

ACTION REQUIRED

Date: May 31, 2016

To: TTC Board

From: TTC Audit & Risk Management Committee

Subject: Auditor General's Report – Audit of Toronto Transit Commission Materials and

Procurement Department, Phase One: Improving Controls to Safeguard

Inventory

The subject report, reviewed at the TTC Audit and Risk Management Committee on May 25, 2016, 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 - Audit of Toronto Transit Commission Materials and

Procurement Department, Phase One: Improving Controls to Safeguard

Inventory



AUDITOR GENERAL'S REPORT ACTION REQUIRED

Audit of Toronto Transit Commission Materials and Procurement Department, Phase One: Improving Controls to Safeguard Inventory

Date:	May 12, 2016
To:	TTC Audit and Risk Management Committee
From:	Auditor General
Wards:	All
Reference Number:	

SUMMARY

The Auditor General's 2015 Audit Work Plan included an audit of Toronto Transit Commission's (TTC) inventory controls. The TTC Material and Procurement Department is part of the Corporate Services Group that provides governance, logistics and support to the organization. The Department's Materials Management Section operates five warehouses and twenty-three satellite stores, most of which are located within a garage or car house.

Due to the complexity of Materials Management operations, we divided the audit into two phases. Phase One, which is the subject of this report, focused on the safeguarding of inventory at warehouses and stores. Phase Two will focus on assessing the effectiveness and efficiency of inventory management.

The objective of the Phase One audit was to assess controls over inventory transactions, safeguarding of inventory, and the accuracy and reliability of inventory records. We identified a number of areas where improved controls and management oversight are needed to reduce the risks of unaccounted inventories.

This report contains 10 recommendations along with management's response to each recommendation.

RECOMMENDATIONS

The Auditor General recommends that:

- 1. The Board request the Chief Executive Officer to ensure goods received at Toronto Transit Commission warehouses are timely processed including stocking and updating the inventory system records to minimize loss or misplacement of inventory.
- 2. The Board request the Chief Executive Officer to undertake an immediate review and reconciliation of returned goods at Duncan warehouse to identify and document missing returned goods.
- 3. The Board request the Chief Executive Officer to take steps to ensure returned goods to warehouses are properly and timely processed for replacement or credit. Such steps should include but not be limited to:
 - a. Storing returned goods in an organized manner so that they can be easily located;
 - b. Providing staff with clear procedure requirements to ensure inventory analysts receive timely notifications of return requests;
 - c. Ensuring timely processing and follow-up of outstanding returns by inventory analysts;
 - d. Developing relevant performance measures to track and monitor completeness and timeliness of return processes.
- 4. The Board request the Chief Executive Officer to improve the current core parts retrieval process at Toronto Transit Commission garages to account for and track the return of core parts for rebuild purposes.
- 5. The Board request the Chief Executive Officer to take steps to improve access controls to safeguard inventory at all Toronto Transit Commission satellite stores including:
 - a. Assessing the costs and benefits of converting open stores to the 24/7 model
 - b. Increasing staff compliance with the requirement to accurately record all inventory items removed from stores, and
 - c. Exploring other options that can improve access controls to inventory at open stores.

- 6. The Board request the Chief Executive Officer to review the current state of physical security at Toronto Transit Commission inventory facilities in particular the satellite stores to ensure a reasonable level of physical security at all sites.
- 7. The Board request the Chief Executive Officer to ensure quantity discrepancies from cycle counts at warehouses and stores are adequately reviewed and approved by supervisory staff to safeguard Toronto Transit Commission inventory. Steps to be considered include re-assessing the current dollar threshold requirement for documenting supervisory reviews and ensuring adequate investigation and documentation of significant discrepancies.
- 8. The Board request the Chief Executive Officer to review and improve the current physical count practice at Toronto Transit Commission stores, consisting of both cycle and strip counts, to achieve consistent and accurate physical count results. This should include a review of the merits and practicality of requiring staff to conduct daily "strip counts" at Toronto Transit Commission satellite stores.
- 9. The Board request the Chief Executive Officer to review and update retention requirements for each category of inventory records to ensure compliance with the City of Toronto By-law No. 867-1998. The updated record retention schedules should be documented and communicated to staff.
- 10. The Board request the Chief Executive Officer to establish and implement procedures for obtaining proof of receipt for non-inventory and emergency purchase items delivered to Toronto Transit Commission warehouses and stores.
- 11. This report be forwarded to the City's Audit Committee for information.

Financial Impact

The implementation of recommendations in this report will likely result in cost savings and improved management controls. The extent of any resources required or potential cost savings from implementing the recommendations in this report is not determinable at this time.

COMMENTS

This was our first audit of TTC inventory controls. Phase One focused on the safeguarding of inventory at warehouses and stores, and Phase Two will focus on assessing the effectiveness and efficiency of inventory management.

The Materials Management Section manages the storage and flow of parts and supplies from its facilities to TTC garages and shops. The Section operates five warehouses and twenty-three satellite stores, most of which are located within a garage or car house. At the fiscal year ended December 31, 2015 the total value of inventory on-hand was \$147.1

million. For calendar year 2015 Materials Management received \$160.7 million worth of inventory from suppliers.

Phase One of our audit identified a number of areas where improved controls and management oversight are needed to reduce the risks of unaccounted inventories. The implementation of the recommendations in our report will help improve controls over TTC inventory and accuracy of inventory records.

The audit report entitled "Audit of Toronto Transit Commission Materials and Procurement Department, Phase One: Improving Controls to Safeguard Inventory" is attached as Appendix 1. Management's response to each of the recommendations contained in the report is attached as Appendix 2.

CONTACT

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SIGNATURE

Beverly Romeo-Beehler, Auditor General

ATTACHMENTS

Appendix 1: Audit of Toronto Transit Commission Materials and Procurement Department, Phase One: Improving Controls to Safeguard TTC Inventory

Appendix 2: Management's Response to the Auditor General's Audit of Toronto Transit Commission Materials and Procurement Department, Phase One: Improving Controls to Safeguard TTC Inventory

AUDITOR GENERAL'S REPORT

Audit of Toronto Transit Commission Materials and Procurement Department

Phase One: Improving Controls to Safeguard Inventory

May 12, 2016



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EXECUTIVE SUMMARY

The Auditor General's 2015 Audit Work Plan included an audit of Toronto Transit Commission's (TTC) inventory controls.

