



AUDITOR GENERAL'S REPORT ACTION REQUIRED

Toronto Transit Commission – Results of 2015 Follow-up of Previous Audit Recommendations

Date:	May 12, 2015
To:	TTC Audit Committee
From:	Auditor General
Wards:	All
Reference Number:	

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 two audit reports:

- Review of Wheel-Trans Services – Sustaining Level and Quality of Service Requires Changes to the Program, 2012
- Review of Bus Maintenance and Shops Department, Phase One: Bus Maintenance and Warranty Administration, 2014

This is our second follow-up review of the 2012 Wheel-Trans audit which provided 22 recommendations. Nine recommendations were determined as fully implemented in the previous follow-up process. Of the remaining 13 recommendations reviewed in the current follow-up process, none are fully implemented.

The Bus Maintenance Phase One report was issued in 2014. As such, this is the first follow-up on the implementation status of the 18 recommendations contained in the report. Of the 18 recommendations, two are fully implemented, and one no longer applicable. While 15 recommendations have not been fully implemented, our assessment found that significant progress has been made by staff.

RECOMMENDATION

The Auditor General recommends that:

1. The TTC Audit 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 process to determine whether management has taken appropriate action to implement recommendations contained in previously issued audit reports. The follow-up process 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 process for follow-up on outstanding audit recommendations requires that management provide a written response on the implementation status of each recommendation contained in audit reports. Where management indicates that a recommendation is not implemented, audit work is not performed. For those recommendations noted 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 during the follow-up period usually between March and April each year. 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 Board at its December 19, 2012 meeting and to the TTC Audit Committee on February 19, 2013. This is our second follow-up on Wheel-Trans audit recommendations.

The Bus Maintenance Phase 1 audit report was presented to the TTC Audit Committee at its February 11, 2014 meeting, and to the TTC Board at its February 24, 2014 meeting.

This is our first follow-up review on recommendations made in the Bus Maintenance Phase One audit.

COMMENTS

Table 1 outlines our current assessment results pertaining to the implementation status of recommendations in the Wheel-Trans audit report and the Bus Maintenance Phase One audit report.

Table 1: Results of the Current Follow-up Review

Report Title and Date	Total	Results of Current Review		
		Fully Implemented	Not Fully Implemented	Not Applicable
Review of Wheel-Trans Services – Sustaining Level and Quality of Service Requires Changes to the Program (December 2012)	13	0	13	-
Review of Bus Maintenance and Shops Department, Phase One: Bus Maintenance and Warranty Administration (January 2014)	18	2	15	1
Total	31	2	28	1

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, nine recommendations had been assessed as fully implemented in 2014. A brief review of the nine fully implemented recommendations and the resulting improvements and cost savings was included in the Auditor General's 2014 follow-up report to the TTC Audit Committee and the Board. The report is available at:

http://www.ttc.ca/About_the_TTC/Audit_Committees/Audit_Committee_Meetings/2014/May_12/Reports/AGs_TTC_Results_of_F.pdf

Of the remaining 13 recommendations assessed this year, none are fully implemented.

Recommendations not fully implemented, along with management’s comments and action plans, are listed in Attachment 2. The outstanding recommendations in Attachment 2 will be reviewed in each year until determined to be fully implemented.

According to TTC staff, they are currently developing a multi-phase strategic plan that will meet the legislative requirement changes and address the audit recommendations.

Bus Maintenance Phase One Audit Report, January, 2014

Of the total 18 recommendations, two are fully implemented and one recommendation no longer applicable. For the remaining 15 recommendations, staff are in the process of implementing recommended changes. The implementation status of these 15 recommendations will be re-assessed next year.

While only two of 18 recommendations have been fully implemented, we are satisfied that concerted efforts are being made to implement recommended changes. Delays in full implementation are due to the need to undertake significant process and system changes across multiple TTC departments.

Fully implemented recommendations are listed in Attachment 1. Recommendations not fully implemented, along with management comments and action plans are listed in Attachment 2. Attachment 3 lists the recommendation no longer applicable and related management comments.

