Review of Urban Forestry

Ensuring Value for Money for Tree Maintenance Services

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Auditor General

AUDITOR GENERAL TORONTO

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Executive Summary

The Auditor General's 2017 Work Plan included an audit of the Urban Forestry Branch of the Parks, Forestry and Recreation Division. Urban Forestry is responsible for protecting, maintaining, and enhancing the urban forest in the City.

1st audit report focused on permit issuance and by-law enforcement

In June 2018, the Auditor General released the first part of the audit on permit issuance and tree by-law enforcement functions: https://www.toronto.ca/legdocs/mmis/2018/au/bgrd/backgroundfile-117956.pdf

This report focuses on tree planting and maintenance

This second part of the audit focused on the tree planting and maintenance services.

Overall, we found that Urban Forestry needs to strengthen its oversight and monitoring of tree maintenance services to ensure value for money for the City.

City pays approximately $1.7 million a month for contracted tree maintenance services

Urban Forestry currently assigns tree maintenance work to both City staff and contractors. The City pays on average $1.7 million per month to three contractors to provide daily tree maintenance services including pruning, watering and removing trees.

Contractor crews' reported work locations did not match their vehicle Global Positioning System (GPS) records

Contractors are paid based on the hours reported on the crews' daily logs

Urban Forestry pays the contractors according to work hours reported in the daily activity logs completed by contractor crews. The completed daily logs should be reviewed by Urban Forestry's Forepersons for "*accuracy, productivity, and completeness*" before signing off.

We compared a sample of 45 contractor crews' daily logs with their vehicle GPS records and noted 28 of them contain one or both of the following issues:

- Crews' vehicles did not stop near the tree service locations. This raises questions about whether the tree maintenance services were carried out as indicated in the daily logs.

GPS reports show crews' vehicles stopped at various locations that did not appear to be work-related

- Vehicles went to locations that were not related to the assigned tree service locations (e.g., coffee shops, plazas, residential houses, streets with no trees), and these locations were not noted in the daily logs. The total time spent at these locations far exceeded the allowable 60 minutes for lunch and breaks. This could mean that part of the eight hours of work the City paid for was not spent on City-related work activities.

Loss in productivity estimated to be $2.6M

The estimated potential loss in productivity is approximately $2.6 million per year. Additionally, if an inaccurate maintenance record is created for a tree in Urban Forestry's system, this could have adverse long-term effects because it may be at least another seven years before the tree receives the next scheduled maintenance services.

Daily logs from City staff cannot be verified without a GPS system

No GPS system on Urban Forestry vehicles

We could not conduct the same comparative analysis for City crews because Urban Forestry's vehicles are not equipped with a GPS system. In 2017, the City awarded a corporate contract for a GPS system. Urban Forestry was not one of the eight City divisions that participated in that contract. Without a GPS system on Urban Forestry's vehicles, the accuracy and completeness of information reported by City staff in their daily logs is not verifiable. This also does not allow proper comparison of performance between contractor and City crews.

Certain entries in daily logs should have been questioned

41% of daily logs reviewed from City and contractor crews contain entries that should have been questioned

Both the contractor and City crews are required to complete daily logs to detail the specific maintenance activities performed. We reviewed a sample of 139 daily logs from the City and contractor crews and noted 57 logs (41 per cent) have missing data or contain entries that should have been questioned. While some of these entries might be valid, none of them were identified by the Foreperson's review.

The issues identified include:

- duplicate work listed in multiple logs from the same crews
- reported time spent on dead trees, locations with no tree, trees that were scheduled to be removed or marked 'no work required'. Some of the reported time was denoted for watering or pruning while other did not note any specific activities
- maintenance work (watering) on a tree stump
- missing work orders or service requests to support maintenance work performed
- incomplete information in daily logs (e.g., missing tree position or species information)
- missing foreperson approval.

Current inspection efforts need improvement

We found that the inspection program is not effective for monitoring and assessing crews' performance because many regional offices did not meet the minimum number of inspections, and the inspection methods are ineffective.

In some cases forepersons call the crews prior to visiting the sites

Forepersons are required to perform random site inspections. One of the purposes of these inspections is to ensure crews are actually working at the tree locations. Most of the Forepersons we interviewed indicated that they would normally call the crews to find out where they were located prior to visiting the site. This undermines the effectiveness of the inspections in verifying the actual onsite maintenance work.

Inspections are usually conducted in the morning

Our review of GPS reports found that most activities that appear to be questionable occurred during the afternoon but staff usually conduct their inspections in the morning.

Many hours were spent on supporting activities

Crews spent average of 2.5 hours/day on yard time and driving, out of an 8-hour shift

Our review of daily logs also noted that both the City and contractor crews spent a considerable amount of work hours each day on supporting activities such as yard time (averaging 53 minutes each day), driving time (averaging 93 minutes per day), waiting for parked vehicles on street to be moved to access trees (15 minutes to 3.5 hours per day), and wood disposal (averaging 20 minutes, 2 to 3 times a week).

