

APPENDIX 1

**INVENTORY CONTROLS OVER TRAFFIC
CONTROL DEVICES IN
TRANSPORTATION SERVICES
NEED TO BE IMPROVED**

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Auditor General's Office

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EXECUTIVE SUMMARY

***Traffic Plant
Installation and
Maintenance
(TPIM) unit
maintains \$6.7
million of
materials***

The Traffic Plant Installation and Maintenance (TPIM) unit is part of the Transportation Services Division. The unit is responsible for managing the design, installation and maintenance of all electrical traffic control and related devices in the City of Toronto.

In order to repair traffic signal devices in a timely manner or install new ones as required, TPIM rents warehouse space and stores approximately \$6.7 million of inventory.

***Purchasing and
Materials
Management
Division provides
support to
operating divisions***

Each City division bears responsibility for performing inventory control functions, such as receiving, stocking, issuing, inventory counting and distribution of division specific materials. The Purchasing and Materials Management Division is available to provide leadership and support to other divisions in meeting these responsibilities.

***Inventory controls
need improvement***

Our objective in conducting this review was to assess the effectiveness of Transportation Services Division's controls over traffic control devices inventory. In summary, we found controls need to be improved.

***Key Issues
Identified***

At the time of our review, Transportation Services was not operating according to the corporate materials management strategy and this contributed to certain internal control weaknesses we identified. These weaknesses were as follows:

- No documented divisional policies and procedures for effective inventory control
- Accurate inventory records are not maintained
- Regular physical counts not conducted to ensure records are accurate and controls are effective
- No established inventory metrics to evaluate inventory management
- Inventory of \$6.7 million is not recorded or reported in the City's financial information system.

Finally, there may be an opportunity for the division to save rental costs for warehouse space.

Although the focus of this review was on TPIM, the findings may apply to other units in Transportation Services where materials are stored as inventory for operational purposes. In addition, the recommendations in this report may be useful in improving inventory controls of other City divisions.

Conclusion

This report includes nine recommendations for improvements to inventory control. By addressing these recommendations Transportation Services will implement effective controls, reduce costs and ensure the safekeeping of the City's traffic signal devices inventory.

BACKGROUND

Traffic Plant Installation and Maintenance (TPIM) Unit

The Traffic Plant Installation and Maintenance (TPIM) unit is part of Transportation Services Division. The unit is responsible for operating and maintaining the \$200 million infrastructure of traffic control devices in the City of Toronto.

\$14 million operating budget and \$19 million capital budget

The TPIM unit oversees contractors who provide parts and services necessary to ensure the proper function of:

- 2228 traffic signals;
- 484 pedestrian crosswalks;
- 363 flashing warning lights; and
- Installation of new traffic signals.

The approved 2011 operating budget for TPIM was approximately \$14 million and the capital budget was approximately \$19 million.

Inventory of parts and materials

TPIM maintains an inventory of parts in order to repair traffic signal devices in a timely manner or install new ones as required. The parts maintained in inventory range from miscellaneous items such as power adapters to more significant items such as three way traffic lights or electronic controller cabinets necessary at each intersection with a traffic light.

\$ 6.7 million in inventory at the end of 2011

The total value of the items maintained as inventory by TPIM at the end of 2011 was approximately \$6.7 million.

AUDIT OBJECTIVES, SCOPE AND METHODOLOGY

The Auditor General's Audit Work Plan included a review of the controls in place for Transportation Services inventory of traffic devices.

The objective of the review was to assess if TPIM has effective controls in place to safeguard its inventory of traffic control devices.

This review included the period from January 1, 2010 to December 31, 2011.

Audit methodology

Our audit methodology included the following:

- interviews with appropriate City staff
- site visits to TPIM warehouse
- examination of systems, documents and records
- review of reports issued by the U.S. Government Accountability Office and other organizations, and
- any other procedures deemed appropriate.

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. Inventory Controls Need to Be Improved

A.1. Corporate Materials Management Strategy Not Adopted By TPIM

No written policies and procedures

At the time of our audit, TPIM did not have any documentation of internal procedures on how inventory for traffic control devices was being maintained. Documented policies and procedures are needed to establish corporate standards and ensure consistency of operations.

City Council approved materials management model in December 2005

In December 2005, City Council adopted a corporate model for the City's warehousing and distribution of materials. The intent of the model was for Purchasing and Materials Management Division (PMMD) to assist in implementing the model in City divisions with significant levels of inventory.

Corporate framework was not adopted

Transportation Services has not implemented the corporate model for the traffic control devices.

Develop and document inventory policies and procedures

Transportation Services needs to develop and document policies and procedures for inventory control that are consistent with the corporate model for materials management. Transportation Services staff should consult with PMMD staff in order to assess and implement adequate inventory control functions for their traffic control devices.

