

Audit of Winter Road Maintenance Program - Phase One: Leveraging Technology and Improving Design and Management of Contracts to Achieve Service Level Outcomes

Date: October 8, 2020
To: Audit Committee
From: Auditor General
Wards: All

SUMMARY

Keeping our roads and sidewalks salted and cleared of snow during winter months helps to ensure that the people travelling in the City of Toronto are safe and have a reliable transportation network.

The Auditor General's 2019 Audit Work Plan included a review of winter operations at Transportation Services Division. This report presents the results of Phase One of the operational review, which focused on whether the Division meets the council-approved service levels for winter road maintenance and whether it manages contracts, evaluates contractor performance, and holds contractors accountable as per the contract terms. The second phase will consider the operating efficiencies and the cost-benefits of contracting out versus in-house delivery of winter services.

We have made recommendations that will help the Division ensure a safe and reliable transportation network in the City of Toronto. These highlight that the City needs to:

1. **Fully leverage GPS technology and modernize its processes** to efficiently and effectively manage the service levels, contractor performance, and accountability.
2. **Monitor, manage, and resolve contractor performance issues** such as contractors starting their shifts late, claiming more hours than worked, taking excessive stop times, and operating without functioning GPS devices.
3. **Improve clarity and consistency in contract design for the next contract cycle**, so that contracts are clearly understood by all parties and that Transportation Services manages to the express terms of the contract going forward.

4. **Develop Key Performance Indicators** for winter operations and contractor performance, and **measure outcomes** to ensure contractors meet the required service levels.

Our audit provides 22 recommendations that will help the Division improve the efficiency and effectiveness of the winter road maintenance program, including resolving contract management and contractor performance issues, and measuring and meeting the Council-approved service levels.

RECOMMENDATIONS

The Auditor General recommends that:

1. City Council request the General Manager, Transportation Services Division, to fully utilize the GPS technology available, which includes real-time exception reports, notifications, and route completion and performance reports, to better monitor contractor performance.
2. City Council request the City Manager, to:
 - a. coordinate with Heads of Divisions for those using GPS technology, including Transportation Services, to ensure the contract with the City's GPS vendor meets the needs of the Divisions and City.
 - b. forward this audit report to all other Heads of Divisions for those using GPS technology and centrally oversee that the City's Divisions are fully utilizing GPS technology and letting go of inefficient manual processes.
3. City Council request the General Manager, Transportation Services Division, to prepare a plan with specific deliverables and timelines to modernize processes and integrate technology solutions with its GPS system.
4. City Council request the City Manager to work together with the Heads of Divisions using GPS technology and the Chief Information Officer, to prepare plans with specific deliverables and timelines to modernize processes and integrate technology solutions with the GPS system.
5. City Council request the General Manager, Transportation Services Division, to ensure staff use GPS information and reporting to monitor route completion, departure and return times, late starts, excessive stop times, and vehicle locations for operational as well as standby purposes, and assess liquidated damages where applicable.
6. City Council request the General Manager, Transportation Services Division, to develop clear guidelines and allowances for acceptable stop times, break times, and the valid operational reasons for taking these stops and breaks.
7. City Council request the General Manager, Transportation Services Division, to improve how it documents and tracks vehicle breakdowns and the deployment of spare vehicles.

8. City Council request the General Manager, Transportation Services Division, to:

a. ensure all vehicles, including spares, are properly marked with vehicle identification numbers,

b. conduct daily physical verification of contractor vehicles on standby, including spares, and document and compare the observations to contractor standby logs, and

c. require the contractor to obtain prior approval from the contract administrator when a vehicle needs to go off-site for any reason and document the expected return date.

9. City Council request the General Manager, Transportation Services Division, to:

a. improve documentation of assigned routes (and kilometers) and completed routes by contractor, as well as ensure explanations are documented for when routes are not fully completed, and

b. examine the cases where routes do not appear to be completed for potential valid operational reasons and evaluate whether related issues need to be addressed.

10. City Council request the General Manager, Transportation Services Division, to clarify wording in future winter maintenance contracts concerning:

a. contractor's obligation to detect and report GPS device malfunctioning within a set timeframe,

b. reasonable stop and break times,

c. preventing vehicle swapping between routes and locations to ensure GPS device information is accurate, and

d. provisions for the assessment and enforcement of liquidated damages including clarifying the expectation for when the work commences.

