



Hamilton

Office of the City Auditor

Road Maintenance Small Tools and Equipment Inventory Audit



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Office of the City Auditor

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Executive Summary

- 1 In April 2021, Labour Relations and Transportation Operations and Maintenance (TOM) management notified the Office of the City Auditor (OCA) of an alleged misappropriation of small equipment and tool inventory from a Roadway Maintenance Yard in TOM by an employee of the City. As a result, the City Auditor chose to carry out an audit of the inventory processes to identify gaps that expose the inventory of small tools and equipment in Roadway Maintenance to the risk of fraud and misappropriation. In addition, the City Auditor chose to follow up on eight recommendations brought forward by the OCA during a similar inventory audit conducted in 2010. The City Auditor brought forward twenty-one new recommendations to strengthen controls and increase process efficiencies related to inventory. Management in TOM agreed with 20 of the recommendations and partially agreed with one recommendation. Action plan completion dates range from Q4 2021 to Q4 2022.

Introduction and Background

- 2 In April 2021, the OCA was notified of a misappropriation of small equipment and tool inventory from a Yard in the Roadway Maintenance Section of TOM. After preliminary discussions with management in TOM about their concerns, the OCA performed an audit of the small tools and equipment inventory management processes in Roadway Maintenance. This audit included a follow up on the recommendations applicable to Roadway Maintenance brought forward during a City-wide audit on small tool inventory conducted in 2010. The 2010 audit did not include small equipment inventory in its scope.
- 3 The investigation of the alleged misappropriation was carried out by Hamilton Police Services and coordinated by Labour Relations. The OCA supported certain aspects of the investigation as requested by Labour Relations.
- 4 As of June 2021, the approximate purchase value of small equipment inventory in Roadway Maintenance was \$325,000. However, the dollar value of small tools is not tracked.
- 5 The City of Hamilton, in accordance with its obligation to ensure that it is providing efficient and fair delivery of City services, has appointed an Auditor General, known as the City Auditor, who heads the OCA. From time to time the City Auditor receives reports of actual or suspected fraud from City management as outlined in the City's Fraud Policy and Protocol which affords discretion to the City Auditor to investigate matters which may involve related audits of processes that are not on the Audit Workplan. This audit was carried out under that authority and is intended to provide Council with the OCA's findings and conclusions regarding potential weaknesses in City processes.

Audit Objective

- 6 The overall objective of this audit was to determine the adequacy of processes and controls in place which are designed to safeguard small tool and equipment inventory and detect inappropriate inventory usage, loss or misappropriation.

Audit Scope

- 7 The scope of this audit included inventory-related processes, focusing on controls that would prevent and detect loss or misappropriation of small equipment and tools, including ordering, receiving, inventory management and tracking of inventory movement, access and security, and disposal of inventory.
- 8 The audit focused on inventory controls for small equipment and tools of the Roadway Maintenance Section in Transportation Operation Maintenance (TOM) and did not include review of small tools and equipment inventory management in other Divisions of Public Works although circumstantial evidence suggests that certain audit observations and control weaknesses may be applicable to them.

What We Did

- 9
- 1) Gained and understanding of the administrative and operational processes associated with small tools and equipment inventory controls of the Roadway Maintenance Section in TOM.
 - 2) Assessed processes and controls in place for small tools and equipment inventory management, which included documentation and analysis of the existing processes and controls, site visits and inventory counts on a sample basis, and assessment of the quality of inventory records.
 - 3) Followed up on recommendations applicable to Road Maintenance brought forward in Audit Report AUD11006.

How We Did It

- 10
- Reviewed applicable policies, procedures and reports.
 - Interviewed various City employees.
 - Documented pertinent processes in a narrative.
 - Observed relevant processes and handling of inventory.
 - Performed unannounced inventory counts on a sample basis.
 - Examined electronic and paper documents, reports and transactions, as needed to understand and evaluate inventory-related processes.

Key Terms

11 **Equipment Coordinator:** A position within Roadway Maintenance that among other duties, is responsible for purchasing, inventory record management and disposal of small equipment for Roadway Maintenance.

Hansen: The Information System currently used to record small equipment inventory and usage. Hansen is expected to be replaced with a new Enterprise Asset Management System. The replacement project is currently in its design stage.

Roadway Maintenance: A section within the Transportation Operations & Maintenance Division in Public Works responsible for road and sidewalk maintenance and repair, winter control and snow removal, roadway aesthetics, storm drainage, emergency response and road closures.

Segregation of Duties (SOD): A key internal control intended to minimize the occurrence of errors or fraud by ensuring that employees do not have the ability to both perpetrate and conceal errors or fraud in the normal course of their duties. If possible, different employees should perform the following functional categories: 1) Authorization or approval of transactions; 2) Recording of transactions; and 3) Custody of assets. If one person performs two or more of these functions, errors or irregularities are very likely to go undiscovered for long periods.