A brief description of progress made to date is provided below.

Recommendation 1: 5,000 km preventive maintenance inspection

Our audit highlighted the need for management to evaluate the merits of the 5,000 km bus preventive maintenance (PM) inspection in preventing mechanical failures. Staff reported that they have reviewed other agency PM practices and analysed TTC maintenance data. Their analyses suggested the 5,000 km PM interval may not be needed for buses under three years old. To ensure the elimination of the 5,000 PM interval will not adversely affect vehicle reliability, staff is piloting the new PM interval in a small fleet of buses until the end of 2015. Initial pilot results have been positive. We concur with TTC's prudent approach to ensure vehicle safety and reliability.

Recommendation 7: Improving bus repair quality

The Bus Maintenance and Shops Department has established a Vehicle Reliability and Quality Assurance Group to better monitor repeated repairs and "road calls" (which are incidents of service delays while vehicles are in service). As a result, bus repair quality and reliability have improved considerably.

Our audit report noted that the average number of mechanically related "road calls" in 2010/2011 was nearly two "road calls" per bus per month. According to data from staff, the average has decreased to less than one "road call" per bus per month between January and March 2015. The "Mean Km Between Delay" indicator has also improved from 5,840 km in December 2013 to 7,356 km in December 2014 (i.e. buses now travel a longer distance before a breakdown). This recommendation is considered fully implemented.

Recommendation 12-16: Warranty administration

Our audit provided five recommendations to improve warranty administration. Based on our sample analysis in 2013, an estimated 70 per cent of bus repairs eligible for warranty claims were not processed by the Department due to missing defective parts or missing repair information. We estimated that improved warranty administration could potentially increase annual warranty revenue by \$4 to \$5 million.

In order to implement the recommended changes, staff need to first improve existing parts inventory and ordering controls at bus garages through the Vehicle Work Order (VWO) system. TTC staff have developed a three-phase action plan:

Phase 1 – Bus Maintenance and Shops Process Improvements

Phase 2 – Bus Maintenance and Shops/ Materials and Procurement Material Return Process

Phase 3 – Streamlining of Warranty Administration Processes

To date staff has piloted new processes in two bus garages. The pilot resulted in improvements not only to bus maintenance operations but also to TTC's material management. Staff reported that the improvements included:

- Restricting stock room access to only authorized Materials and Procurement employees to improve parts inventory controls
- Improving the accuracy of inventory records from 88 per cent to 98 per cent
- Improving availability of parts for bus repairs thereby improving bus repair efficiency
- Reducing the need for daily and weekly inventory counts
- Automating parts ordering and tracking processes in the Vehicle Work Order System.

After successful pilot projects at two TTC bus garages, staff are currently piloting a new warranty claim process at one bus garage as part of the Phase Two action plan. Staff anticipated that the new claim process will be implemented in all seven bus garages by the end of 2016.

Next Steps

The results of this follow-up review will be included in a consolidated report to the City Audit Committee in June 2015. The consolidated report will include a summary of our review of outstanding recommendations for all City Agencies and Corporations.

CONTACT

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SIGNATURE

Beverly Romeo-Beehler, Auditor General

ATTACHMENTS

Attachment 1: Toronto Transit Commission, Audit Recommendations – Fully Implemented

Attachment 2: Toronto Transit Commission, Audit Recommendations – Not Fully Implemented

Attachment 3: Toronto Transit Commission, Audit Recommendations – Not Applicable

**Toronto Transit Commission
Audit Recommendations – Fully Implemented**

**Report Title: Review of Bus Maintenance and Shops Department, Phase One:
Bus Maintenance and Warranty Administration**

Report Date: January 28, 2014

Recommendations:

- (6) The Board request the Chief Executive Officer to take the necessary steps to ensure adequate bus annual brake inspections and relines including:
 - a. Developing and reviewing exception reports to identify early brake relines and brake failures for further investigation; and
 - b. Improving the current coding of annual brake inspections in the Bus Maintenance Vehicle Work Order (VWO) Information System to differentiate between relines conducted during annual brake inspections and premature relines.
- (7) The Board request the Chief Executive Officer to implement effective monitoring and quality assurance procedures to help improve the quality of bus repairs. Such procedures should include regular analyses of bus road call statistics to identify repair quality issues.