TTC operates 5 warehouses and 23 satellite stores

The TTC Materials Management Section operates five warehouses and twenty-three satellite stores, most of which are located within a garage or car house. The majority of inventoried goods are vehicle parts and related supplies. For calendar year 2015, Materials Management received over \$160 million worth of inventory from suppliers.

Audit was divided into two phases

Due to the complexity of Materials Management operations, we divided the audit into two phases. Phase One, which is the subject of this report, focused on safeguarding of inventory at warehouses and stores. Phase Two will focus on assessing the effectiveness and efficiency of inventory management.

Phase One focused on safeguarding of inventory

The objective of the Phase One audit was to assess controls over inventory transactions, safeguarding of inventory, and the accuracy and reliability of inventory records.

Inventory loss, commonly referred to as shrinkage, is a concern for any organization that carries physical goods. Shrinkage can be caused by a number of factors including administrative recording errors, misplaced stock, shipping errors and theft. While a certain amount of shrinkage is unavoidable, it is important for management to implement sufficient controls to minimize potential losses.

Materials Management staff perform two types of physical counts to support TTC's operational and financial reporting needs:

- Warehouse and store staff conduct daily cycle counts
- Store staff also conduct daily "strip" counts at some stores

\$427,000 of inventory shrinkage in 2015 According to Materials Management's 2015 cycle count adjustments, approximately \$427,000 worth of inventory were losses due to shrinkage.

Additional \$1 million worth of unaccounted inventory adjustments were charged to operations

In addition, unaccounted inventories identified by store staff during strip counts are recorded in the inventory system as regular inventory transactions (i.e. goods issued to operations). The unaccounted inventories are charged to TTC operations based on the assumption that they are used in operations. In 2015, strip count adjustments totaling approximately \$1 million was charged to operations. Since inventory items can be removed from stores without supporting records, in our view, there is limited assurance that all of the \$1 million of inventory was used in TTC operations.

We were not able to assess the full extent of the inventory discrepancies during the Phase One audit because the required system data was not available. However, our Phase One audit identified a number of areas where improvements should be considered by TTC management.

Our key findings are briefly discussed below:

Inventory Loss Due to Delays in Processing Goods Received

In our review of the inventory system records, we noted that 83 orders valued at \$367,162 consisting of over 16,000 parts had been physically received at TTC warehouses at least 30 days before our testing date. Of the 83 orders, 30 orders had been received at least six months prior. However, the inventory system was not updated and the storage locations of these parts were not recorded in the system. As a result, these parts could not be distributed for operational use, even though they had been purchased and received at the warehouses.

\$23,000 worth of goods were lost

In response to our finding, management advised that six orders of goods valued at \$23,887 could not be located. Ten orders valued at \$94,040 have not been located by staff as of April 2016. The remaining inventory of \$249,235 was eventually located and records were updated such that they are now available for operational uses. Processes should be in place to minimize inventory losses due to delayed handling of goods received.

Delays in Processing Returned Goods for Replacement or Credit

One of Materials Management's functions is to ensure parts and supplies that are damaged, defective or do not meet quality control specifications are returned to the supplier for replacement or credit.

Of \$640,000 worth of goods waiting to be returned, nearly 30% had been in the warehouse for longer than a year

As of February 1, 2016 the total value of goods at Duncan warehouse waiting to be returned was \$636,887. Our analysis found that 83 per cent (\$528,087) of the returned goods had been in storage for longer than three months. In particular, nearly 30 per cent of the returned goods, totaling over \$187,000, had been in the warehouse for longer than a year. Delays in processing returned goods may forfeit TTC's right to replacement or credit.

Management has not advised us of the amount of missing returned goods Additionally, in our sample of five returned orders, we could not locate the majority of these orders in the warehouse. To date, management has not been able to provide us with clear information confirming the amount of shrinkage due to missing returned goods in the warehouse.

Lack of Adequate Access Controls at Stores

Lack of staff coverage to operate stores 24/7 Many of the TTC's 23 satellite stores are located at garages and car houses which operate during evening shifts or on a 24/7 basis. A major challenge faced by Materials Management is the lack of staff to cover all shifts in these stores.

The existing control for open stores is not effective to safeguard inventory

Following our 2014 audit report on bus maintenance, TTC staff converted the five largest stores in bus garages to a 24/7 closed store operation. Many of the remaining 18 smaller stores are to a large extent operating like a self-serve grocery store allowing garage staff open access to inventory. None of the stores have security surveillance systems. Our audit found that the existing control for open stores was not effective to safeguard TTC inventory.

Merits of Daily Strip Counts at Stores Need to Be Re- Assessed

In addition to the regular physical counts, store staff are required to count a portion (i.e. a "strip") of the inventory each weekday to complete counting the entire inventory within a month.

The practice of daily strip counts at stores, in our view, is problematic While the intent of the strip count is to increase inventory accuracy, we did not find this additional measure to be effective. On the contrary, we found the practice of strip counts problematic and impractical for the following reasons:

- Strip counts enable staff to adjust the inventory quantities on a daily basis without tracking these in the inventory system as quantity discrepancies.
- Strip count discrepancies are not adequately reviewed or approved by supervisory staff.
- Staff conducting strip counts also have access to system quantity balance. This does not allow for adequate segregation of duties and can affect the count accuracy.
- Strip counts are prone to error and not always completed by store staff.

Conclusion

TTC carries a significant amount of inventory at its warehouses and stores. Our Phase One audit focused on assessing whether TTC has implemented adequate controls to safeguard TTC inventory. We identified a number of areas where enhanced controls and management oversight are needed to reduce the risks of unaccounted inventories. The remaining areas of inventory management will be assessed in our Phase Two audit.

BACKGROUND

Toronto Transit Commission (TTC) is North America's third largest transit system. TTC's revenue fleet consists of buses, subway and light rail trains, streetcars, and Wheel-Trans accessible buses.

The Materials and Procurement Department is part of TTC's Corporate Services Group that provides governance, logistics and support to the organization.

