</p>
15	<p>The Board request the Chief Executive Officer to improve the effectiveness of the Vehicle Work Order system for non-revenue fleet management. Steps to be taken should include but not be limited to:</p> <ol style="list-style-type: none"> Addressing existing preventive maintenance scheduling issues in the system; Ensuring adequate system 	<p>Upgrades to the IFS/VWO System for City Bus Garages were completed in 2016 as part of the Phase 1 Audit Recommendations. Upgrades included features to address items a-e in the above Recommendations.</p> <p>Similar upgrades to the Non-Revenue IFS/VWO system will be made.</p> <p>Action Plan & Schedule:</p> <ul style="list-style-type: none"> Phase #1 – City Bus Garage IFS/VWO update – Completed 2016

No.	Recommendation	Management Comments
	<p>access is provided to garage management staff;</p> <p>c. Re-assessing the practicality of existing data entry controls;</p> <p>d. Ensuring accuracy of system generated management reports; and</p> <p>e. Expanding the existing system reports to include reports on fleet management key performance indicators.</p>	<ul style="list-style-type: none"> Phase #2 - Non-Revenue Vehicle IFS/VWO update – Q4 2017
16	<p>The Board request the Chief Executive Officer to develop and implement non-revenue fleet quality assurance processes to systematically monitor and detect repair quality issues.</p>	<p>A new Vehicle Reliability & Quality Assurance (VRQA) group was established in the Bus Maintenance Department in 2014. The VRQA introduced Reliability Centered Maintenance (RCM) in 2015 to improve bus reliability.</p> <p>RCM are being introduced into the Non-Revenue Vehicle fleet. The first RCM Program being introduced to NRV focuses on the electrical charging system. Key Performance Indicators (KPI) are required to measure the success of these programs. Accurate data will only be possible with the use of a GPS system.</p> <p>Action Plan & Schedule:</p> <ul style="list-style-type: none"> Implementation of new GPS system and development of KPI's to track asset reliability & identify quality issues – Q4 2017
17	<p>The Board request the Chief Executive Officer to ensure adequate controls are in place at TTC garages to deter and detect ordering of non-revenue vehicle and equipment parts for non-TTC uses. Periodic reviews should be considered by TTC internal audit staff.</p>	<p>Staff developed a vehicle post repair parts audit to ensure vehicle parts ordered were actually applied to vehicle repairs completed. This audit SOP is posted on the TTC website in Q3-2015.</p> <p>Action Plan & Schedule:</p> <ul style="list-style-type: none"> Improved material inventory control features in the IFS/VWO system were implemented for the City Bus Garages as part of the Phase 1 Audit Recommendation. Similar controls will be implemented in the NRV sections as part of the NRV IFS/VWO upgrades in Q4-2017 in conjunction Phase #1 – City Bus Garage IFS/VWO update – Completed 2016 Phase #2 - Non-Revenue Vehicle IFS/VWO update – Q4 2017
18	<p>The Board request the Chief Executive Officer to take steps to shorten garage service turnaround time for non-revenue fleet by addressing issues pertaining to garage capacity, availability of technicians, parts availability and maintenance scheduling.</p>	<p>The VWO process and vehicle turnaround time were continuously monitored throughout the year by Forepersons during manual reviews of pending work, to identify and resolve the issues of longer turnaround time for unplanned maintenance. Different steps were identified and are in the process of implementation as follows:</p> <ul style="list-style-type: none"> Timely closing of work orders and controlling work orders left open inadvertently through smart GPS devices. The 2nd pilot GPS project is now expected to be completed by Q4, 2017 with full fleet rollout during 2018.