**Toronto Transit Commission
Audit Recommendations – Not Fully Implemented**

Report Title: Review of Wheel-Trans Services – Sustaining Level and Quality of Service Requires Changes to the Program

Report Date: December 6, 2012

No.	Recommendation	Management’s Comments and Action Plan/Time Frame
1.	<p>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.</p>	<p>Wheel-Trans has embarked on an extensive strategic plan which will transform and revolutionize the services provided to TTC customers and the delivery methods in which they happen. To ensure alignment of the operation with the AODA legislation and the recommendations provided by the Auditor General, the program will be rolled out over several phases as follows:</p> <p>Phase I: Eligibility Reclassification Phase II: Service Design and Delivery Strategies Phase III: Organizational Review Phase IV: Fare Payment Assessment Phase V: Service Standards / Service Quality Phase VI: Technology Assessment Phase VII: Communication Plan</p> <p>The details of which including timeline will be provided across this document in the answer columns and the full work plan will be defined by end of May 2015.</p> <p>Part of Phase II: Service Design and Delivery Strategies include the implementation of a phased in TTC Family Services Pilot to integrate and connect Wheel Trans customers with other fixed route services. This is designed to train staff to meet customer needs to introduce and assist Wheel-Trans customers in the use of other available accessible TTC services.</p> <p>In support of the paratransit operation for the Pan Am and Para Pan Am Games coordinated by YRT through the Call One Centre, the TTC will experience and participate in the YRTs Family of Services program already in operation throughout the games.</p>

No.	Recommendation	Management's Comments and Action Plan/Time Frame
		<p>A report of the games progress will be sent to ACAT in September 2015 as part of the Family of Services pilot phases for dedicated Wheel Trans services.</p> <p>Based on the feedback from Pan Am Games and consultation with ACAT, Wheel Trans will develop its pilot for full launch commencing late 2015 early 2016.</p> <p>Full integration with fixed route services and implementation of Family of Services is reliant on the installation of new software to enable trip planning across the whole system, without which requires manual route planning by the Reservations Staff.</p> <p>The process timeline is as follows:</p> <ul style="list-style-type: none"> • RFI to be issued in the 2nd Q 2015, • RFP to be issued in July 2015. • Installation January 2017 - mid 2018. <p>It is anticipated the new eligibility criteria as covered in Phase I: Eligibility with recommendations due July 2015 will lessen the requirement for Wheel-Trans door to door service for some customers. This criterion is expected to go into effect in the 3rd or 4th quarter of 2016 however the TTC will expedite its implementation wherever possible.</p>

No.	Recommendation	Management's Comments and Action Plan/Time Frame
2.	<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>Further to the response in 001, the pilot program will solidify the criteria to identify which customers are best suited to integrate to other accessible services. The Family of Services pilot will help the TTC to learn how best to offer individualized orientation and or training to ensure success for each customer. In addition, the execution of Phase I: Eligibility and final report will be complete early Q3,2015. Phase II: Service Design and Delivery Strategies will address all areas of mention specifically, further enhancements to the fixed route facilities to eliminate potential safety and service issues, and Phase VII: Communication Plan will focus exclusively on education, communication and training programs for all TTC staff, Wheel Trans customers, and the community at large.</p>