Materials
Management
manages the
flow of parts and
supplies to TTC
garages

The Department's Materials Management Section manages the storage and flow of parts and supplies from its facilities to TTC garages and shops. Goods coming from suppliers are received at TTC warehouses, consolidated and stored by part number, and shipped to satellite stores to replenish inventory.

The Materials Management Section operates:

Operates 5
warehouses and
23 satellite stores

- Five warehouses that are managed by the Central Inventory Control Unit.
- Twenty-three satellite stores, many of which are located at TTC garages or car houses. These stores are managed by the Distributed Inventory Control Unit.

Figure 1 Illustrates the Materials Management supply chain and logistics.

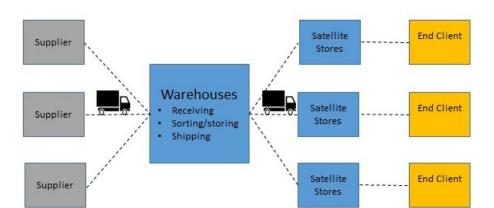


Figure 1: Materials Management Supply Chain and Logistics

Materials Management uses the Industrial Financial System (IFS) to track inventory that is moved into and out of warehouses and stores, and to manage inventory levels.

\$147 million of on-hand inventory

At the fiscal year ended December 31, 2015 the total value of inventory on-hand was \$147.1 million. For calendar year 2015, Materials Management received \$160.7 million worth of inventory from suppliers.

161 approved staff positions for operating warehouses and stores

The 2015 approved budget for Materials Management included 81 positions for Central Inventory Control (i.e. warehouse operations) and 80 positions for Distributed Inventory Control (i.e. store operations).

The day-to-day functions of warehouse and store staff include:

- Receiving, inspecting, and storing received goods
- Conducting regular physical inventory counts
- Coordinating movement of inventory between sites
- Providing parts and supplies to TTC garages
- Updating inventory records in the IFS system

TTC Audit
Department has
conducted four
audits on
Materials
Management
since 2012

Since 2012, the TTC Audit Department has issued four internal audit reports on Materials Management's operations:

Report Title	Report Date	TTC Audit
		Committee Meeting
		Date
Audit of Inventory	June 4, 2012	October 26, 2012
Management Section		
Audit of Central	September 2013	May 12, 2014
Inventory Control		
Audit of Cycle Counts	September 2013	May 12, 2014
and Divisional Stores		
Control		
Audit of Quality Control	February 2014	May 12, 2014
	·	

Initial 2012 TTC internal audit did not proceed because audit staff found the Department well managed

In its first 2012 report, the TTC Audit Department concluded that "No significant risks were identified during audit planning, so further audit work was not warranted past the planning phase," and that "The Department is well managed and internal controls were concluded to be functioning satisfactorily." The subsequent three internal audit reports were presented at the May 2014 TTC Audit Committee meeting.

Other than a few findings, overall the TTC Audit Department concluded that key operational processes and controls at warehouses and satellite stores were effective and functioning as expected.

AUDIT OBJECTIVES, SCOPE AND METHODOLOGY

Phase One focused on safeguarding of inventory

The Auditor General's 2015 Audit Work Plan included an audit of inventory controls at TTC. Due to the complexity of Materials Management operations, we divided the audit into two phases. Phase One, which is the subject of this report, focused on the safeguarding of inventory at warehouses and stores.

Phase Two will focus on assessing the effectiveness and efficiency of inventory management.

The objective of the Phase One audit was to assess controls over inventory transactions, safeguarding of inventory, and the accuracy and reliability of inventory records. In particular we reviewed the following areas:

- Controls over the processes for receiving, inspecting, transferring and returning goods
- Physical inventory counts
- Quality control
- Information system controls
- Performance measures

Audit Methodology

Our audit work included the following:

- Review of Materials Management Procedural Manuals
- Interviews with Materials Management staff
- Review of financial and management reports
- Review of selected materials management files and related documentation
- On-site visits at warehouses and stores
- Analysis of physical count data and other relevant inventory transaction data
- Evaluating information technology risks relevant to the audit objective
- Review of literature on inventory controls including audit reports issued by other jurisdictions.

The audit work took place from June 2015 to March 2016. IFS inventory records from May 2011 to March 2016 were included in our data analysis.

Compliance with generally accepted government auditing standards

We conducted this performance 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.

AUDIT RESULTS

A. WAREHOUSE OPERATIONS

A.1. Inventory Loss Due to Delays in Processing Goods Received

Goods received should be placed into storage and the system records updated When goods are delivered to TTC warehouses, Materials Management staff are responsible for ensuring that the goods received are acceptable, free of damage, and conform to the quantity and terms and conditions of the purchase order. Warehouse staff should then place the goods into proper storage areas and update the IFS system records to indicate the receipt and storage locations of the received goods.

83 orders of goods have no storage records in the system In our review of IFS receipt records, we noted that 83 orders of goods had no subsequent system records showing they had been placed into storage. Since the locations of these 83 orders were not recorded in the IFS system they cannot be distributed for operational use, even though they had been received at the warehouses.

30 orders were received at least six months before our testing date

These 83 orders consist of over 16,000 parts, some of which are high value vehicle parts. The total value of these orders was in the amount of \$367,162. All of the orders were received by the warehouses at least 30 days before our testing date. Of the 83 orders, 30 orders totaling over \$280,000 worth of inventory, were received at the warehouses at least six months prior.

In response to our inquiry about these 83 orders, management staff conducted a review and subsequently advised that:

\$23,000 worth of goods were lost

• Six orders of goods valued at \$23,887 could not be located. TTC staff adjusted the system quantities to reflect the loss.

\$94,000 worth of goods have not been located as of April 2016

- Ten orders valued at \$94,040 have not been located by staff at the time of our report. The search is still ongoing.
- Sixty-seven orders of goods valued at \$249,235 were located in the warehouses. Staff updated the inventory records so that these goods can now be available for operational use.

Materials Management currently does not have an established process to reconcile goods received with inventory records to identify administrative errors or misplaced goods. Nor has management established an acceptable time frame for stocking received goods. While the 83 orders we identified represent a small fraction of the total number of orders received at warehouses, processes should be implemented to minimize inventory losses due to delayed processing of received goods.