Small Equipment*: Gas powered tools i.e. lawn mowers, snow blowers, grass trimmers, etc.

Small Tools*: Manual hand tools, such as brooms, rakes, ladders, and wrenches; and small powered hand tools, such as hand drills, electric hand saws, hand grinders, etc.

*NOTE: While small tools and small equipment are not formally and clearly defined, for the purpose of this report the OCA will apply the terms as per the descriptions above.

Detailed Findings

Small Tools Versus Small Equipment

- 12 The practices and controls in place for the procurement, inventory management and disposal of inventory are dependent on the classification of an inventory item as a small tool or small equipment. However, interview comments and inventory logs in different yards demonstrate an inconsistent approach and indicate there are no clear guidelines or dollar value criteria for uniform classification of small tools and small equipment across the different locations.
- 13 The following are interview comments or examples from inventory logs illustrating this inconsistency:
- "Small equipment is anything with a gas-powered engine. Battery operated equipment is considered a small tool."
 - "Small equipment includes all fuel powered tools and large battery powered tools. Small battery powered tools are considered small tools."
 - "There is no clear distinguisher: if something has been on the small equipment list in the past, it goes on the small equipment list, and if has been on the small tools list, it will be classified the same."
 - "The purchase value of the item determines if it will be classified as a small tool or small equipment. I am not sure what the threshold is."
 - "Lasers do not have a gas-powered engine and therefore are considered small tools."
 - Lasers are listed on the small equipment inventory logs in some yards, and on the small tool inventory logs in other yards.

Purchasing of Small Tools and Equipment

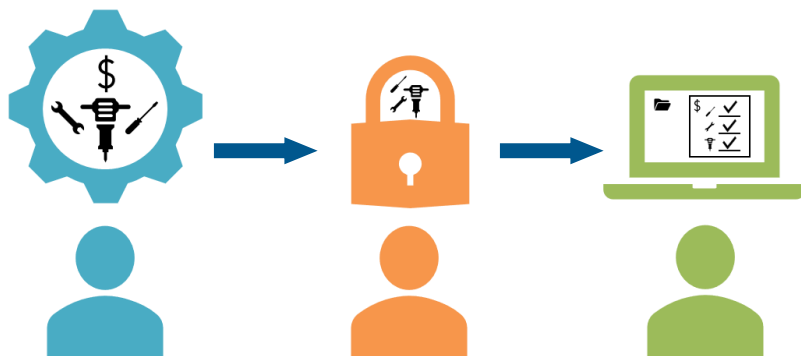
- 14 As illustrated below, the principle of segregation of duties discourages the assignment of responsibility to one person for the acquisition of assets, their custody, and their related record keeping.

Segregation of Duties

Person 1: Asset Acquisition

Person 2: Asset Custody

Person 3: Recordkeeping



Detailed Findings

- 15 When segregation of duties is lacking, compensating controls should exist to mitigate the risks of error, loss or misappropriation. These controls include audit trails, reconciliations, supervisory reviews and transaction logs.
- 16 Small equipment is purchased by the Equipment Coordinator who initiates the small equipment order, picks up the equipment from the vendors, delivers the equipment to the yards, validates the receipt of the equipment, and maintains all small equipment inventory records in Hansen.



The City was invoiced \$1,300 for a purchase of a trimmer and a mower in 2020. The items are missing and in the absence of good records it is not possible to investigate if the purchase was authorized and know who last had custody of the assets.

- 17 This violates segregation of duties principles. There are no compensating controls and recordkeeping to mitigate the risk of fraud and misappropriation. Management in the yards may be involved in the decision to procure small equipment, but there is no process in place that requires that they initiate and document the requisitions. Furthermore, the approval of small equipment purchases in PeopleSoft is exclusively based on whether the purchase is below the annual budget for small equipment purchases. Also, when small equipment is accepted by the yards, there is no formal sign-off form to document the hand off.

- 18 Small tools are purchased by yard employees from local hardware and supply stores using their procurement cards. Many Supervisors, all Superintendents and one Yard Attendant have procurement cards and can potentially purchase small tools. This process does not ensure standard quality and price savings, because the quality and price of purchased tools depends on the diligence and judgement of the different individuals making small tool purchases.