No.	Recommendation	Management's Comments and Action Plan/Time Frame
3.	<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>	<p>As part of all phases the TTC has secured the services of Parsons Brinkerhoff, to do an industry and best practises review, followed by the development of an implementation plan anticipated end May 2015. Phase I: Eligibility focuses on ensuring full compliance with AODA for all Wheel Trans customers in time for January 2017 which the TTC acknowledges is an aggressive yet achievable timeframe. To provide guidance and accelerate where possible, the TTC will be working closely with York and Peel Regions to integrate their systems with ours.</p> <p>Note: Date of full implementation:</p> <p>Consultant hired: May 2015 Draft Report: July 2015 ACAT Presentation: September 2015 New Eligibility Process Approval: December 2015 Phase VII: Communication Implementation Program: January 2016 New Eligibility Process in Place: March 2016 Begin re-registration of existing customers: June 2016 to Dec 2018.</p>

No.	Recommendation	Management's Comments and Action Plan/Time Frame
4.	<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. The review should also take into consideration the process used by other providers throughout Canada and the United States. 	<p>Currently, the TTC eligibility guidelines for service are based upon an individual's level of physical functional mobility in the home, within the area immediately surrounding the home, and in the community at large as well as the permanency of the disability. Eligibility is not based on particular disabilities or medical diagnosis. Customers can qualify for permanent or temporary service.</p> <p>Although factors such as income, the unavailability of family members or an escort for transportation purposes, inconvenience and trip purpose all impact on daily living, these do not currently determine the need for accessible transit.</p> <p>All Wheel-Trans applicants, regardless of mobility status, are required to attend an in-person interview in order to determine eligibility. They are not required to complete an application form nor obtain a letter from their doctor prior to this interview.</p> <p>The AG recommendations will be incorporated as part of Phase I: Eligibility and the Consultant's work with anticipated answers to the following questions by July 2015:</p> <ul style="list-style-type: none"> a. The decision to require a medical or health card or not will be made following the Consultant's review b. The merits and cost-effectiveness of incorporating functional evaluations into the eligibility assessment process will be determined following the Consultant's review. c. The evaluation of the effectiveness of the assessment criteria, scoring scheme, and threshold points for eligibility will be considered following the Consultant's review. <p>In addition, the TTC will review and amend the contract agreement with Medisys to conduct revised eligibility assessments and renegotiate terms and conditions based on the consultant's report.</p>

No.	Recommendation	Management's Comments and Action Plan/Time Frame
5.	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.	The implementation of Presto enables the TTC to look to industry best practice for ensuring elimination of fraudulent riders. The upcoming use of Presto in TTC, currently piloted at YRT is scheduled for full implementation in 2016. TTC Special Constables, Fare Inspectors and Wheel Trans Operators will be provided with hand held devices that validate compliance and ensure that the fare charged is accurate. This fare validation opportunity through the full implementation of Presto further enables identification of legitimate Wheel Trans customers and their support personnel.
6.	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.	The policy has not been implemented but will be by June 2015. A copy of the final version will be forwarded in June 2015. Wheel-Trans began tracking by person in 2013. Part of the renegotiated contract with our eligibility assessment provider will include a 48 hour advance reminder call to confirm attendance, certainty of location to address this no show problem.

No.	Recommendation	Management's Comments and Action Plan/Time Frame
8.	<p>The Commission request the 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>A 20-30 minute window for pick up on the day of service would eliminate the need for customers to call for their "exact" trip times after 9pm. An analysis indicated only minimum productivity gain and no major impact to customers thereby requiring further study to determine if benefits could be gained. In addition, based on the volume of call demand vs the number of staffing available, there would not be enough time to process all calls by 9pm. Closing at 9pm was also viewed as providing less service to customers at a time when we are trying to improve customer service.</p> <p>7 new Reservationists were added in 2014 and another 6 will be hired in July 2015. Call volumes have increased significantly beyond demand forecasts with Wheel Trans continuing to focus on reducing the unaccommodated rate and provide additional trips to meet demand.</p> <p>2012 Abandonment Rate: 31.2% Average Hold Time: 652 seconds 2013 Abandonment Rate: 32.0% Average Hold Time: 652 seconds</p> <p>2014 Abandonment Rate: 26.6% Average Hold Time: 520 seconds</p> <p>2015 forecast Abandonment Rate: 20% Forecast Average Hold Time: 456 seconds *this as a result of the new hires for 2015 - anticipated on board by Sept 2015</p> <p><u>From Q1, 2013 to Q1, 2015</u> Reservation increase by 9.76% Of that Internet increased by 18.53% IVR decreased by -10.62%</p> <p>As part of Phase VI: Technology Assessment; Phase II: Service Design and Delivery Strategies; Phase III: Organizational Review; and Phase V: Service Standards / Service Quality, it is our goal to further encourage and incent use of internet bookings to provide a better level of service leaving our reservations staff better positioned to handle more complex calls with simple bookings able to be done via the internet.</p>