No.	Recommendation	Management Comments
		<ul style="list-style-type: none"> • The VWO preventive maintenance schedule to consider mileage in addition to calendar date when scheduling future non-revenue asset maintenance. • Extra shifts at workshops during weekends are implemented as required, when workload demands warrant. • Use of controlled stockrooms are being implemented at Lakeshore Garage during the fall of 2017, Duncan Shops stockroom controls are still under review. • Identification of alternate suppliers to secure timely parts supply will be continued in conjunction with the TTC possibly joining with the CoT, Fleet Services blanket parts supply for other agencies, once a new contract is in place. <p>After implementation of some of the above steps a significant reduction in the turnaround time was observed and appreciated by the user departments as well. However due to certain limitations in current VWO system the results of improvement can't be accurately captured. With the upgrading of a non-revenue work order dashboard and the installation of GPS devices in 2018 thus allowing gathering of vehicle KM and engine hours, the problem of data captured will be resolved.</p>
20	<p>The Board request the Chief Executive Officer to establish a formal warranty management process for non-revenue vehicles and fleet equipment such that warranty claims are maximized.</p>	<p>A non-revenue warranty procedure has been developed to identify, track and recoup defective warranty components or equipment. New equipment warranty conditions and timeframes for major components will be registered into the IFS system, as part of the IFS computer system upgrades related to Recommendation #15.</p> <p>A new warranty process SOP has been posted on the NR web page completed Q4-2015.</p> <p>Action Plan & Schedule:</p> <ul style="list-style-type: none"> • Vehicle Maintenance System (VWO) upgrades similar to what was designed for the City Bus warranty tracking, is being integrated into Non-Revenue parts tracking once stockrooms are closed off and direct ordered parts are recorded into VWO. • Lakeshore Garage – Non-Rev Coach Tech parts inputting and stockroom closing and parts tracking to begin - Q2-2017 • Duncan Shop – Non-Rev stockroom options still being evaluated – TBD

Division: Toronto Transit Commission
 Report Date: 01/28/2014
 Report Title: Review of Toronto Transit Commission Bus Maintenance and Shops Department,
 Phase One: Bus Maintenance and Warranty Administration

No.	Recommendation	Management Comments
03	The Board request the Chief Executive Officer to ensure that bus kilometre records used for scheduling preventive maintenance inspections are accurate.	<p>A "Computer Aided Despatch and Automated Vehicle Location" system (CAD/AVL) will replace the Communications and Information System (CIS) that is currently being used to capture mileage. The CIS is obsolete. The new CAD/AVL system will provide accurate kilometer records for all TTC buses. This state-of-the-art equipment and software will also provide real-time monitoring of critical bus systems.</p> <p>Action Plan & Schedule</p> <p>Prototyping and in-service testing is scheduled for the 3rd and 4th quarter of 2017 with total fleet retrofit and launch complete in the 4th quarter of 2018.</p>
08	The Board request the Chief Executive Officer to establish standard repair times for common bus repairs, develop procedures to monitor efficiency of bus repair activities, and incorporate the standard repair times into part of technician performance evaluation.	<p>Upgrades to the maintenance work order system (IFS) included real time tracking of maintenance activities. Rollout to all city bus garages was completed in 2016. The maintenance work order system is now collecting data on all maintenance activities which will be reviewed and analysed by staff at the end of Q2 for major repair activities. Collection and analysis of data for remaining maintenance activities will continue through 2017. Based on analysis, staff will discuss with the Union "Reasonable Repair Times".</p> <p>Action Plan & Schedule</p> <ul style="list-style-type: none"> • Collect Data – 2017 • Analyse & Discuss Data With Union – 2018 • Target for completion is December 2018
09	<p>The Board request the Chief Executive Officer to take the necessary steps to enhance continuous training for Bus Maintenance and Shops Departmental staff. Such steps should include but not be limited to:</p> <p>a. Developing a training policy detailing clear and specific training objectives, requirements and completion timeframes for coach technicians and other job classifications where appropriate; and</p> <p>b. Monitoring the completion of training requirements and addressing non-compliance with training requirements.</p>	<p>Training & Development, in conjunction with Bus Maintenance & Shops, will finalize the Training Policy, core curriculum, and training completion timeframes for all new Coach Technicians. Bus Maintenance & Shops will ensure that the Policy and its requirements are communicated to garage management and adhered to.</p> <p>Bus Maintenance & Shops will track all new Coach Technicians' training progress based on the finalized Training Policy and timeframes using the Corporate Learning Management System and reports, and address non-compliance with training requirements.</p>
10	The Board request the Chief Executive Officer to	In 2017, ITS will be conducting process reengineering to enable the tracking and cost determination of internally rebuild bus