Recommendation:

1. The Board request the Chief Executive Officer to ensure goods received at Toronto Transit Commission warehouses are timely processed including stocking and updating the inventory system records to minimize loss or misplacement of inventory.

A.2. Delays in Processing Returned Goods for Replacement or Credit

Defective goods should be returned for replacement or credit Part of Materials Management functions is to ensure parts and supplies that are damaged, defective or do not meet quality control specifications are returned to the supplier for replacement or credit. Returning goods to suppliers can be a complicated process. Materials Management currently has four inventory analysts responsible for processing returns, one supervisor and one manager for overseeing the process.

Returns are transferred to warehouses Technicians at TTC garages are instructed to complete and attach a "Return Material Form" to the returned parts. Warehouse staff retrieve returned parts and supplies from each store during their delivery runs. The majority of returned goods are transferred to Duncan warehouse which has a storage area for returned goods.

Approximately \$640,000 worth of returned goods at the warehouse According to IFS records as of February 1, 2016, the warehouse had 28,422 returned inventory items valued at \$636,887. During our site visits, we noted the returns storage area (Figure 2) was not organized in a way that would allow for goods to be easily located.

Figure 2: Duncan Warehouse Returns Storage Area



As part of our audit, we selected a sample of five returned orders to confirm that they were in the warehouse. We could only locate a portion of one of the five orders in the warehouse.

Management has not confirmed whether some of the returned goods could be missing from the warehouse

To follow up on this, we requested management staff to reconcile the system records with the returned goods in the warehouse by carrying out a physical count of the inventory in the return area. To date, management has not provided us clear information on the results of the physical count, or the amount of returned goods missing from the warehouse.

We conducted an analysis of the aging of returned goods by dollar value. Our analysis results are presented in Figure 3.

Figure 3: Aging of Returns at Duncan Warehouse

Days in Storage	Inventory Value (\$)	Percentage of Total Value (%)
0-30	31,795	5
31-60	31,513	5
61-90	45,492	7
91-180	203,143	32
181-365	137,376	22
> 365	187,568	29
Total	\$636,887	100%

80% of returns outstanding for more than three months and 30% more than a year Over 80 per cent of the returned goods at Duncan warehouse have been in storage for longer than three months. In particular, nearly 30 per cent of the returned goods, totaling over \$187,000 had been in the warehouse for longer than a year.

Delayed processing may result in credit loss Since many suppliers have a time limit in their exchange and return policies, delays in processing returned goods may result in TTC forfeiting the right to replacement or credit.

In our review of the return process, we identified a number of factors that may contribute to delayed processing. These factors are:

(1) <u>Initial Return Requests Are Not Generated Due to Unclear</u> Procedure

While the Materials Management's inventory analysts are responsible for processing returned goods, the process is first triggered by warehouse or store staff who are required to complete an electronic form in IFS to track the status of returned goods. The system then generates an email notifying an inventory analyst to process the return request.

Current
procedure is
unclear on
which staff is
responsible for
initiating the
process

However, current departmental procedures do not specify whether the warehouse or the store staff are responsible for completing the IFS tracking form. Without clear instruction and assignment of staff responsibilities, staff do not always create the tracking form and consequently inventory analysts are not notified of the need to process the returns.

(2) <u>Inventory Analysts Did Not Always Follow-up on</u> <u>Outstanding Returns</u>

Sample review suggests many outstanding returns were not processed

To determine whether returns are processed timely by inventory analysts, we selected a sample of six returned orders that were outstanding in November 2015 and followed the status of these returns for three months until January 2016. Of the six sampled orders, one order's return process was completed in December, 2015. For the remaining five orders, the return process has either not been initiated or completed by analysts as of January 2016. Details of our sample review results are provided in Figure 4.

Figure 4: Follow-up Status of Returned Goods

Sample	Days in storage	Status as of January 2016	Audit Findings
1	22 days	Resolved	Approved on December 2015
2	141 days	Pending approval	No action taken. Inventory analyst overlooked original e-mail notification.
3	185 days	Outstanding	Staff retired and return not reassigned
4	185 days	Outstanding	Staff retired and return not reassigned
5	255 days	Pending approval	No action taken. Inventory analyst overlooked original e-mail notification.
6	272 days	Pending approval	Inventory analyst did not follow-up on initial request for information.

(3) Lack of Performance Measures to Track Returns

No performance measure to track returns

While Materials Management staff regularly report a number of performance statistics to senior management, none of the performance measures pertain to material returns. Examples of specific performance measures for timely processing of returns are:

- Percentage of returns completed each month
- Average number of days required to complete a return
- Average number of elapsed days between return request and process initiation

Recommendations:

- 2. The Board request the Chief Executive Officer to undertake an immediate review and reconciliation of returned goods at Duncan warehouse to identify and document missing returned goods.
- 3. The Board request the Chief Executive Officer to take steps to ensure returned goods to warehouses are properly and timely processed for replacement or credit. Such steps should include but not be limited to:
 - a. Storing returned goods in an organized manner so that they can be easily located;
 - b. Providing staff with clear procedure requirements to ensure inventory analysts receive timely notifications of return requests;
 - c. Ensuring timely processing and follow-up of outstanding returns by inventory analysts; and
 - d. Developing relevant performance measures to track and monitor completeness and timeliness of return processes.

A.3. Core Parts Retrieval Process Requires Improvement

Core parts are used to refurbish older vehicles and can be of significant value

Core parts are defective vehicle parts that can be of significant value. Many core parts are rebuilt at TTC facilities. Rebuilt core parts are used to refurbish or repair older vehicles because the original manufactured parts may no longer be available for purchase. In some cases, a part is rebuilt when it is more economical than purchasing a new part.

To arrange a core part to be picked-up from garages, Materials Management staff at stores are required to complete and attach a return slip to a core part before placing it in a designated return bin. Delivery staff regularly pick up and transfer core parts from garages to warehouses.

Core parts may be discarded or misplaced

Returned core parts are however not tracked in IFS until they are received at a warehouse. Consequently, it is possible that garage technicians may discard or misplace core parts by mistake after servicing the vehicle.

Best practices call for technicians to submit a core part in exchange for a new or a rebuilt part to ensure all core parts are recovered and accounted for. This is not the practice at any of the TTC stores.