No.	Recommendation	Management's Comments and Action Plan/Time Frame
		<p>It should be added that Phase V: Service Standards / Service Quality Phase II: Service Design and Delivery Strategies</p> <p>Phase III: Organizational Review will ensure the most efficient operation for the call centres with enhancing internet booking capacity and opportunity, dedicating the right number of resources to the right times for heaviest call volume, and lastly the implementation of the strategy itself will support the TTC's overall Employee Engagement objectives. Engaged Employees take pride of ownership in their work and industry trends has shown that this works towards reducing absenteeism. Also, in recent months Wheel Trans has reallocated resources to ensure a focus on peak call times and a large enough spare pool to cover. The added benefits have been reduced Reservations absenteeism YTD by 35% over 2014 same period and reduced overtime costs by 50% YTD over 2014 same period.</p>
9.	<p>The Commission request the Chief Executive Officer, in consultation with the Advisory Committee on Accessible Transit, to review the Wheel-Trans policy regarding late cancellations and no-shows with a view to increasing its flexibility. Consideration be given to including formalized processes for customers to request re-consideration based on unusual circumstances.</p>	<p>The formalized process for customers to request re-consideration was resolved in the March 7, 2013, WT-Ops meeting with ACAT.</p> <p>Further analyses is being conducted to determine if providing customers with a fixed window time of 15-20 minutes would give Wheel-Trans the flexibility to allow for cancellation of trips on the day of service within 4-6 hours of the scheduled time. These analyses should be complete by end of 1st QRT 2015.</p>

No.	Recommendation	Management's Comments and Action Plan/Time Frame
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 who consistently miss their scheduled trips to ensure they have a clear understanding of the pick-up and wait time rules.</p>	<p>In discussions with the industry including YRT and Peel, best practice includes providing notice in advance which is what we are working towards for implementation later this year. Due to IT challenges the automated messages to alert customers at their 1st and 4th late cancellation no-show is still in the testing stage.</p> <p>The goal is to contact customers prior to violating the policy to warn them that they are approaching violation levels. There is a technical solution underway which is anticipated to be implemented by End of Q3 2015.</p> <p>In addition, the current number of consistent violators of the no show policy is 2,978 violations by 2,002 unique customers in 2014 (6% of our customer base) and in 2015 YTD 1,051 violations by 899 unique customers (2.3%).</p>

No.	Recommendation	Management's Comments and Action Plan/Time Frame
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>Customers must allow for a minimum of 4 hours lead time to book a same day request or to modify their schedule trip times on the day of service. Giving customers 4 hours before their scheduled time to cancel will not give the scheduling system adequate time to reallocate the trip to another customer. The extra 2 hours (6 hours) provides the system a better chance to reallocate the trip.</p> <p>In the areas of Phase II: Service Design and Delivery Strategies Phase III: Organizational Review and Phase V: Service Standards / Service Quality we will conduct a complete analysis of all service processes towards the end goal of 0% unaccommodated rate and optimal and most efficient operational processes.</p> <p>Detailed analysis coupled with a new route planning software and GPS tracking and other enhancements may make it possible to in fact minimize the late cancellation policy to as little as 2 hours or less. The goal is enabling spontaneity of travel for all Wheel Trans customers and a flexible booking system and efficient operation will address this.</p> <p>An RFI for a new scheduling system is to be issued in 2nd Q 2015. The process for procurement for this software includes a RFI to be issued in the 2nd Q 2015, followed by a RFP to be issued in July 2015. The installation of the new scheduling system is project to begin operating by January 2017.</p> <p>We will reconsider allowing customers to cancel on day of service with 6 hours advanced notice once we are confident other changes to our scheduling system yield additional trips for other customers (i.e., implementing a 20 minute window for pick-ups).</p>