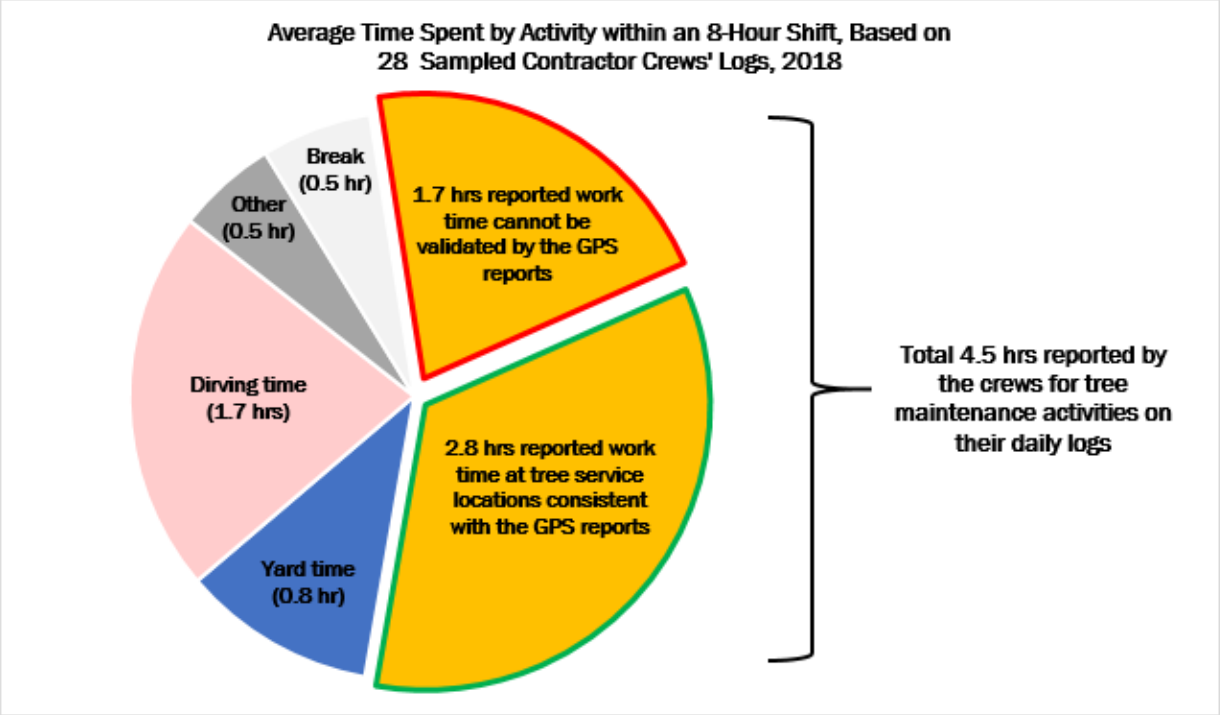
It is recognized that some of the time spent on the supporting activities is unavoidable as they are part of the tree maintenance process. However, there may be room to reduce these activity time by:

- improving the procedures for moving parked vehicles that are in the way of trees for maintenance
- reviewing the time spent by crews on waiting for parked vehicles to be moved
- increasing the number of woodchip compounds to reduce time spent driving to dispose of wood
- reviewing the crews' wait time at the yards in the morning and end-of-day for their assigned work and handing in their completed logs.

Overall observations regarding contractor performance

In 28 of the 45 sampled contractor crews' logs (62 per cent) we noted discrepancies between the reported activities in the daily logs and the vehicle GPS reports. The pie chart below shows a breakdown of average time spent by activity within an eight-hour shift, based on the 28 sampled contractor crews' logs.

After deducting the average time spent on supporting activities such as driving time and wait time at the yard, the on-site tree maintenance time averaged 4.5 hours within an eight-hour shift, as reported in the crews' daily logs. However, about 1.7 hours of the 4.5 reported City work hours do not appear to be supported by the GPS reports, leaving only 2.8 hours, out of an eight-hour shift, for onsite tree maintenance work for the City.



Compliance with tree planting and maintenance service requests

Our analysis found that Urban Forestry's compliance with service standards varied among the different types of service requests. We found:

Good compliance with service standards for storm cleanup, tree pruning, and tree planting requests

- high compliance with storm cleanup requests (97 per cent)
- reasonably good compliance with tree planting requests (88 per cent) and general tree pruning requests (90 per cent)

Compliance with tree removal requests can be improved

- low compliance with tree removal requests (62 per cent). This is probably due to the multiple steps involved in a complete removal of a tree.

Conclusion

10 recommendations to help improve contract management, customer service and operational efficiency

Our audit provides 10 recommendations to help Urban Forestry improve its contract management, customer service and operational efficiency for its tree planting and maintenance programs. We have identified the need for Urban Forestry to improve its oversight of contractors hired for daily tree maintenance. This audit also identifies opportunities for the City and contractor crews to improve the efficiency of their tree maintenance services.

We express our appreciation for the co-operation and assistance we received from management and staff of the Parks, Forestry and Recreation Division.

Background

Toronto's urban forest is composed of trees along city streets, in parks, ravines and natural areas, in residential and commercial areas, and in landscaped open spaces.

10.2 million trees in the City; 60% are on private property

The City has approximately 10.2 million trees, which provide 18,000 hectares of canopy cover. About 60 per cent of the trees are on private property and the remaining are on public property.

Urban Forestry is responsible for protecting, maintaining, and enhancing the urban forest

The Urban Forestry Branch maintains the City's urban forest and natural environment. It provides the services needed to protect, maintain, and enhance the urban forest on both public and private properties. Its 2018 gross expenditures were $67 million and its total revenue was $25 million (including transfer from reserve fund). There was an approved staff complement of 346 for the year 2018.

First audit report was released in June 2018

The Auditor General's 2017 Work Plan included an audit of the Urban Forestry Branch. In June 2018, the Auditor General released the first part of the audit on permit issuance and tree by-law enforcement: https://www.toronto.ca/legdocs/mmis/2018/au/bgrd/backgroundfile-117956.pdf

Focus of this report is on tree planting and maintenance

This second part of the audit focused on the tree planting and maintenance services performed by the Urban Forest Renewal and Natural Area Management, and the Forestry Operations Units.

Table 1 provides a breakdown of the tree planting and maintenance services performed from 2016 to 2018. The large number of storm clean ups in 2018 was due to an excessive number of storms in that year, according to management staff.

Table 1: Tree Planting and Maintenance Statistics, Urban Forestry, 2016 to 2018

	2016	2017	2018
Tree Planting			
# of Trees Planted	113,510	120,307	120,125
Tree Maintenance			
# of Trees Inspected	176,623	176,165	163,082
# of Trees Pruned	100,427	85,785	76,130
# of Storm Cleanups	7,363	7,725	15,797
# of Trees Removed *	26,439	20,059	17,971
# of Tree Stumping	13,394	8,698	9,276

Source: Performance measures from Urban Forestry

* Includes removals for Emerald Ash Borer management of 8,545 in 2016, 2,898 in 2017, and 2,012 in 2018

Tree Planting

Urban Forestry has a number of tree planting programs to plant trees on City road allowances (i.e., the portion of land between roadways and private properties) and public lands (e.g., parks, ravines, and other natural spaces). Figure 1 shows photos of trees planted on road allowances and natural spaces.