Previous 2014
Auditor
General's report
identified similar
concerns

The Auditor General's 2014 Phase One report on Bus Maintenance and Shops Department identified similar concerns regarding the retrieval of defective parts for warranty purposes. In response to our 2014 audit recommendations, TTC management staff have developed a new defective parts retrieval process and piloted it at several garages. To minimize potential loss of valuable core parts for rebuild, staff should consider extending the new warranty part retrieval process to core parts.

Recommendation:

4. The Board request the Chief Executive Officer to improve the current core parts retrieval process at Toronto Transit Commission garages to account for and track the return of core parts for rebuild purposes.

B. STORE OPERATIONS

TTC Audit
Department found
no major issues at
stores in its 2013
report

In its 2013 audit report entitled "Audit of Cycle Counts and Divisional Stores Control," the TTC Audit Department concluded that "Processes and controls over inventory cycle and strip counts, and inventory materials stored at the divisional stores were found effective and operating as expected."

However, the TTC internal audit report provided the following two findings:

- The lack of stores staff coverage during shifts, and
- Cycle count discrepancies were not investigated and no supervisory approval was required for strip count adjustments

Significant control issues were noted in our audit

Contrary to the conclusion by the TTC Audit Department, we noted a number of significant control issues at store operations, some of which could result in potential inventory losses. In addition, despite management's assertion that the issues identified by the TTC Audit Department have been addressed, our audit noted that the issues continue to exist. Our findings and recommendations are provided below:

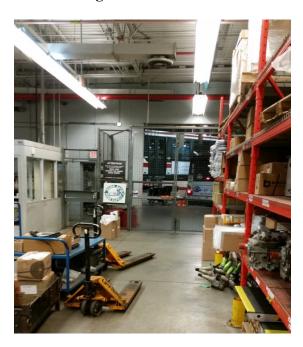
B.1. Lack of Adequate Access Controls at Stores

Lack of staff to operate stores 24/7

Some of TTC's 23 satellite stores are located at garages or car houses to provide parts and supplies for vehicle maintenance and repair. Since many of these facilities operate on a 24/7 basis, a major challenge faced by Materials Management is the lack of manpower to staff the stores on a 24/7 basis.

5 largest stores are now staffed for all shifts Following our 2014 audit report on bus maintenance, TTC staff have made concerted efforts to convert the five largest stores in bus garages to a 24/7 closed store operation. Approximately \$7 million worth of bus parts and supplies are stored at these five sites. At closed stores all inventory is stored inside an enclosed secure area and can only be accessed by Materials Management staff. See Figure 5 of an example of a closed store.

Figure 5: View from the Inside of a Closed 24/7 Store Facing the Maintenance Garage



Some store shifts are not staffed

For the remaining 18 smaller stores, due to budget constraints, certain shifts at some stores are not staffed by Materials Management staff. According to management staff, usually a garage foreperson is given a store key to allow garage staff to obtain parts after hours. However, it is a common practice that a foreperson will leave the store unlocked allowing garage staff unrestricted and convenient access.

Even during the shifts when a store staff is on duty, when the store staff are performing duties away from the store, taking breaks or off duty, the store room is often unlocked.

Some stores are operating like self-serve grocery stores

At these sites smaller parts and supplies are kept inside the store while larger parts are stored on racks in the garage maintenance area. As such, smaller stores are to a large extent operating like a self-serve grocery stores allowing garage staff open access to inventory. Figure 6 shows one of the open stores.

As of December 31, 2015, the inventory on-hand at the 18 open stores amounted to \$14 million, averaging approximately \$790,000 per store.

Figure 6: An Example of an Open Store Located Inside a Garage



B.2. Existing Controls Are Ineffective to Safeguard Inventory

Garage staff are required to record parts taken from the store on a MR sheet

To track inventory removed from an open store, management requires garage staff to note on a "Material Requisition" (MR) sheet the stock code, account code/job number, badge number and quantity taken. Information from the sheets are then used to update IFS inventory records.

The MR sheet alone is not an effective control Other than a MR sheet posted outside of a store (Figure 7) along with a reminder sign (Figure 8), there are no other monitoring measures to ensure garage staff record all of the parts and supplies taken out of a store. Based on our on-site observations, information on the MR sheets were frequently incomplete or missing. Figure 7 shows an example of incomplete information on a MR sheet.

34316

Figure 7: Example of a Material Requisition (MR) Sheet



ATTENTION!

Please fill in the following information on the SR before taking parts.

STOCK CODE

ACCOUNT/JOB NUMBER

BADGE NUMBER

QUANTITY

For assistance, see the Storeperson.

Figure 8: An Example of the Posted Instructions

Current controls at open stores are inadequate

Management are exploring the less costly alternatives to improve controls

Given that the MR sheet is the only key control currently in place to track inventory in open stores and the lack of staff compliance to record all information, current controls at open stores are ineffective in safeguarding the inventory from non-TTC uses.

In our discussions with TTC management, they are aware of the need to improve controls at open stores. However, management pointed out that the increased labour costs may outweigh the benefits. Management also indicated that they were exploring a number of less costly alternatives to improve controls.

The TTC's Audit Department in its 2013 audit of Cycle Counts and Divisional Stores Controls noted that management was aware that some shifts are not covered. According to the report management had previously advised TTC audit that the increased costs to cover all shifts was not feasible.

Recommendation:

- 5. The Board request the Chief Executive Officer to take steps to improve access controls to safeguard inventory at all Toronto Transit Commission satellite stores including:
 - a. Assessing the costs and benefits of converting open stores to the 24/7 model;
 - b. Increasing staff compliance with the requirement to accurately record all inventory items removed from stores; and
 - c. Exploring other options that can improve access controls to inventory at open stores.

B.3. Physical Security Measures Need to Be Enhanced

Overall, we found that physical security measures at stores require improvement. Many open stores are located within garage maintenance areas intended to give garage staff easy and convenient access to inventory. These stores are accessible by any TTC employee and contract staff.

Access card system not in working order

During our site visits we observed that the card access control systems at stores were not working. According to management, the system had been disabled since 2012 due to technical issues.