No.	Recommendation	Management's Comments and Action Plan/Time Frame
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.	Prior to any changes being made to the Community Bus routes, as part of Phase I: Eligibility Reclassification Phase II: Service Design and Delivery Strategies; Phase III: Organizational Review; Phase IV: Fare Payment Assessment and Phase V: Service Standards / Service Quality we will review all aspects of all service provided by Wheel Trans. It is anticipated that in alignment with industry best practice, there is a need and use for Community Bus to eliminate the need for sole rider trips and instead provide a feeder system or opportunity to better utilize the community bus as part of the full Family of Services strategy.
21.	The Commission request the Chief Executive Officer to develop and update Wheel-Trans standard operating procedures in a timely manner, including those relating to taxi contract administration and monitoring.	Wheel-Trans has determined that 67 of the original 211 SOPs were considered redundant and therefore omitted. Therefore the actual number to be reviewed or created is now 166. Wheel-Trans has reviewed/adjusted or created 86% of the 166 SOPs in question.
22.	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.	It is felt that the cost of the newsletter (roughly \$45,000 annually), the revenues of selling of ads for exposure to only a circulation of 35,000, the administration costs to solicit customers and sell the advertising space may not substantially reduce the costs of the newsletter if at all. There is consideration to eliminate the newsletter altogether. TTC is reviewing whether this newsletter is still a relevant and useful document or whether our customers are better served via general TTC publications.

Report Title: Review of Bus Maintenance and Shops Department, Phase One: Bus Maintenance and Warranty Administration

Report Date: January 28, 2014

No.	Recommendation	Management's Comments and Action Plan/Time Frame
1.	<p>The Board request the Chief Executive Officer to evaluate the merits of the 5,000 km bus preventive maintenance interval in preventing mechanical failures. Such an evaluation should include a review of other transit agencies' practices, TTC's own bus repair records, and piloting new maintenance intervals in a small fleet of buses.</p>	<p>TTC staff has reviewed inspection intervals used by other transit agencies. TTC staff has also reviewed data obtained from the 5000 km inspection.</p> <p>The review noted that the 5000 km inspection is still required for buses over the age of 3 years. Due to the high customer loading, number of stops and traffic density, many deficiencies is being identified at the 5000 km inspection that may adversely affect vehicle reliability and vehicle safety.</p> <p>The review however, noted that buses under 3 years of age demonstrated a higher rate of component reliability. The number of deficiencies identified at the 5000 km inspection interval therefore was smaller. As a result, the inspection interval for buses under 3 years of age may be extended from 5000 km to 10,000 km.</p> <p>As due diligence and to ensure vehicle reliability and customer safety is not compromised, a pilot program was implemented to validate moving towards a 10,000 km inspection interval for buses under 3 years of age. The articulated bus fleet, Series 9000-9152 is being used to validate the extended inspection interval. The articulated bus fleet is 1 year of age and has 153 buses in this fleet.</p> <p>The inspection interval for 76 (or 50%) articulated buses were extended to 10,000 km. To ensure safety, a control group comprising of the other 50% still remained on the 5000 km inspection interval.</p> <p>The pilot program is scheduled to be completed at the end of 2015. Results to date have been favourable. If successful, inspection intervals for buses under 3 years will be extended to 10,000 km.</p> <p>With the implementation of Reliability Centered Maintenance programs, TTC staff expects component reliability for the remainder of the fleet to increase over time. Therefore staff will continue to review inspection data at the 5000 km interval for buses older than 3 years of age with the goal of extending the inspection interval to 10,000 km for buses aged 1-5 years.</p>