Figure 1: Photos of City Tress Planted on Road Allowances

Photo of Trees and Shrubs Planted in a Natural Space

Photo of a Natural Space to be Planted

The three major tree planting programs are:

Urban Forestry has three major tree planting programs

- **Residential tree planting** covers both planting requests from property owners for new trees and replacement tree planting on residential streets. The majority of the plantings are for replacement trees.

- **Forestry and natural environment management planting** is for park and arterial road planting of 11 or more trees.

- **Naturalization** covers tree planting in natural spaces.

Urban Forestry assesses requests for tree planting

Any individual can contact Urban Forestry or the City's 311 service to request that a tree be planted in an open space, in a park, or along a street. Urban Forestry staff then assess the request based on factors such as existing tree canopy, past planting in the area, and planned work by other divisions that may conflict with the tree planting request.

Trees planted along arterial roads, in parks and natural spaces come with warranties

Urban Forestry uses contractors to supply and plant trees for arterial roads, parks and natural spaces. These trees come with a two-year warranty after planting. Trees planted in the Residential Tree Planting program are supplied by the City's nursery, where Urban Forestry temporarily stores trees purchased from suppliers. These trees do not come with warranty. Issues with the City's nursery were included in the first audit report issued in June 2018.

In 2018, Urban Forestry commissioned a tree canopy study and the Division plans to release the results in 2019, according to staff.

Tree Maintenance

Urban Forestry provides both proactive and reactive tree maintenance services

The Forestry Operations Unit is responsible for performing both reactive and proactive maintenance of City trees. This includes watering, pruning, and removing City trees. Urban Forestry also responds to broken limbs from private trees that cause blockages to the traveled portions of the City road allowance.

For proactive tree maintenance, Urban Forestry provides scheduled services, such as inspections and pruning, and removing low branches and deadwood on City-owned trees.

Urban Forestry uses both contractors and in-house City crews for tree maintenance work. It currently contracts three companies which provide daily tree maintenance services at an annual contract cost of approximately $20 million.

Internal Audit Report

The City's Internal Audit Division completed an audit on tree pruning and removal contracts in 2016. The audit provided 10 recommendations to improve contract management. In late 2018, the Internal Audit Division completed a follow-up on its 2016 audit and determined that one recommendation is no longer applicable and five have been partially implemented. As part of our audit planning and fieldwork, we have reviewed the Internal Audit report and its follow-up work, and have discussed with Internal Audit staff of their audit findings and follow-up work to avoid duplication of audit efforts.

Audit Results

Areas where Urban Forestry performs well:

Has established specific service standards for various types of tree planting and maintenance requests

Met its service standards for the majority of residential tree planting requests (88 per cent), general tree pruning requests (90 per cent), and storm cleanup requests (97 per cent)

Has put in a plan to change its information system to improve customer service and the effectiveness and efficiency of operations

The following sections contain the findings from our audit work where improvement is needed, followed by specific recommendations.

A. Management of Daily Tree Maintenance Work

City paid $1.7 million per month for contractors, in addition to City crews

Urban Forestry uses both in-house City crews and contractors to perform tree maintenance work. The City paid approximately **$1.7 million a month** for the contracted tree maintenance services in 2018.

Table 2 outlines the average number of contractor crews per week and the cost by contractor for the current term of the contract.

Table 2: Average Weekly Number of Contractor Crews and the Cost by Contractor

	Contractor A	Contractor B	Contractor C	Overall Total
Average # of Crew Per Week	35	28	30	91
Contract Value *	$11,999,988	$9,248,721	$8,915,584	$30,164,293
Net Contract Spent *	$11,386,283	$8,570,466	$8,825,837	$28,782,586

*the contract value and net spent cover the term of the contract from August 2017 to December 2018

Work assignment logistics

The City's contract specifies the crew type configurations and equipment. Urban Forestry's Forepersons assign the work to the appropriate crew based on the nature of the work. Based on our review of completed work orders, tree pruning work is usually performed by a two-person crew with an aerial lift bucket and a brush chipper, and tree stump removal work is usually performed by a two-person crew with a self-propelled stump grinder and a three-ton truck with dumping capabilities. Photos of the different crew and equipment types are provided in Figure 2.

Figure 2: Photos of Different Crew and Equipment Types

A Crew Member was Pruning a Tree in a Lift Bucket

A Two-Person Crew with an Aerial Lift Bucket and a Brush Chipper for Tree Pruning Service