No.	Recommendation	Management Comments
	accurately assess failure rates of major internal bus rebuild parts as well as assessing the costs of rework associated with rebuild failures.	<p>components.</p> <p>Action Plan & Schedule</p> <ul style="list-style-type: none"> • Conduct business analysis of Shops' component rebuild program – 2017 • Identify new process improvements – Q2 2018
11	The Board request the Chief Executive Officer, in his ongoing assessment of outsourcing opportunities, to conduct a complete analysis of internal bus rebuild costs at the Duncan Shop accounting for all key and relevant direct and indirect costs.	<p>CBA negotiations have resulted in a "No Contracting Out Clause" at this time. TTC staff continues to review opportunities for outsourcing component rebuild via "build vs buy analysis". This is in preparation for the next CBA negotiations in 2018.</p> <p>Action Plan & Schedule</p> <ul style="list-style-type: none"> • Review components/maintenance activities and perform cost estimates (rebuild vs buy new) – 2017 • Identify components/maintenance activities that are no longer cost effective to rebuild internally • Discuss in CBA Negotiations – April 2018
12	<p>The Board request the Chief Executive Officer to take immediate steps to improve the current defective parts retrieval process at bus garages including but not limited to:</p> <p>a. Implementing adequate controls to account for and track the return of defective parts by technicians; and</p> <p>b. Enhancing efficiency of the parts retrieval process currently carried out by warranty staff.</p>	<p>New processes and software applications were implemented and rolled out to all seven (7) city bus garages. The new system determines when parts have to be returned by technicians as a result of warranty or core value remaining on the part. Material management personnel now are responsible for managing the collected parts and distributing them to either Warranty staff or Central store.</p> <p>TTC set the target at 90%. Further validation is required. Anticipate results by end of December 31, 2017.</p>
13	<p>The Board request the Chief Executive Officer to take immediate steps to maximize the use of bus warranty provisions and increase warranty recovery revenue. Such steps should include but not be limited to:</p> <p>a. Identifying and addressing reasons prohibiting successful filing of warranty claims;</p> <p>b. Increasing warranty claim submission rate for bus defective parts and labour hours; and</p> <p>c. Systematically tracking</p>	<p>Warranty recovery tracking with automated features has been implemented at all garages:</p> <ul style="list-style-type: none"> • Stock rooms are closed instead of the previous open, self-serve system. • The launch of new software in January 2017 gives notice to employees for parts which need to be returned. • The system provides notice to the foreperson to check that repair details are complete and parts are returned. • The new software tracks claim submissions and warranty cost recovery. <p>Work is in progress and the parts claim submission rate % will be adjusted. The system went live in January 2017. BM&S is currently working on parts that failed in early 2017. Until back log will be cleared June 30, 2017 we will not know whether the new process meets the established target.</p>

No.	Recommendation	Management Comments
	and monitoring claim submission rate and warranty cost recovery for the entire bus fleet.	
15	<p>The Board request the Chief Executive Officer to take steps to ensure proper accounting procedures for bus warranty claims and payments. Such steps should include but not be limited to:</p> <ul style="list-style-type: none"> a. Establish proper accounting procedures for bus warranty payments including setting up accounts receivable for warranty claims, implementing procedures to adjust/write off disputed claims and periodic reconciliations; b. Undertake collection of all valid outstanding claims; and c. Review accounting procedures for warranty payments for other types of TTC vehicles including subway trains and streetcars to ensure adequate financial controls are in place. 	<p>Accounting procedures is a function of the Finance Department. The warranty application has been implemented in Bus Maintenance. In the new process, AR is processing all payments and vendor credit memos related to warranty claims entered into the warranty application. Old claims will continue to follow the old process. The new process is a work in progress; however, it follows our current process for other receivables. The procedures will be written to reflect the unique nature of the warranty claims. Based on 90 day payment terms, claims are not yet outstanding, but when they are, collection will be undertaken. It remains the organization's intention to implement a warranty application for Streetcar and Subway maintenance.</p>
17	<p>The Board request the Chief Executive Officer, in preparing 2015 budget submission relating to shortening existing bus service life policy by three years, to provide clear short and long term financial impact information based on a comprehensive, accurate and objective life-cycle cost analysis.</p>	<p>The 2018 – 2027 bus fleet plan and capital city transit bus procurement budget will be submitted for approval based on the recommendations contained in the WSP consultant report. The fleet will include a move to the recommended 13 year bus life policy which will be completed in conjunction with efforts to procure buses at consistent levels each year. The budget will be submitted for approval by the TTC Budget Committee on September 19, 2017 and then to the Board on October 16, 2017.</p>

Division: Toronto Transit Commission
 Report Date: 12/06/2012
 Report Title: Review of Wheel-Trans Services - Sustaining Level and Quality of Service Requires Changes to the Program