No.	Recommendation	Management's Comments and Action Plan/Time Frame
2.	The Board request the Chief Executive Officer to ensure compliance with TTC bus preventive maintenance inspection and provincial legislative requirements, in particular maintenance of major vehicle parts.	<p>TTC staff has reviewed maintenance inspection and legislative requirements. TTC is in compliance with all legislative requirements. TTC, however, is not in compliance with the oil replacement schedules as specified in TTC Standard Operating Procedures – as noted by the General Auditor's Office.</p> <p>The oil replacement schedule currently is every 800,000 km. Oil analysis was conducted at the 800,000 km interval and little to no oil degradation was found in the oil for differential and transmission components. This suggests the oil replacement schedule can be widened and confirmed TTC's SOP inspection interval was too short.</p> <p>TTC technical staff is investigating a new oil replacement schedule.</p>
3.	The Board request the Chief Executive Officer to ensure that bus kilometre records used for scheduling preventive maintenance inspections are accurate.	<p>Mileage is currently captured manually via the odometer and autonomously through the CIS system.</p> <p>The CIS system is over 20 years of age and is obsolete. A RFI for CAD/AVL was posted January 7, 2015, to improve vehicle tracking via a new CAD/AVL system. CAD/AVL will replace the outdated CIS. Implementation of CAD/AVL is scheduled to commence in 2017. CAD/AVL will provide real time information and will provide accurate mileage reporting.</p> <p>In the interim, a control will be implemented into the Vehicle Work Order (VWO) system to ensure Coach Technicians manually obtain and record the mileage from the odometer.</p>

No.	Recommendation	Management's Comments and Action Plan/Time Frame
4.	<p>The Board request the Chief Executive Officer to improve efficiency of bus preventive maintenance inspections and increase bus availability for service by:</p> <p>a. Avoiding duplication of a Safety Check when a comprehensive semi-annual inspection is scheduled; and</p> <p>b. Consistent alignment of Safety Checks and Lubrication Inspections where possible.</p>	<p>Improvements have been made to the maintenance software to address the identified issues.</p> <p>This and other new functionality is being tested at two garages, Eglinton and Mt Dennis (Q1 2015).</p> <p>Full implementation at all Garages is scheduled for 2016.</p>
8	<p>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>	<p>Phase 1 of IFS VWO upgrades have been rolled out to Eglinton & Mt. Dennis bus garages.</p> <p>Phase 1 IFS VWO upgrades have improved tracking of maintenance repair times. Review of maintenance repair times will be conducted once IFS VWO upgrades are rolled out across all facilities to ensure reasonable/standard repair times are not based on 1-2 garages only.</p> <ul style="list-style-type: none"> • Rollout of upgrades at Malvern Garage is scheduled for Q2 of 2015. • Review of data is to be performed in 2016 after completion of the rollout of VWO upgrades to all garages. • Reasonable repair times will be discussed with the Union after reviewing data from all locations.

No.	Recommendation	Management's Comments and Action Plan/Time Frame
9.	<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>A training curriculum for coach technicians has been developed. Bus Maintenance and the Training Department are working towards updating the programs within the curriculum. The following programs are scheduled to be updated or developed in 2015:</p> <ul style="list-style-type: none"> - BGO - Update - Cummins Engine – Develop - Allison Transmission – Develop <p>Training schedules will also be developed. Tools to track and monitor compliance already exist in the Training Department Pathlore program</p>
10.	<p>The Board request the Chief Executive Officer to accurately assess failure rates of major internal bus rebuild parts as well as assessing the costs of rework associated with rebuild failures.</p>	<p>Phase 2 of IFS VWO upgrades has commenced. These upgrades address the material return process to improve warranty claims and to improve quality control/analysis of components.</p> <p>The priority of Phase 2 upgrades is currently addressing the material return process for warranty claims. Once completed, upgrades will be developed to address the material return process for quality control/analysis. Quality control/analysis will allow assessment of failure rates for major internal bus rebuild parts & cost for rework. Commencement of the material return process for Quality control/analysis is scheduled to commence in 2016 and complete in rollout in 2017.</p>
11.	<p>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>	<p>Recent CBA negotiations have resulted in a 'No Contracting Out' clause. TTC staff, however, continues to review opportunities to outsource component rebuild in preparation for the next CBA negotiation.</p>