A Brush Chipper to Grind Branches into Wood Chips

Tree Stemming – Removal of a Tree Trunk

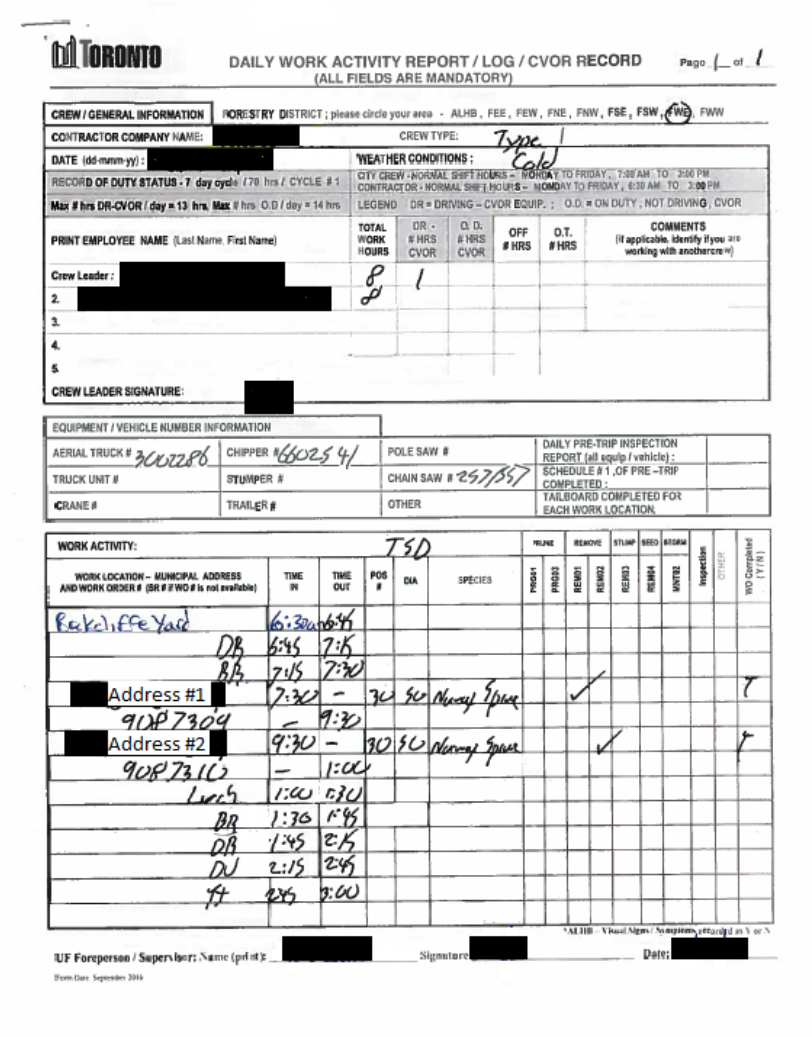
A Tree Stump to be Removed

A Crew Member Using a Stump Grinder to Take Out a Tree Stump

Under the contract, the City pays for two 15-minute breaks within a standard eight-hour shift. Contractor crews can take a half hour lunch break, but that is not paid by the City. The activity time on each contractor crew's daily log should add to 8.5 hours, including two paid 15-minute breaks and a 30-minute lunch break that is not paid by the City.

The in-house City crews are entitled to two 15-minute breaks and a 30-minute paid lunch in an eight-hour shift.

At the beginning of a shift (6:30 a.m. for contractor crews and 7:00 a.m. for City crews), Urban Forestry Forepersons assign batches of tree maintenance work to each crew at a City yard. Each crew then plans their route to perform the assigned work. At the end of the day, crews must submit a **Daily Work Activity Report (daily log)** to the Foreperson for review and approval. An example of a completed daily log is shown below.



DAILY WORK ACTIVITY REPORT / LOG / CVOR RECORD
(ALL FIELDS ARE MANDATORY)

Page 1 of 1

CREW / GENERAL INFORMATION — FORESTRY DISTRICT ; please circle your area - ALHB , FEE , FEW , FNE , FNW , FSE , FSW , FWE , FWW

CONTRACTOR COMPANY NAME: [redacted] CREW TYPE: Type 1 Solo

DATE (dd-mmm-yy) : [redacted] WEATHER CONDITIONS :

RECORD OF DUTY STATUS - 7 day cycle / 70 hrs / CYCLE # 1 — CITY CREW - NORMAL SHIFT HOURS – MONDAY TO FRIDAY , 7:00 AM TO 3:00 PM; CONTRACTOR - NORMAL SHIFT HOURS – MONDAY TO FRIDAY , 6:30 AM TO 3:00 PM

Max # hrs DR-CVOR / day = 13 hrs, Max # hrs O.D / day = 14 hrs — LEGEND DR = DRIVING – CVOR EQUIP. ; O.D. = ON DUTY , NOT DRIVING , CVOR

PRINT EMPLOYEE NAME (Last Name, First Name)	TOTAL WORK HOURS	DR - # HRS CVOR	O. D. # HRS CVOR	OFF # HRS	O.T. # HRS	COMMENTS (If applicable, identify if you are working with another crew)
Crew Leader : [redacted]	8	1				
2. [redacted]						
3.						
4.						
5.						

CREW LEADER SIGNATURE: [redacted]

EQUIPMENT / VEHICLE NUMBER INFORMATION

AERIAL TRUCK # 3002286	CHIPPER # 66025 4/	POLE SAW #	DAILY PRE-TRIP INSPECTION REPORT (all equip / vehicle) :
TRUCK UNIT #	STUMPER #	CHAIN SAW # 257/357	SCHEDULE # 1 ,OF PRE –TRIP COMPLETED :
CRANE #	TRAILER #	OTHER	TAILBOARD COMPLETED FOR EACH WORK LOCATION

WORK ACTIVITY: TSD

WORK LOCATION – MUNICIPAL ADDRESS AND WORK ORDER # (SR # / WO # is not available)	TIME IN	TIME OUT	POS #	DIA	SPECIES	PRUNE PRO01	PRUNE PRO03	REMOVE REM01	REMOVE REM02	STUMP REM03	SEED REM04	STORM MNTR1	Inspection	OTHER	WO Complete (Y / N)
Parkcliffe Yard	6:30	6:45													
DR	6:45	7:15													
BR	7:15	7:30													
[redacted] Address #1 [redacted]	7:30	–	30	50	Norway Spruce				✓						Y
9087309	–	9:30													
[redacted] Address #2 [redacted]	9:30	–	30	50	Norway Spruce					✓					Y
9087310	–	1:00													
Lunch	1:00	1:30													
DR	1:30	1:45													
DR	1:45	2:15													
DU	2:15	2:45													
YT	2:45	3:00													

*ALHB - Visual Signs / Symptoms required as Y or N

UF Foreperson / Supervisor: Name (print): [redacted] Signature: [redacted] Date: [redacted]

Form Date: September 2016

Note: the crew has to record each tree service address and the related work order number in the daily log.

For the other activities, Urban Forestry has the following standard codes for crews to record their time spent:

BR – Break
DR – Driving time
DU – Dumping (wood)
EVR – Equipment/ Vehicle Repair/ Maintenance
HO – Hold off (for hydro)
LU – Lunch
PC – Parked cars
YT – Yard time
OT – Other

The importance of daily logs

Each contractor and City crew completes a daily log

Urban Forestry requires each contractor and City crew to complete a daily log to detail the maintenance work they perform and all other work-related activities within their eight-hour shift.