CCTV should be installed at store entry and exit points

Enhancing security measures can help deter and detect pilfering. Installation of Closed Circuit Television (CCTV) surveillance systems at store room entrances and exits is one of the common security measures. Management indicated that there are plans to install CCTV at some stores starting in 2016.

Current security measures at warehouses include alarm systems, fences to prevent unauthorized access, and security guards at certain facilities. While these measures provide some levels of safeguard, considering the significant value of warehouse inventory, additional measures such as CCTV surveillance system should be considered to enhance security.

Recommendation:

6. The Board request the Chief Executive Officer to review the current state of physical security at Toronto Transit Commission inventory facilities in particular the satellite stores to ensure a reasonable level of physical security at all sites.

C. PHYSICAL COUNTS

Materials Management perform two types of physical counts to support the operational and financial reporting needs of TTC:

- Warehouse and store staff conduct daily cycle counts
- In addition to cycle counts, store staff conduct daily strip counts at some stores

A brief discussion of the issues associated with these two types of physical counts is provided below.

C.1. Cycle Count Adjustments Are Not Properly Documented

Warehouse and store staff conduct cycle counts every weekday Cycle count is a method whereby a portion of inventory is counted until the entire inventory has been counted over a calendar year. Inventory is broken down by A, B, or C classification according to usage. The count frequency is pre-set in IFS ranging from one to four times a year. Based on these frequencies, the system generates a list of inventory items for counting. Warehouse and store staff perform cycle counts on a daily basis Monday to Friday.

Cycle count adjustments are charged or credited back to Materials Management When a count result is different from the inventory record, the system quantity balances are adjusted accordingly. The dollar value of the inventory adjustments from cycle counts are charged or credited back to Materials Management. In 2015, cycle count adjustments totaled approximately \$427,000 in unaccounted inventory.

Adjustments greater than \$1,000 require supervisor to investigate Material Management's cycle count procedures require supervisors to investigate the count result when the discrepancy is greater than \$1,000 or ten per cent of the inventory value. However, supervisors are only required to document the investigation and explanation when the discrepancy is over \$1,000. When a discrepancy is lower than the \$1,000 dollar threshold or ten per cent of inventory value, the system automatically adjusts the inventory quantity.

Significant count variances were not thoroughly investigated or documented

All cycle count adjustments are tracked in IFS and listed in an inventory adjustment report. Of the over 2,000 quantity adjustments in October 2015, only 10 adjustments were greater than the \$1,000 threshold and required documented supervisory investigation. Our review of these 10 adjustments and approval documents found that 9 adjustments were not properly completed by staff. For example, count result information or details of the supervisory investigation were not documented in the reports. Materials Management should consider lowering the existing \$1,000 dollar threshold to expand the level of supervisory review.

Issue was noted in a 2013 TTC internal audit report but has not been rectified to date

The TTC's Audit Department in its 2013 audit of Cycle Counts and Divisional Stores Controls also found that significant cycle count adjustments were not adequately investigated. According to the audit report, management at the time agreed to implement new procedures to address the issue. However, based on our audit finding, the issue continues to exist to date.

Recommendation:

7. The Board request the Chief Executive Officer to ensure quantity discrepancies from cycle counts at warehouses and stores are adequately reviewed and approved by supervisory staff to safeguard Toronto Transit Commission inventory. Steps to be considered include re-assessing the current dollar threshold requirement for documenting supervisory reviews and ensuring adequate investigation and documentation of significant discrepancies.

C.2. Merits of Daily Strip Counts at Stores Need to Be Re-Assessed

Strip counts are performed at stores as a compensating control

In addition to daily cycle counts, staff at 13 stores are required to conduct daily physical counts referred to by TTC as "strip counts". Recognizing the potential control weakness at open stores, management require that the entire inventory in each store be counted each month. To accomplish this, a portion of the inventory is counted each weekday in addition to regular cycle counts.

Strip counts are not effective

While the intent of the strip count is to increase inventory accuracy, we did not find this additional measure to be effective. On the contrary, we found the practice of strip count problematic and impractical for the following reasons:

(1) <u>Strip Count Adjustments Are Treated as Regular Inventory</u> Transactions

All strip count adjustments are assumed to be for operational use Unlike cycle count adjustments, unaccounted inventory losses or gains identified during strip counts are charged or credited back to TTC operations based on the assumption that the unaccounted inventories are for operational use. Strip count adjustments are recorded by staff in IFS as regular inventory transactions (i.e. goods returned to store or issued to operations).

\$1 million of unaccounted inventory was charged to operations in 2015 Consequently, strip counts enable staff to adjust the inventory quantities on a daily basis without tracking these in IFS as quantity discrepancies. In 2015, the strip count adjustment value totaling approximately \$1 million was charged to operations.

Strip counts do not promote accountability or incentive to safeguard TTC inventory

In our view, the practice of strip counts can actually undermine the accuracy of regular cycle counts conducted at the stores because staff are able to constantly adjust the quantity balances in the inventory system. Furthermore, when strip count adjustments are charged to operations, this does not provide an incentive for store staff to safeguard the inventory.

(2) <u>Strip Count Discrepancies Are Not Adequately Reviewed or Approved</u>

Supervisor does not document results of strip count reviews According to strip count procedures, store supervisors are required to review all count discrepancies on a daily basis. However, supervisors are not required to document the results of their reviews.

Lack of system controls to ensure significant dollar adjustments are approved by supervisors

Furthermore, store staff can make multiple adjustments to system quantities as long as each adjustment is less than \$1,000. According to Materials Management procedures, adjustments greater than \$1,000 require supervisory approvals. There is however, no system control to flag the need for supervisory approval, nor is there any system control to reject adjustments without supervisory approvals. We noted that a number of adjustments greater than \$1,000 were not reviewed or approved by the supervisor.

The TTC Audit Department in its 2013 audit of Cycle Counts and Divisional Stores Controls noted the issue of strip count adjustments not requiring supervisory reviews or approvals. According to the internal audit report, management at the time indicated that they had implemented new supervisory approval procedures. Our current audit found that the lack of supervisory reviews for significant strip count adjustments continues to be an issue.

