
For Information

REPORT TITLE: **Traffic Signal Operations and Maintenance Contract Management Audit**

FROM: Jennifer Weinman, Interim Director, Enterprise Risk and Audit Services

OBJECTIVE

To inform the Audit and Risk Committee of the results of the Traffic Signal Operations and Maintenance Contract Management audit.

REPORT HIGHLIGHTS

- The audit focused on Region of Peel’s traffic signals that are operated and maintained by agreements with the cities of Mississauga and Brampton.
 - The audit assessed the effectiveness of contract management controls in place over the Traffic Signal Operations and Maintenance Service Agreement with the cities.
 - Management has implemented informal processes to monitor operations of the traffic signals. A process to formally monitor and oversee compliance with the agreement needs to be developed, documented and implemented.
 - A process should be developed to evaluate the cities' performance in operating and maintaining the traffic signals using performance metrics.
 - Management has developed action plans and timelines to address the risks identified in the report.
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DISCUSSION

1. Background

The 2020 Enterprise Audit Services Risk Based Work Plan included the audit of the Traffic Signal Operations and Maintenance Agreement.

In 2012, it was resolved that responsibility for the operations and maintenance of all Region of Peel traffic signals within the boundaries of the City of Mississauga and the City of Brampton would be transferred to the cities effective March 2015 following Council Resolution 2012-1175.

In 2015, by way of a “Traffic Signal Operations and Maintenance Service Agreement” with each of the City of Mississauga and the City of Brampton, the responsibility for 388 Regional traffic signals was transferred to the cities. In 2019, there were 410 Regional traffic signals being maintained by the cities.

The cities are responsible for the operations and maintenance of the entire Traffic Signals System. The Region’s Traffic Signals System consists of all signalized intersections, which includes all electrical components, signage and pavement markings. The system also

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includes the traffic control signals, which are the actual traffic signal heads, operating from electronic instructions given by a master controller at one of the intersections or by a central computer at a traffic control/operation center.

The Traffic Signals and Streetlighting section of the Public Works Transportation Division oversees the Traffic Signals Operations and Maintenance Service Agreements.

2. Audit Objectives and Scope

The overall objective of the audit was to assess the effectiveness of contract management controls over the Traffic Signals Operation and Maintenance Agreement in place with the City of Mississauga and the City of Brampton (the cities) to mitigate the risks associated with the business objective of:

Ensuring the safe and efficient movement of both pedestrians and vehicles on the roadways while protecting the corridor functionality.

The audit focused on assessing the processes in place to monitor and oversight the following areas:

- Traffic Signals operation and maintenance, signage and complaints
- Traffic control system maintenance, troubleshooting and monitoring
- Performance metrics

The following areas were excluded from the scope of the audit:

- Capital Projects
- Advanced Transportation Management System
- Costs (Capital & Operating)
- Vision Zero Framework
- Traffic Signal Operations and Maintenance Agreement with the Town of Caledon as the Town is not contracted to undertake any work on the Region's behalf

The scope of the audit reviewed data between January 2018 to November 2019.

This audit was conducted in conformance with the *International Standards for Professional Practice of Internal Auditing*.

3. Audit Observations and Management Response

Management has implemented informal processes to work with the cities and its vendors to ensure work is carried out to operate and maintain the Region's Traffic Signals. These include communication through regular meetings and discussions, daily e-mail updates; review of meeting minutes and performing follow up as required; site visits and receipting of required reports.

There is a lack of formal processes for monitoring and overseeing the cities compliance with the agreement. The necessary processes and procedures for monitoring and oversight of the various clauses in the agreement need to be formally developed and documented and appropriate records need to be maintained of work completed to monitor compliance with the agreement.

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The specific agreement areas to develop and document formal monitoring and oversight processes are noted below.

Contract Compliance Oversight

There should be formal documented processes in place to provide direction to staff in carrying out the responsibility to monitor and oversee that the cities of Mississauga and Brampton are fulfilling the obligations laid out in the Traffic Signal Operations and Maintenance Service Agreement. Further, there should be documentation retained by the Region to support that the Region has carried out oversight of the cities' responsibilities under the agreement.