The daily log serves as the proof of work performed by the crew. It must be accurately completed, signed by the crew leader, and submitted to the designated Foreperson at the yard at the end of each day along with other supporting documents such as work orders or street tree maintenance assignment lists.

Forepersons must review the daily logs before approval

Before signing off in the daily log, the Foreperson must review the daily log for "*accuracy, productivity and completeness,*" according to Urban Forestry's Guideline. The approved daily log is also used as the supporting document for contractors' weekly invoices.

City pays contractors according to approved daily logs

The daily log is therefore a key control to monitor crews' work. Particularly for the contractor crews, as the City pays the contractors according to the information in the daily logs, they become a key document for invoice verification.

A.1 Contractor Crews' Reported Work Locations not Matching GPS Reports

In the City's tendering document, contractors are required to provide a Global Positioning System (GPS) Report[1] for all crews' vehicles when requested. We requested a sample of GPS reports from each of the three contractors hired by Urban Forestry. Upon a closer examination of Contractor A's GPS reports, we noted some of them contain unreliable data. As a result, we only reviewed a small number of Contractor A's GPS reports that show reasonably accurate data matching the daily activity logs. We noted in general Contractor A's crews had similar issues and work pattern as the crews of the other two Contractors. However, for the purpose of our analysis and rate calculation below, we have excluded our review results of Contractor A's GPS reports.

62% of the sampled logs have issues

We compared a sample of 45 daily logs from two contractors' crews with their vehicle GPS report records and noted either one or both of the following issues in 28 logs:

- Crews' vehicles did not stop near the tree service locations. This raises questions about whether the tree maintenance services were carried out as indicated in the daily logs.

- Vehicles went to locations that were not the assigned tree service locations, or even nearby. These locations (e.g., coffee shops, plazas, residential houses, streets with no trees) were not noted in the daily logs. The total time spent at these locations far exceeded the allowable 60 minutes for lunch and breaks. This usually took place in the afternoon.

  This could mean that part of the 8-hour work paid by the City was not spent on City work related activities. Table 3 provides a breakdown of the logs we reviewed by contractor. Examples of the above issues are shown in map 1 to 4.

Table 3: A Breakdown of Daily Logs that were Compared to the GPS Reports by Contractor

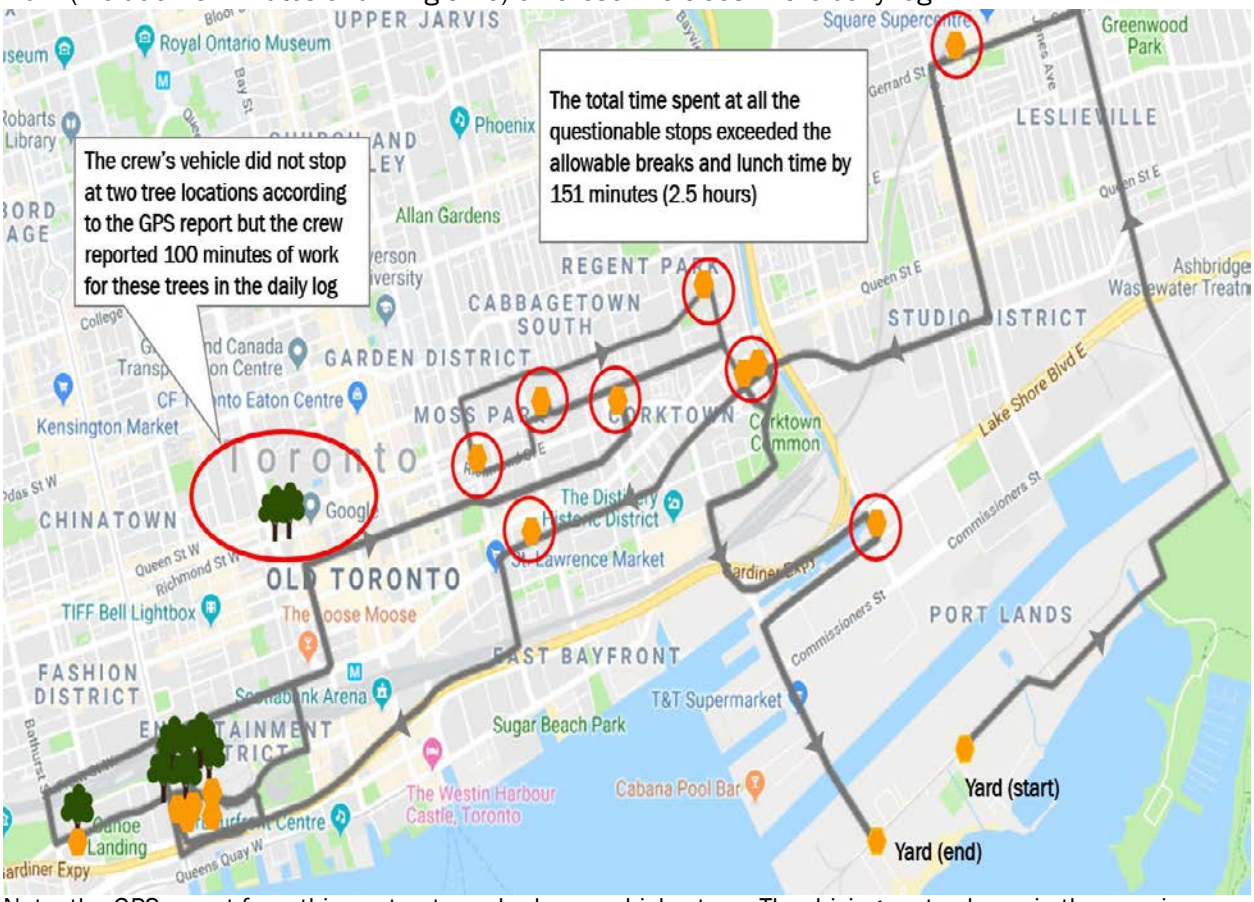
	Contractor A *	Contractor B	Contractor C	Total
Logs with Issues	n/a	18 (60%)	10 (67%)	28 (62%)
Logs with No Issues	n/a	12 (40%)	5 (33%)	17 (38%)
Total Logs Reviewed	n/a	30 (100%)	15 (100%)	45 (100%)

*Some of the Contractor A's GPS reports were found to be unreliable, and were therefore excluded from our analysis.