(3) Lack of Segregation of Duties Can Affect Count Accuracy

Accuracy of strip count can be reduced by staff having access to system quantity balances To ensure an accurate physical count, it is important that the staff person performing the inventory count does not have access to system quantity balances prior to counting. Our review of completed strip count sheets showed that some store staff knew the system quantities prior to counting the inventory. Knowledge of the system quantity can undermine the accuracy of strip count results.

According to management staff, TTC store staff have access to system quantities because they have overlapping custodial duties. The current arrangement does not allow for adequate segregation of duties for store personnel.

(4) Strip Counts Are Prone to Error and Not Always Completed

Strip counts are labour intensive, prone to errors, and frequently not completed by staff

The process of logging and tracking strip count results is labour intensive and prone to errors. Staff at each store manually record strip count results on a hardcopy log sheet. This information is then used by a store clerk to manually calculate the dollar value of adjusted inventory items. We noted several calculation errors on the log sheets. In addition, in our review of 13 stores' 2015 strip count results, we noted that four stores (30 per cent) did not complete their targeted counts.

Overall, strip count is not a best practice in inventory management, and in our view can be more problematic than beneficial. Instead of requiring store staff to conduct both strip and cycle counts, management may want to consider increasing the frequency of cycle counts in stores to compensate for the lack of access controls.

C.3. Relatively High Level of Inaccurate Inventory Records at Stores

Since store staff conduct both cycle and strip counts and adjust the quantity discrepancies in IFS on a daily basis, this should result in minimal discrepancies between system records and physical count results. This is however not necessarily the case.

The entire inventory at five stores were counted in 2014 and 2015 prior to converting to 24/7

In response to our 2014 audit recommendations regarding bus warranty claims, management converted the five largest stores in bus garages to a 24/7 closed store operation in 2014/2015. Prior to converting the stores to a closed system, store staff performed a "wall-to-wall" count. The entire inventory in each store was counted to ensure inventory records were accurate. Figure 9 below summarizes the percentage of accurate inventory records counted by store.

Figure 9: Summary of Inventory Record Accuracy Rates Based on Physical Counts of Entire Inventory

Site	Conversion Date	Accurate Inventory Records (%)
1	March 1, 2014	83.9
2	September 27, 2014	80.9
3	May 2, 2015	65.0
4	October 24, 2015	71.9
5	December 5, 2015	61.8

Accuracy of inventory records was relatively low ranging from 60% to 80%

Even though staff had adjusted the system quantities after each cycle and strip count in these five stores, the percentage of accurate inventory records was relatively low ranging between 60 and 80 per cent.

A wall-to-wall count has not been conducted for 18 stores but the same level of inventory inaccuracy is possible

A wall-to-wall count is not a normal practice for TTC stores, and Materials Management has not conducted a wall-to-wall count in the remaining 18 stores. While we do not have the actual count results for these stores, based on the count results of the five stores above, and the other issues noted in this report, we are concerned that the accuracy of inventory records for the 18 stores may be low.

In our view, the practice of conducting both cycle and strip counts in stores does not necessarily result in more accurate inventory records. On the contrary, it may affect the integrity of the count results and mask the amount of unaccounted inventory.

Recommendation:

8. The Board request the Chief Executive Officer to review and improve the current physical count practice at Toronto Transit Commission (TTC) stores, consisting of both cycle and strip counts, to achieve consistent and accurate physical count results. This should include a review of the merits and practicality of requiring staff to conduct daily "strip counts" at TTC satellite stores.

D. OTHER ISSUES

D.1. Records Retention Standards Inconsistent with By-Law Requirements

A records retention schedule is the length of time that an organization is required to keep its documents to meet internal and legal requirements. The City of Toronto By-Law No. 867-1998 establishes the regulatory retention requirements for various TTC records.

Current record retention requirements are not consistent with By-law requirements

We found that the Materials Management records retention procedure is not up-to-date and is incomplete. Certain Materials Management records retention periods are inconsistent with the By-law requirements. For example, the By-law requires material requisition forms be retained for three years, whereas Materials Management requires these documents to be retained for a fourmonth period (current and previous three months). Furthermore, there are no records retention requirements for warehouse documents.

Recommendation:

9. The Board request the Chief Executive Officer to review and update retention requirements for each category of inventory records to ensure compliance with the City of Toronto By-law No. 867-1998. The updated record retention schedules should be documented and communicated to staff.

D.2. Proof of Receipt Not Obtained for Certain Purchases

Certain orders do not need to be recorded into the system Among the different types of deliveries to TTC warehouses and stores, non-stock items and emergency orders (e.g. specialty parts, tools and office equipment) are direct purchases that do not need to be recorded in the inventory system. These items are delivered to warehouses and stores to be picked up by operational staff.

As a best practice the TTC employee receiving the goods from Materials Management staff should verify all items received are correct, undamaged and sign for the receipt as evidence of acceptance. Proof of receipt establishes the fact that the recipient received the item.

TTC staff do not always sign-off after receiving items from Materials Management Materials Management implemented new processes in October 2015 requiring sign-off from TTC employees when receiving goods. However, during our site visits we observed that this has not been consistently implemented. There was also confusion among staff as to when this was required due to a lack of documented procedures.

Recommendation:

10. The Board request the Chief Executive Officer to establish and implement procedures for obtaining proof of receipt for non-inventory and emergency purchase items delivered to Toronto Transit Commission warehouses and stores.

CONCLUSION

Ten audit recommendations to help improve safeguarding of TTC inventory

This was our first audit of TTC inventory controls. Phase One focused on the safeguarding of inventory at warehouses and stores. Our audit provided ten recommendations relating to warehouse and store operations, physical counts and inventory transactions. Addressing the recommendations in this report will help improve controls over TTC inventory and accuracy of inventory records.

Phase Two will focus on assessing the effectiveness and efficiency of inventory management.