Recommendations:

- 1. City Council request the General Manager, Transportation Services, in consultation with the Director, Purchasing and Materials Management, to implement the corporate model for warehousing and distribution of materials, particularly with respect to the traffic control device inventory.**

- 2. City Council request the General Manager, Transportation Services, in consultation with the Director, Purchasing and Materials Management, ensure inventory control policies and procedures are documented.**

A.2. Adequate Information Systems for Inventory Not in Place

At the time of our review adequate information systems were not in place in Transportation Services to effectively record the receipt of materials, use of materials, inventory in stock and value at a given point in time. Although the Division kept a record of inventory items, it was of limited use as it did not accurately record issuance of materials from inventory.

\$6.7 million of inventory at end of 2011 not included in City's financial information system

In addition, the inventory is not recorded in the City's financial information system. The value of traffic control devices inventory at the end of 2011 was approximately \$6.7 million.

The level of inventory held is not significant in the context of the City's total assets. However, it would be prudent and appropriate to record the inventory in the financial information system and ultimately on the City's financial statements.

PMMD has the expertise and tools necessary to implement appropriate inventory controls. PMMD assists divisions to implement a common computerized information system, (SAP inventory module), for the purposes of recording and reporting on inventory.

Recommendations:

- 3. City Council request the General Manager, Transportation Services, in consultation with the Director, Purchasing and Materials Management, to implement effective controls over the inventory of traffic control devices with consideration being given to using the SAP financial information system module currently being used by other City divisions.**
- 4. City Council request the General Manager, Transportation Services, in consultation with the City Treasurer, to ensure the value of traffic control devices inventory is included in the City's financial records.**

A.3. Regular Inventory Physical Counts Not Fully Utilized Since Accurate Records Do Not Exist

Information from physical counts can help with early identification and correction of problems

Physical counts are critical to confirm the integrity of inventory records. The full value of physical counts is realized when results are compared to the information maintained in the City records. The analysis of variances between a physical count and the inventory records provides valuable information about whether inventory controls are adequate or where there may be weaknesses that require corrective action.

Although Transportation Services conducted quarterly physical counts of traffic control devices inventory, the Division could not fully use the information since accurate inventory records do not exist.

Recommendation:

- 5. City Council request the General Manager, Transportation Services, to ensure physical counts of materials held in inventory are performed on a regular basis and that the information is used to ensure inventory data is accurate and controls are effective.**

A.4. Inventory Metrics Are Required to Effectively Control Materials

Inventory performance metrics

The City's materials management model recommends the development of performance indicators and metrics for inventory control. PMMD works with various City divisions and uses four key indicators to evaluate inventory control. The key metrics are:

- Total inventory value – to assess the financial investment in inventory
- Inventory turnover rate – assists in identifying if inventory levels are optimal
- Inventory error rate – assists in determining the effectiveness of inventory controls
- Inventory stock out ratio – effectiveness of processes in delivering materials as and when required.

No inventory metrics developed or used

Transportation Services uses none of these four key corporate metrics. Until an adequate information system is in place, with complete and reliable data, Transportation Services will not be able to develop or use these metrics to effectively control inventory for traffic control devices.

Recommendation:

- 6. City Council request the General Manager, Transportation Services, in consultation with the Director, Purchasing and Materials Management, to develop and implement performance indicators and metrics for inventory management.**

B. Other Issues

B.1. Review Potential to Save Rental Costs for Warehouse Space

\$73,000 in rental costs

Transportation Services currently rents space to store its inventory of electrical traffic control and related devices. The rented space is conveniently located adjacent to the contractor providing traffic control maintenance and installation services. In 2011, these rental costs were approximately \$73,000. PMMD uses City facilities to store corporate materials and is in the process of consolidating warehouses.

There may be an opportunity to store TPIM materials in City facilities, thus saving annual rental costs. However, any savings must be considered in conjunction with any costs to transport goods between the warehouse and the contractor providing installation and maintenance services.

Recommendation:

- 7. City Council request the General Manager, Transportation Services, in consultation with the Director, Purchasing and Materials Management, to consider alternative arrangements for the storage of the inventory of traffic control signal devices.**

B.2. Implementation of the Corporate Materials Management Model Throughout the City

This review of inventory controls was restricted to one unit within Transportation Services however the findings likely apply to other units in Transportation Services and other City divisions and Agencies, Boards, Commissions and Corporations.

It is the responsibility of each unit or entity to ensure adequate inventory controls are in place. In reviewing controls, consideration should be given to the existing corporate materials management model.

Recommendations:

- 8. City Council request the Deputy City Manager and Chief Financial Officer to take appropriate action to identify City operations that maintain a significant level of inventory and review those operations to ensure adequate inventory controls are in place such as those identified in City's warehouse and stores business model as adopted by Council in the Corporate Warehouse/Stores Rationalization Project.**
- 9. City Council request the City Clerk to forward this report to the City's major Agencies, Boards, Commissions and Corporations for consideration and appropriate action.**

CONCLUSION

The implementation of the nine recommendations included in this report will achieve effective inventory control, cost savings and ensure the safekeeping of the City's \$6.7 million of inventory of electrical traffic control signal devices.