[1] A Global Positioning System (GPS) report outlines the routes travelled, stop locations (addresses) and the duration of the stops.

Map 1 – a GPS route map showing the crew's vehicle did not stop at or nearby two of the assigned tree service locations and went to locations that appear to be non-work related in the afternoon.

According to the GPS report, after leaving the City yard in the morning, the crew drove to a shopping center not on route to the tree service locations. The crew then drove to the assigned tree service area (total driving time of 53 minutes) and watered 18 trees for 171 minutes per the GPS report. In their daily log, the crew reported similar driving time as the GPS report but reported 215 minutes for watering these trees. After 11:30 a.m., the crew drove to several locations (e.g. gas station, side roads and streets) that are not shown in their daily log and do not appear to be related to City work. After deducting 60 minutes for allowable breaks and lunch[2], the time spent at all questionable locations totalled 151 minutes* (2.5 hours), including driving time.
In addition, the crew recorded in their daily log for watering five trees at two addresses but according to the GPS report, the vehicle did not stop near these addresses. The crew reported 100 minutes of work (include 25 minutes of driving time) on these five trees in the daily log.



Note: the GPS report from this contractor only shows vehicle stops. The driving route shown in the map is generated by Google map routing based on the vehicle stops on the GPS report.
*Of the 151 minutes, 15 minutes were noted by the crew for fueling and not paid by the City.

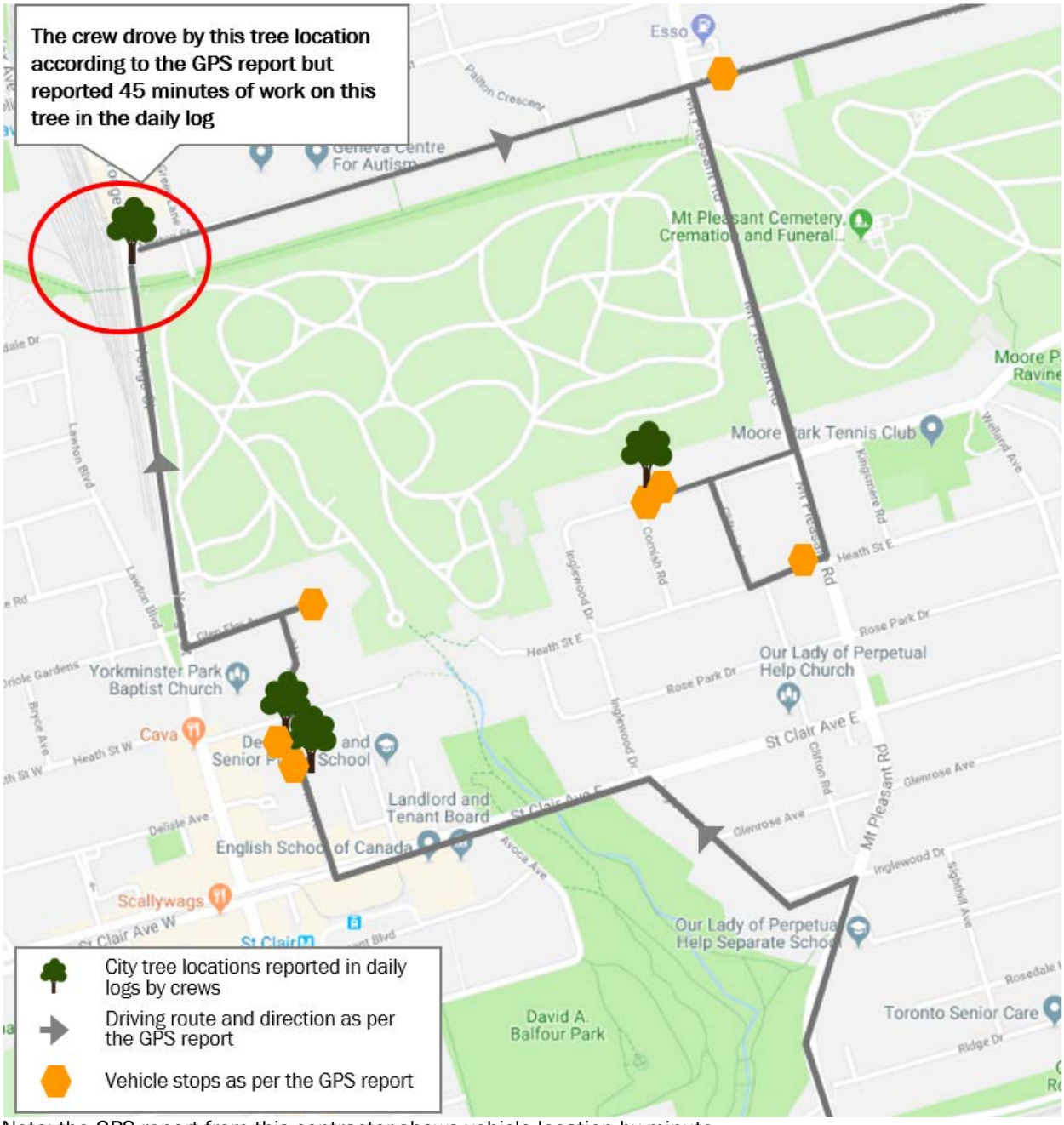
Legend:

- City tree locations reported in daily logs by crews
- Driving route and direction as per the GPS report
- Vehicle stops as per the GPS report
- Stops that should have been questioned

[2] We deduct 60 minutes taking into account that contractor crews are allowed to take two 15-minute breaks (paid by the City), and a 30-minute lunch break (not paid by the City) within each shift.