Rec No	<u>Recommendation</u>	Agree (X)	Disagree (X)	Management Comments: (Comments are required only for recommendations where there is disagreement.)	Action Plan/ Time Frame
1.	The Board request the Chief Executive Officer to ensure goods received at Toronto Transit Commission warehouses are timely processed including stocking and updating the inventory system records to minimize loss or misplacement of inventory.	X			Staff agree with the findings and will develop action plan to minimize the number of receiving steps. In 2015 M&P received a total of 603K purchase receipts. During the audit review, it was determined that 83 orders had no subsequent system records and had been received at least 30 days ago. These 83 orders consisted of 16K parts of which just over 11K parts had a unit value of \$2 or less. Upon closer inspection, we were able to locate 67 out of the initial 83 orders and inventory records were updated, leaving about \$23,887 still to be accounted for. Issues surrounding a shortage of resources in which we had to manage the workforce in order to service immediate customer requirements played a part of the negative outcome. Completion Date: Plan July 2016; Implementation: Dec 2016

Rec No	Recommendation	Agree (X)	Disagree (X)	Management Comments: (Comments are required only for recommendations where there is disagreement.)	Action Plan/ Time Frame
2.	The Board request the Chief Executive Officer to undertake an immediate review and reconciliation of returned goods at Duncan warehouse to identify and document missing returned goods.	X			Staff agrees with the findings and have developed an aging report and a new metric: First In, First Out (FIFO) to eliminate the current backlog and to hit our goal of aged material <60 days. In 2015 M&P received \$160.7M of inventory. On Feb 1, 2016 M&P had a returned material value of \$637K out of which 80% had been there 3 months or greater. Staff will eliminate the backlog. Completion Date: August 2016

Rec No	Recommendation	Agree (X)	Disagree (X)	Management Comments: (Comments are required only for recommendations where there is disagreement.)	Action Plan/ Time Frame
3.	The Board request the Chief Executive Officer to take steps to ensure returned goods to warehouses are properly and timely processed for replacement or credit. Such steps should include but not be limited to: a. Storing returned goods in an organized manner so that they can be easily located; b. Providing staff with clear	X			Revise floor plan to provide adequate space with 15 degree racking to promote FIFO. Completion Date: Sept, 2016. Procedures will be updated to include an escalation plan along with timely
	procedure requirements to ensure inventory analysts receive timely notifications of return requests;				notifications. Completion Date: July 2016.
	c. Ensuring timely processing and follow-up of outstanding returns by inventory analysts;	X			A revised aging report will be reviewed weekly. Completion Date: June, 2016
	d. Developing relevant performance measures to track and monitor completeness and timeliness of return processes.	X			Revised performance metrics to include tracking by aging are in place. Completed .

Rec No	Recommendation	Agree (X)	Disagree (X)	Management Comments: (Comments are required only for recommendations where there is disagreement.)	Action Plan/ Time Frame
4.	The Board request the Chief Executive Officer to improve the current core parts retrieval process at Toronto Transit Commission garages to account for and track the return of core parts for rebuild purposes.	X			Staff agree. In 24/7 bus garages, electronic tracking inside IFS to track all warranty/core parts is in place and included in the Vehicle Work Order. For the remaining bus garages, this will be added into the application. Completion Date: Dec 2016.

Rec No	<u>Recommendation</u>	Agree (X)	Disagree (X)	Management Comments: (Comments are required only for recommendations where there is disagreement.)	Action Plan/ Time Frame
5.	The Board request the Chief Executive Officer to take steps to improve access controls to safeguard inventory at all Toronto Transit Commission satellite stores including: a. Assessing the costs and benefits of converting open stores to the 24/7 model	X			To provide 24/7 coverage at all locations remaining would require approximately \$4-5M in additional annual operation cost through the addition of 50 new resources. As part of our next phase of the warehouse optimization study we will (a) undertake inventory level rationalization (b) store consolidation potential and (c) cost/benefit analysis Completion Date: Dec 2016
	b. Increasing staff compliance with the requirement to accurately record all inventory items removed from stores, and	X			Staff agrees to monthly reports for non 24/7 stores to be issued to department for adjusted amount. Completion Date: August 2016.
	c. Exploring other options that can improve access controls to inventory at open stores.	X			Staff agrees. See 5A

Rec No	Recommendation	Agree (X)	Disagree (X)	Management Comments: (Comments are required only for recommendations where there is disagreement.)	Action Plan/ Time Frame
6.	The Board request the Chief Executive Officer to review the current state of physical security at Toronto Transit Commission inventory facilities in particular the satellite stores to ensure a reasonable level of physical security at all sites.	X			Staff agree. This will be a consideration and part of the review for 5A.
7.	The Board request the Chief Executive Officer to ensure quantity discrepancies from cycle counts at warehouses and stores are adequately reviewed and approved by supervisory staff to safeguard Toronto Transit Commission inventory. Steps to be considered include re-assessing the current dollar threshold requirement for documenting supervisory reviews and ensuring adequate investigation and documentation of significant discrepancies.	X			Staff agree. A full review of current procedures including a dollar threshold review to ensure documented supervisory reviews of discrepancies will be completed. Completion Date: August 2016.

Rec No	<u>Recommendation</u>	Agree (X)	Disagree (X)	Management Comments: (Comments are required only for recommendations where there is disagreement.)	Action Plan/ Time Frame
8.	The Board request the Chief Executive Officer to review and improve the current physical count practice at Toronto Transit Commission stores, consisting of both cycle and strip counts, to achieve consistent and accurate physical count results. This should include a review of the merits and practicality of requiring staff to conduct daily "strip counts" at Toronto Transit Commission satellite stores.	X			Staff agree. In 24/7 closed stores strip counts are not needed. In open non 24/7 stores they are needed to ensure parts availability. This issue will be considered during the review noted in 5A.
9.	The Board request the Chief Executive Officer to review and update retention requirements for each category of inventory records to ensure compliance with the City of Toronto By-law No. 867-1998. The updated record retention schedules should be documented and communicated to staff.	X			Staff agree. All information contained in the software application is already compliant. All material management procedures will be reviewed and made compliant. Completion Date: July 2016.

Rec No	Recommendation	Agree (X)	Disagree (X)	Management Comments: (Comments are required only for recommendations where there is disagreement.)	Action Plan/ Time Frame
10.	The Board request the Chief Executive Officer to establish and implement procedures for obtaining proof of receipt for non-inventory and emergency purchase items delivered to Toronto Transit Commission warehouses and stores.	X			Staff agree. To ensure compliancy no item will be released by M&P staff to users until appropriate documentation is obtained and this will be communicated. Completion Date: June 2016.