No.	Recommendation	Management Comments
01	The Commission request the Chief Executive Officer, in consultation with the Advisory Committee on Accessible Transit, to explore various short-term options, including a free-ride program on a pilot basis, to encourage Wheel-Trans customers to use the accessible conventional transit system.	The main premise of the Wheel Trans 10 Year Strategy is to integrate those customers who are able with part or all journeys on the Conventional system. The pilot commences in 2017. In accordance with the AODA, there must be fare parity between specialized and conventional transit services. Therefore, the TTC legal team has determined that offering this as an incentive could result in a Ontario Human Rights Codes challenges. We have engaged a consultant to review alternative incentive options and industry practice. We anticipate receiving the report in Q2, 2017.
02	<p>The Commission request the Chief Executive Officer, in consultation with the Advisory Committee on Accessible Transit, to develop and implement a comprehensive plan for integrating Wheel-Trans customers into the accessible conventional transit system. Such an action plan should include but not be limited to:</p> <ul style="list-style-type: none"> a. Identifying and addressing potential safety and service issues that can present barriers to Wheel-Trans customers in using the accessible conventional system; b. Education, communication and training programs for Wheel-Trans customers and transit passengers; and c. Customer service training to TTC staff with particular emphasis on assisting people with mobility difficulties. 	<p>Last year Wheel Trans presented twice to the TTC Board and received unanimous approval for its 10 Year Strategy, a comprehensive plan to adapt new eligibility in accordance with the AODA and change the service delivery model to enable customers to book trips on the conventional system with Wheel Trans support, thereby reducing the overall average trip length and making room for future customers. At the same time, this plan has forecast a cost avoidance of \$300 million in operating costs over 10 years. The TTC has developed a Family of Services strategy based on intermodal trip booking for those customers who are able to use the Conventional system, and plan to integrate Wheel-Trans into the TTC's broader conventional service offerings. The plan includes development of operational processes to ensure successful handoff/connections for customers, as well as customer and operations policies to support intermodal trips for WT customers. The plan calls for an accessibility audit, already underway, of surface routes and subway stations. It also includes a strategy to educate existing and future customers through literature and engagement, with the potential for a customer travel training course to be introduced in 2018 according to demand. Finally, TTC has expanded its training related to disability issues and is in the midst of rolling out this training to its staff, with a targeted duration of two years to complete. The TTC anticipates total rollout of this plan by Q4, 2019.</p>
05	The Commission request the Chief Executive Officer, in consultation with the Advisory Committee on Accessible Transit, to consider initiating a photo identification card program to applicants eligible for Wheel-Trans services.	Wheel Trans is working with the presto farecard team to combine a Presto card with a Wheel Trans ID card. As Presto rolls out across the TTC system, and when it's accepted across all modes of Wheel Trans, then a combination card will be produced.
08	The Commission request the	a. TTC Wheel-Trans has adjusted staffing levels to meet call

No.	Recommendation	Management Comments
	<p>Chief Executive Officer to review Wheel-Trans call center operations and call response capacity. Such review should include but not be limited to:</p> <ul style="list-style-type: none"> a. Shortening reservation line operating hours to allocate more staff resources to the afternoon hours; b. Enhancing internet booking capacity by removing the address change and time booking restrictions; c. Dedicating more staff resources to the priority line to ensure timely call response; d. Addressing the high absenteeism rate among call center staff; and e. Consulting 311 Toronto on ways to improve Wheel-Trans call center response capacity and reduce staff absenteeism rate. 	<p>volumes and in specific, during high-load periods</p> <ul style="list-style-type: none"> b. TTC Wheel-Trans is engaged with IT to implement a new CRM software (to be implemented August 2017) and new inter-modal trip booking software (to be implemented 2019) c. TTC Wheel-Trans has dedicated staff to the priority line to ensure a timely response d. This was addressed in the 2016 response e. This was addressed in the 2016 response
11	<p>The Commission request the Chief Executive Officer, in consultation with the Advisory Committee on Accessible Transit, to consider adopting a more restrictive Wheel-Trans late cancellation and no-show policy after successfully implementing the four-hour cancellation allowance, and incorporating the provisions for re-consideration.</p>	<p>In April 2017, TTC will implement a new late cancellation and no-show policy that will introduce a two-hour cancellation allowance.</p>
22	<p>The Commission request the Chief Executive Officer to reduce the annual printing and mailing costs of Wheel-Trans quarterly newsletters and bulletins to customers. Consideration should also be given to allowing advertisements in the publications to generate revenue.</p>	<p>The annual number of printings has been reduced from 4 to 3. Wheel Trans Customers continue to request a hard copy of the newsletter. Consideration has been given to advertising in the Wheel Trans newsletter to generate revenue, however, currently there is no market to sell advertising. Wheel Trans will continue to seek opportunities for advertising in the newsletter. Expected completion Q4 2017</p>