Map 2 - a GPS route showing that the contractor vehicle did not stop at or nearby the tree service location.

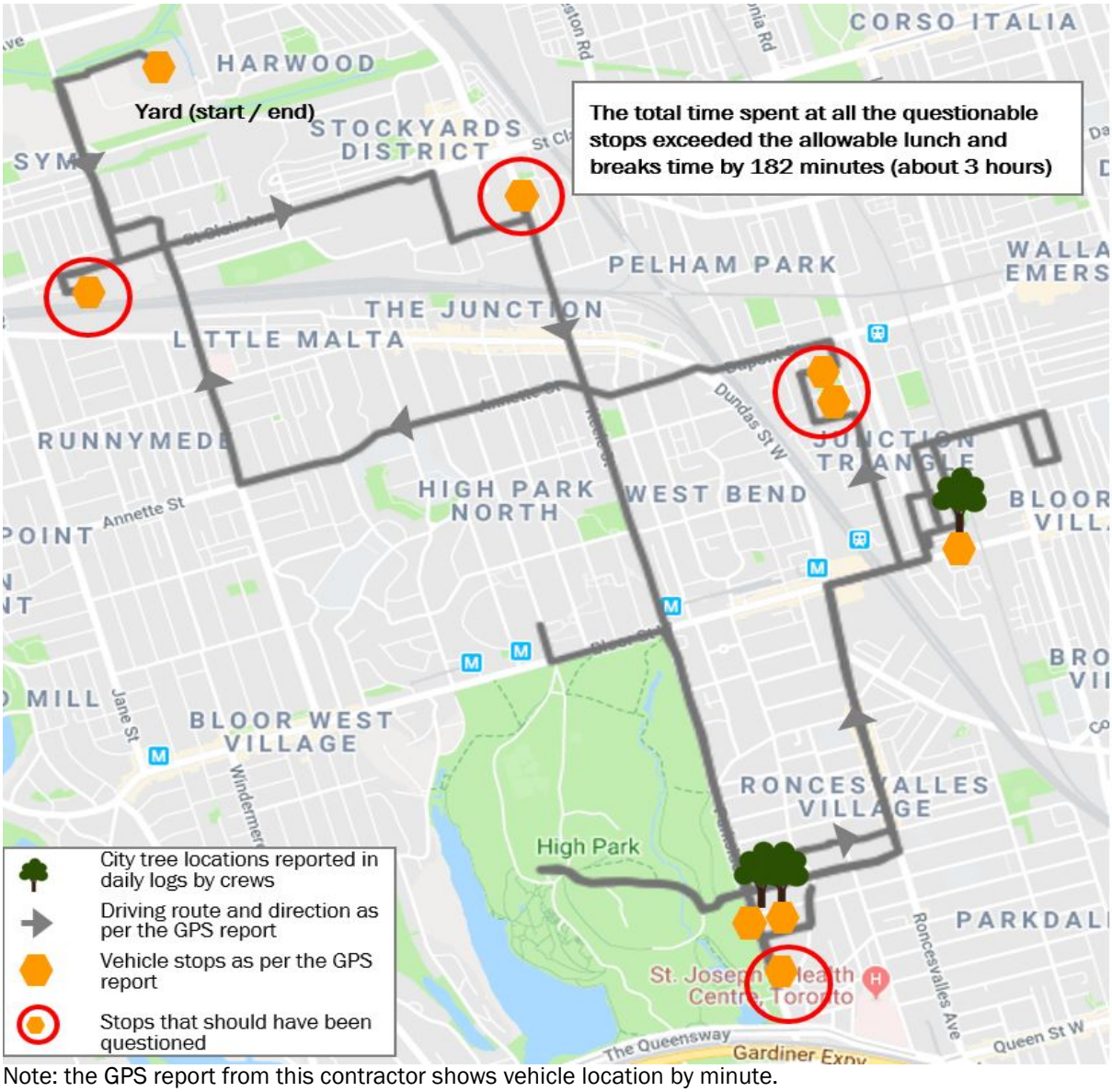
The crew reported in the daily log 45 minutes of work for pruning a tree, but the GPS report does not show that the vehicle stopped at or nearby the location.



Note: the GPS report from this contractor shows vehicle location by minute.

Map 3 - a GPS route map showing the crew's vehicle stopped at several locations in the afternoon for a considerable amount of time that appear to be unrelated to City work.

After leaving the yard in the morning, the vehicle went to two locations (a coffee shop and a gas station) that were not related to work assignment. The crew's vehicle then stopped near the assigned tree areas for 166 minutes, or 2.8 hours (not including driving time), but in the log, the crew reported 345 minutes, or 5.7 hours for pruning four trees and waiting parked vehicles on the street to be moved. The GPS report shows that the vehicle left the tree service locations around 11:00 a.m. and then drove to locations (school, park, and residential streets) not shown in the daily log and not appear to be work related. After deducting 60 minutes for allowable breaks and lunch[3], the total time spent at locations not related to tree assignments amounted to 182 minutes (about three hours), including driving time.



Note: the GPS report from this contractor shows vehicle location by minute.

[3] We deduct 60 minutes taking into account that contractor crews are allowed to take two 15-minute breaks (paid by the City), and a 30-minute lunch break (not paid by the City) within each shift.

Map 4 – a GPS route map showing the crew drove a long distance and spent a large amount of time at what appear to be various non-work related locations after they stopped working at the assigned tree locations at 11:30 a.m.

According to the GPS report, the crew's vehicle left the assigned tree service locations around 11:30 a.m. and then drove to various locations (including a cemetery, side streets and residential areas) that do not appear to be related to City work before returning to the City yard around 2:40 p.m. The total time that should have been questioned, after deducting 60 minutes for breaks and lunch[4], amounted to 132 minutes or 2.2 hours including driving time.

Note: the GPS report from this contractor shows vehicle location by minute.