Detailed Findings

- 19 Because there are no consistent processes and controls in place, the purchasing practices are slightly different in various yards. There are occasions when the employee making a small tool purchase is the same person who is picking up the item, stocking it into inventory, and is also in charge of the inventory records and safekeeping. This also results in a segregation of duties conflict and related risk.
- 20 Superintendents currently review procurement card transactions on a monthly basis. Excessive purchases are likely to be detected with these reviews. There is an understanding that Superintendents should be made aware of higher dollar value purchases of small tools in advance, but there is no official dollar threshold, and approvals can be verbal and can vary based on the judgement of the employees involved in the process.

Unreliable Inventory Records and Tracking

- 21 Generally, items classified as small equipment are assigned and labelled with unique identification numbers and are logged into Hansen by the Equipment Coordinator. Aside from the inventory records in Hansen, the yards maintain their own independent logs for small equipment. Each yard is expected to count small equipment on a monthly basis, which are often completed by employees who safeguard the inventory and maintain the small equipment inventory logs. Annual counts are also completed by the Equipment Coordinator but are not done on surprise basis and are not documented. There is no expectation that yard inventory logs and Hansen's records are to be periodically reconciled.
- 22 OCA found numerous differences between the small equipment records in Hansen, the small equipment inventory records maintained at the yards, and the actual small equipment on hand at the yards. These differences demonstrate that both set of records (Hansen and the yards' records) are not reliable, accurate and complete.
- 23 OCA found the following examples that illustrate the inconsistencies:
- Items that were logged into Hansen but were not found in stock and/or were not on the yards' inventory logs;
 - Some items were recorded in Hansen more than once;
 - Items that were in stock and on the yards' inventory logs, but were not logged into Hansen;
 - Items that were in stock but were neither in Hansen nor on yards' inventory records;

Detailed Findings

- 23
- Items without unique identification numbers;
 - Different inventory items with identical unique identification numbers;
 - Items on the yards' inventory logs with same serial numbers;
 - Items that were on yard inventory records but were not in stock.
- 24
- There were also indications that the current numbering system for small equipment in Hansen and the lack of user training in Hansen are obstacles for effective inventory management and reliable reporting. This is demonstrated by records in the inventory reports pulled from Hansen that have identical unique identification numbers and employee's comments that question the integrity of the reports and the adequacy of user training received.
- 25
- Small tools are generally considered low dollar items and do not have unique inventory identification numbers for inventory control purposes. However, some of the items considered as small tools, such as lasers, laser kits, tools sets and powered tools are not low dollar items. Inventory logs for small tools are decentralized, are mostly manual, and are maintained separately at each yard. The format of the logs differs across the yards. Some of the small tools have serial numbers, but they are not necessarily logged or may be incorrectly logged in the tools inventory records. The purchase date and purchase value of small tools are not captured in any of the yards. Each yard is expected to count small tools on a quarterly basis and counts are often completed without supervision by the employees who are in charge of safeguarding and logging the inventory.
- 26
- There were many examples of items that were in stock but were not logged into small tool inventory and items that were on the inventory logs but are not at the yards. Furthermore, the small tool inventory records were not being adjusted for additions and dispositions of hand tools (i.e. rakes, brooms and shovels). Thus, the quantity in the inventory records was not always in agreement with the expected quantity on hand, but merely showed the quantity that was last counted.

Two lasers kits costing \$1,700 CAD each were purchased in 2020. They were not recorded in inventory but were returned to the dealer for repair by an employee who has since retired. The yard did not have any records of these two lasers. If it was not for the OCA's inquiry, management would most likely not have found the equipment.

- 27 OCA concluded the yards do not have an effective tracking process in place when valuable tools and equipment are issued to other yards or sent for repair. This further compromises the reliability of available inventory records.
- 28 The poor quality of inventory records is indicative of an inventory count process that is not effective in terms of timely investigations and adjustments for discrepancies. At the same time ad unreliable or compromised inventory records can be an obstacle for completing efficient and successful investigation of discrepancies.

Disposal of Small Tools and Equipment

- 29 The disposition of small equipment follows the Disposal of Surplus and Obsolete Goods Procurement Policy #16 for the City of Hamilton. However, the practices in place are inadequate to ensure proper control of inventory. Auctions are the approved method of disposing of equipment and tools that are saleable. For unusable inventory, past its useful life there should be a process that documents the disposition of each asset, subject to appropriate approvals and with adequate documentation. The last auction to dispose small equipment for Roadway Maintenance was done in May of 2016 – more than five years ago. The cage designated for storage of old small equipment was full, but a log was not used to track the equipment to be disposed.
- 30 In addition, OCA found issues with the way duties are assigned and carried out. Small equipment that needs to be disposed is handed from the yards to the Equipment Coordinator who assumes all further responsibilities for recordkeeping and storage of this equipment. This creates a segregation of duties conflict that has no compensating controls in place. When small equipment for disposal is picked up by the Equipment Coordinator, there is no formal sign-off form to document the hand off. The only record of the equipment replacement is maintained in Hansen which is also updated by the Equipment Coordinator without any supervision.