11. City Council request the General Manager, Transportation Services Division, to reassess and document the rationale for liquidated damages amounts in the next contract cycle taking into account past claims against the City and other potential losses, to ensure that the liquidated damages amounts are fair and supportable.

12. City Council request the General Manager, Transportation Services Division, to coordinate with the City Manager to discuss and make improvements to the contract with the GPS vendor related to GPS repairs and turn-around time for devices.

13. City Council request the General Manager, Transportation Services Division, to establish a formal process to:
- a. ensure GPS devices are installed and functioning in all contractor vehicles, including spares,
 - b. track all GPS devices and monitor them regularly to ensure the devices are functioning properly,
 - c. periodically reconcile GPS billings,
 - d. monitor and ensure GPS functionality issues are being reported to the GPS vendor and repaired on a timely basis, and
 - e. monitor the calibration and functionality of salt spreaders.
14. City Council request the General Manager, Transportation Services Division, to:
- a. develop a policy and procedure manual for winter operations, including best practices for contract management, and best practices for assessing and charging liquidated damages,
 - b. standardize processes and forms for monitoring contractor performance and for assessing and charging liquidated damages, and
 - c. ensure staff verify and review contractors' operating and standby logs, using GPS data, for accuracy of timing and services provided before approving payment.
15. City Council request the General Manager, Transportation Services Division, to provide additional training to ensure staff have an up-to-date and clear understanding of their roles and responsibilities, as well as strong knowledge of winter maintenance contract management policies and procedures.
16. City Council request the General Manager, Transportation Services Division, to consult Legal services in relation to the approach to take on the definition and charging of standby payments for the remainder (two years) of the current contract cycle.
17. City Council request the General Manager, Transportation Services Division, to work together with Legal services on a detailed review of the contract documents and Request for Quote for the next contract cycle, and make the necessary improvements to ensure internal consistency, consistent use of terminology and defined terms, and simplification for implementation.
18. City Council request the General Manager, Transportation Services Division, to ensure that the management and payment for services is consistent with the express terms of the contract for the next contract cycle.

19. City Council request the General Manager, Transportation Services Division, to perform a cost-benefit analysis of in-house versus outsourced delivery of its winter road maintenance program, to determine whether it would be beneficial or not to increase the level of in-house delivery.

20. City Council request the General Manager, Transportation Services Division, to:

- a. develop meaningful Key Performance Indicators (KPIs) to measure the achievement of Council-approved service levels,
- b. develop performance metrics for the next contract cycle to measure and monitor contractor performance,
- c. improve processes and documentation to have relevant and readily available information to measure the KPIs, and
- d. publicly report on the KPIs on at least an annual basis.

21. City Council request the General Manager, Transportation Services Division, to work with the GPS vendor to configure the:

- a. route completion report to provide accurate information, and develop other GPS reports for measuring contractor performance and service levels, and
- b. GPS system's geofencing feature to monitor contractors' adherence to their designated routes.

22. City Council request the General Manager, Transportation Services Division, to analyze legal claims information and 311 service requests on a regular basis to provide additional indicators of where contractor performance needs closer monitoring.

FINANCIAL IMPACT

From the issues identified during our audit, we estimate that the City could have saved approximately \$7.1 million over five years for the full fleet of winter maintenance vehicles. In addition, there are many efficiencies to be gained by leveraging GPS to the fullest, as well as other opportunities that we are unable to quantify.

If the express terms of the contract had been applied, we estimate the City could have saved \$24 million over the past five years in contractor standby charges.

The total estimated impact of our audit findings is \$31 million over five years.

With two years remaining in the current contract cycle, there is a potential saving of an estimated \$9.6 million if the express terms of the standby provisions of the contract are applied and depending on legal advice. This opportunity needs to be studied further by Legal services on behalf of City Council.

DECISION HISTORY

The Auditor General's 2019 Audit Work Plan included a review of the award and management of major winter maintenance contracts, including a review of contract compliance and contractor performance.

The Auditor General's work plan can be found at:

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2019.AU1.7>

COMMENTS

A high-level summary of the key audit findings is provided in the one-page Audit at a Glance.

The attached audit report provides the Audit Committee and members of the Council with the detailed audit results and recommendations together with management's response. Management has agreed to all 22 recommendations.

CONTACT

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SIGNATURE

Beverly Romeo-Beehler
Auditor General

ATTACHMENT

Attachment 1: Audit of Winter Road Maintenance Program - Phase One: Leveraging Technology and Improving Design and Management of Contracts to Achieve Service Level Outcomes