There are no formal documented processes in place for the terms of the agreement reviewed during the audit. These agreement clauses include:

- Operations and maintenance, record keeping, adherence to Regional maintenance standards, requests for information, complaints and inquiries
- System maintenance, troubleshooting and monitoring, and providing the Region access to the system

There are several informal practices in place that indirectly contribute to oversight of the agreement. The staff involved in working with the cities and the vendor have a strong working relationship with the cities and the vendor and are in regular contact with both. There is a need to formalize processes for overseeing the cities' compliance with the agreement.

Without formal documented processes in place to guide the process for formally overseeing the agreement and documenting the oversight undertaken, there is a medium risk (see Appendix 1 for the Risk Profile) that the Region may not know if the traffic signal system is operating as required and if the traffic signals maintenance has been appropriately performed. Further, there is a high risk that the Region would not be able to substantiate that due diligence has been applied in overseeing the work of the cities should there be a legal dispute or non-compliance with the agreement.

Management Response

The Director, Transportation will ensure that a formal process is developed and communicated to staff which provides direction on how to obtain and maintain records of work completed to monitor compliance with the agreement. This process will address:

- Operations and maintenance, record keeping, adherence to Regional maintenance standards, requests for information, complaints and inquiries
- System maintenance, troubleshooting and monitoring, and providing the Region access to the system

The Director, Transportation will work with staff at the City of Mississauga and City of Brampton to help ensure work to monitor compliance with the agreement is carried out effectively and in an efficient manner. This will involve sharing the draft oversight process

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with staff from the Cities and partnering with them to help ensure the Region has access to the necessary information and systems.

This management action will be completed and implemented by December 31, 2021.

Further, work is underway across the organization to build capacity, capability and awareness to strengthen contract oversight and monitoring controls. This work, led by the Executive Leadership Team, was paused as the Region responded to the COVID-19 pandemic and will resume in the Fall.

Performance Metrics

A process should be in place to evaluate the cities' performance in operating and maintaining the traffic signals including using performance metrics. The metrics should be stored and tracked through a tool that allows for analyzing and reporting the metrics. Further, there should be a process in place to track and monitor the clauses in the agreement which outline the performance metrics data required under the agreement, specifically, Speed and Delay Travel Time Studies, Traffic Signal Timing Information, Legal Letters and Inquiries, Complaints and Reporting.

The Region does not have a formal, documented process to use performance metrics to evaluate the performance of the cities' in providing services as outlined in the agreement.

The Region does have various sources of data which they collect in relation to the areas listed in the agreement; this information is not being used for the purpose of measuring performance and tracking work being completed.

The agreement states the Region shall track performance metric data using a Business Intelligence tool to ensure all commitments are fulfilled by its vendors and contractors. The formal business intelligence tool for monitoring and tracking has not been developed.

There is a high risk that without a process for intentionally monitoring and assessing performance, the Region may not have the most accurate information regarding work that is being completed in accordance with the expectations laid out in the agreement. Further without tracking performance in the areas identified in the agreement, there is a high risk the Region may not have the ability to monitor data to identify best practices, identify areas of weaknesses in processes, track and report performance related data and improve sharing and exchanging of information with all stakeholders. There is a medium risk that the absence of a formal performance measurement tool may affect the Region's ability to assess whether the agreement is effective.

Management Response

The Director, Transportation will ensure that a formal process and procedure is developed and communicated to staff which documents how to monitor the cities' performance in operating and maintaining the traffic signal system, and also to track and monitor the performance metric data, specifically, Speed and Delay Travel Time Studies, Traffic Signal Timing Information, Legal Letters and Inquiries, Complaints and Reporting. This management action plan will be completed and implemented by December 31, 2021.

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CONCLUSION

A formal process of monitoring and overseeing compliance with the agreement is needed. To achieve this management should ensure that the required procedures for monitoring and oversight of the various clauses in the agreement are formally developed, documented and implemented, and appropriate records are maintained of work completed to monitor compliance with the agreement.

Enterprise Audit Services has reviewed management's action plans and is satisfied the actions developed will address the risks identified. Enterprise Audit Services will follow-up on the status of these management action plans and will report back to the Audit and Risk Committee on the status of all management action plans semi-annually.

APPENDICES

Appendix I – Risk Profile Description

For further information regarding this report, please contact Jennifer Weinman, Interim Director, Enterprise Risk and Audit Services, via email at Jennifer.weinman@peelregion.ca.

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