Detailed Findings

- 31 Disposal of small equipment requires approval at a director level, but in the absence of reliable records, Roadway Maintenance management does not have the ability to reconcile the disposal records to the items that were actually handed off for disposal to the Equipment Coordinator by the yards.
- 32 The assignment and return of hand tools are not being logged and employees do not always bring damaged hand tools back to the yards for disposals. Such circumstances, with poor accountability and record keeping, leave the City exposed to the risk of misappropriation. There are no records of disposal decisions or records of disposals, nor are inventory records adjusted to reflect the quantity for the disposed items. As a result, the quantity of tools that are damaged and disposed of is not known and there is no way to track wear and tear for such tools.
- 33 For powered tools, the disposal practices can vary depending on the judgement of the Supervisors in the various yards. Some yards keep the damaged items in storage, some yards dispose of the items "as is", and some cut the power cord before disposing the items. In all instances however, there are no records of disposal decisions and inventory records are not timely updated to reflect disposals.

Procurement Cards

- 34 Currently, small tools are being purchased by yard employees from local hardware and supply stores using their procurement cards. This type of purchasing is highly decentralized and many Supervisors, all Superintendents and one Yard Attendant have procurement cards and can potentially purchase small tools. The employees scan the receipts and code the transactions into Spend Dynamics – an online card program management and reporting tool used by the City of Hamilton to manage credit card (procurement card) purchases. Designated approvers review and approve procurement card transactions in Spend Dynamics on a monthly basis.
- 35 Some of the receipts attached in Spend Dynamics are not fully scanned and there are occasions when small tool purchases are charged to accounts for operating supplies or operating equipment, and not to the small tools account. This may be an indication of poor review and approval practices. OCA also found a few instances where the approvers were not supervisors of the card holders.

Detailed Findings

Preventative Maintenance, Repairs, and Warranties

- 36 Preventative maintenance and inspection schedules are not maintained for small equipment in Roadway Maintenance. Lack of preventative maintenance programs for critical equipment can lead to increased equipment breakdowns and workers' injuries, and unnecessary repair expenses. Minor preventative maintenance, such as cleaning out filters, greasing, and replacing blades on powered tools and small equipment is performed by yard employees on an as-needed basis.
- 37 Roadway Maintenance does not maintain records of small equipment that is under warranty and relies on its vendors to apply warranty as applicable, which can result in the City paying for repair expenses that should be covered under warranty. In addition, there is no system in place to track the history of repairs and repair cost for high value inventory items.

Follow Up on Audit Results

- 38 The OCA conducted a City-wide audit of the tool inventory management in 2010. Fourteen recommendations were made to strengthen the controls in place. Eight of the fourteen recommendations were applicable to TOM Roadway Maintenance, formerly Roads Section of Operations and Waste Management. Audit Report AUD11006 was originally issued in January 2011 with management action plans and implementation timelines included in the Report.
- 39 In 2012, the OCA conducted a follow up exercise to determine if appropriate and timely actions had been taken. A Follow Up Audit (AUD12009) to the tools inventory audit was issued in June 2012 with the results showing that, at that time, of the eight recommendations applicable to Roadway Maintenance made in the original Report, four recommendations were completed, one was incomplete, and three recommendations were in progress. The OCA reviewed the four outstanding action plans as part of its annual follow activities in 2014 and 2016. As of 2016, OCA found six of the eight recommendations made in the original Report were completed and two were in progress.

40 In light of the inventory concerns raised, the OCA decided to follow up on all eight recommendations again as part of the current audit. Please refer to Appendix "C" to Report AUD21010 for a detailed account of the observations, recommendations and management action plans from the original Report, the applicable follow up status comments, and the comments from this year's follow up audit. The City Auditor found that, as of August 2021, the status of the six recommendations that were completed in 2016 have regressed and the issues that led to the recommendations made in the original Report remain open.

Recommendations

41 Please refer to Appendix "B" to Report AUD21010 for a list of Recommendations and the related Management Responses that will strengthen controls and increase process efficiencies for inventory.

Conclusion

42 The OCA has brought forward several observations and recommendations in order to build upon Roadway Maintenance efforts to improve how small equipment and tools inventory is managed. Roadway Maintenance has an opportunity to undertake transformative change in this area. The OCA is confident that the passion and motivation shown by staff toward their daily work activities can be harnessed to build collective ownership and undertake this courageous change.

43 The OCA would like to thank employees and management in Roadway Maintenance and other participants for their openness, enthusiasm and contributions throughout this project. We look forward to following up with management in the future to see the progress of their management responses and their impact on safeguarding the City's inventory.

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