No.	Recommendation	Management's Comments and Action Plan/Time Frame
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> <ul style="list-style-type: none"> a. Implementing adequate controls to account for and track the return of defective parts by technicians; and b. Enhancing efficiency of the parts retrieval process currently carried out by warranty staff. 	<p>Reference Recommendation #10.</p> <p>Phase 2 of IFS VWO Upgrades has commenced and involves developing and implementing a new Material Return Process to improve warranty claims and to improve quality control/analysis of failed components.</p> <p>Tools and controls to assist with the Material Return Process are still in development; however, interim measures are scheduled to be rolled out at Mt Dennis, Malvern and Eglinton Garages throughout Q2-Q4 of 2015. This includes implementing a closed store system, identification of major components under warranty, identification of rebuild components from the Shop and tracking of returned components.</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> <ul style="list-style-type: none"> a. Identifying and addressing reasons prohibiting successful filing of warranty claims; b. Increasing warranty claim submission rate for bus defective parts and labour hours; and c. Systematically tracking and monitoring claim submission rate and warranty cost recovery for the entire bus fleet. 	<p>Reference Progress Listed in Recommendation #12.</p> <p>These recommendations will be addressed as part of the Phase 2 IFS VWO upgrades.</p>

No.	Recommendation	Management's Comments and Action Plan/Time Frame
14.	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.	Reference Progress Listed in Recommendation #12. These recommendations will be addressed as part of the Phase 2 IFS VWO upgrades.
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> <p>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;</p> <p>b. Undertake collection of all valid outstanding claims; and</p> <p>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>	Reference Progress Listed in Recommendation #12. These recommendations will be addressed as part of the Phase 2 IFS VWO upgrades.
16.	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.	Reference Progress Listed in Recommendation #12. These recommendations will be addressed as part of the Phase 2 IFS VWO upgrades.

No.	Recommendation	Management's Comments and Action Plan/Time Frame
17.	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>TTC staff is preparing a business case to shorten the existing bus life from 18 to 15 years.</p> <p>The business case will be prepared and presented in 2015. If approved, the Bus Fleet Plan will be revised in 2016 as part of the 2017-2026 Budget Submission.</p>
18.	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>Sharing of information between TTC and other transit agencies regarding maintenance practices, policies and challenges faced with hybrid bus technology is ongoing.</p> <p>A total of four (4) options are available for the disposition of the hybrid bus fleet. These include:</p> <ol style="list-style-type: none"> 1. Early retirement to curb high cost of ownership 2. Conversion from hybrid technology to diesel technology 3. Combination of early retirement and technology conversion 4. Do nothing <p>TTC staff is evaluating the viability of each option to identify the most cost effective method to address increasing maintenance costs of this fleet.</p>

**Toronto Transit Commission
Audit Recommendations – Not Applicable**

**Report Title: Review of Bus Maintenance and Shops Department, Phase One:
Bus Maintenance and Warranty Administration**

Report Date: January 28, 2014

No.	Recommendation	Management’s Comments and Action Plan/Time Frame
5.	The Board request the Chief Executive Officer to review the bus preventive maintenance inspections by assigning Service Persons as the primary staff members to perform the 10,000 kilometre Lubrication Inspections.	<p>A TTC Service Person position is an unskilled position. Service Persons are currently allowed to perform limited mechanical work on the bus fleet. This work is isolated to non-safety critical components and low value items.</p> <p>Lubrication inspections involve high value items such as Engines, Transmissions and Differentials. If not serviced properly, these components will fail catastrophically and will result in excessive maintenance down time.</p> <p>Lubrication inspections will remain with the skilled trades to mitigate costly repairs and to ensure component reliability and vehicle availability.</p>