[4] We deduct 60 minutes taking into account that contractor crews are allowed to take two 15-minute breaks (paid by the City), and a 30-minute lunch break (not paid by the City) within each shift.

Potential impacts

28 of 45 sampled contractor logs and GPS reports should have been questioned

We compared 45 daily logs from contractor crews to their vehicle GPS reports and found in 28 of them the GPS locations appear to be questionable. These logs are from various crews from two of the three contractors hired by Urban Forestry. Similar issues were noted from the third contractor but we excluded the samples from that contractor in this analysis due to reasons discussed earlier.

13% of work hours paid by the City could potentially be for activities not related to City work

Based on the GPS records, the time spent at the questionable locations from the 28 logs totalled 46 hours and 29 minutes (including driving and stopping time at the locations) after taken into account the driving time for the crews to go back to the yards. This represents approximately 13 per cent of the total 360 hours (45 daily logs*8 hours) paid by the City.

Potentially $2.6M in productivity loss

Given that the City spends approximately $20 million a year on contracted tree maintenance services, the estimated potential loss in productivity could be $2.6 million.

Additionally, if an inaccurate maintenance record is created for a tree in Urban Forestry's system, this could have adverse long-term effects because it may be at least another seven years before the tree receives the next scheduled maintenance services.

Urban Forestry does not normally request GPS reports

Under the contracts, Urban Forestry has the right to request GPS reports from its contractors. However, Urban Forestry does not request those reports as part of their regular daily log review. According to management staff, on occasion, Forepersons will investigate an anomaly to confirm reported vehicle locations. Furthermore, staff reported that they conducted a review of the GPS reports in February and July 2018 and identified "*potential vehicle mismatches*" in 10 of the 45 logs they reviewed.

Recommendation:

1. **City Council request the General Manager, Parks, Forestry and Recreation Division, to take the necessary steps to ensure the City only pays for legitimate tree maintenance work that has been performed by contractor crews in accordance with the contractual terms. Such steps should include, but not be limited to, a regular review of a sample of contractor crews' Daily Work Activity Reports (daily logs) with the Global Positioning System (GPS) reports to:**

   a. **identify questionable records**

   b. **follow up on the discrepancies**

   c. **identify high-risk crews for further review and follow-up.**

A.2 City Crew Vehicles have No GPS System

Urban Forestry's trucks do not have a GPS tracking system

While Urban Forestry requires the contractors to provide GPS reports for their vehicles, it did not make sure its own vehicles are equipped with a GPS system.

Urban Forestry did not participate in the 2017 corporate Telematics Solution and Services contract

Based on previous staff reports, prior to 2017, Urban Forestry's tree maintenance service vehicles used to be equipped with an Automatic Vehicle Location (AVL) system which is similar to a GPS system. In 2017, the City coordinated a corporate Telematics Solution and Services contract to acquire a corporate GPS system. Eight City divisions, including Transportation Services and Toronto Water, joined the corporate contract, but Urban Forestry did not. According to Urban Forestry's management, they declined participating because of their poor experience with the same system provider, unreliability of the vendor's equipment, and the union's concerns related to the use of such a system.

Without a GPS system on its vehicles, management cannot assess the accuracy and completeness of the information in the daily logs completed by City staff. This also makes it difficult to compare the performance between contractor and City crews.

Recommendation:

2. **City Council request the General Manager, Parks, Forestry and Recreation Division, to consider installing a Global Positioning System (GPS) tracking system on the vehicles used by Urban Forestry staff for tree maintenance activities.**

A.3 Questionable Records in Daily Logs by City and Contractor Crews were not Identified

Information reported in daily logs must be accurate and complete

The daily log completed by contractor crews is a critical document the City uses to approve payments. According to Urban Forestry's guidelines for completing these logs, "*it is extremely important that the information is completed accurately and is legible*." Urban Forestry Forepersons should ensure the accuracy and completeness of the daily logs prior to approval.

City crews are also required to complete daily logs to record their work, and the logs are approved by the Forepersons.

41 per cent of logs reviewed have missing data or contain entries that should have been questioned

We reviewed a sample of 59 City crew logs and 80 contractor crew logs. All of the contractor logs were paid by the City. We noted that in total, 41 per cent have missing data or contain entries that should have been questioned by the Forepersons. Table 4 provides a breakdown of our audit results by City and contractor crew:

Table 4: **Sampled Logs Review Results, City Crews and Contractor Crews**

		Contractor Crews				
	City Crews	Contractor A	Contractor B	Contractor C	Total Contractor Crews	Overall Total
Logs with Issues	14 (24%)	13 (43%)	18 (60%)	12 (60%)	43 (54%)	57 (41%)
Logs with No Issues	45 (76%)	17 (57%)	12 (40%)	8 (40%)	37 (46%)	82 (59%)
Total Logs Reviewed	59 (100%)	30 (100%)	30 (100%)	20 (100%)	80 (100%)	139 (100%)

More detailed information is provided below:

Duplicate work listed in multiple logs from the same crews

Duplicate work is performed on the trees

In nine logs, crews reported that they completed maintenance work on the same trees on consecutive days. The duplicate work totalled about 220 minutes, or five per cent of the crews' total reported work hours. Two of these logs belong to City crews and seven belong to contractor crews.

Reported time spent on dead trees, locations with no tree, trees that were scheduled to be removed or marked 'no work required'

Reported maintenance time on dead trees, locations with no tree, or trees where crews indicated no work was needed

In 10 logs, the crews indicated activities such as watering, pruning, or no specified activity, on trees that they denoted in the daily logs as dead trees, locations with no tree, tree stumps, trees where work had already completed, or no work needed. Three of these logs belong to City crews and seven belong to contractor crews. The time spent ranged from five to 15 minutes for each tree.

Some of these activities might be valid

We recognize that some of these activities might be valid to account for travelling or inspection time by the crews. However, none of these records were questioned by the Forepersons or Supervisors prior to payment approval.

When asked, management staff explained that the reported time spent might be the crews' driving time to the tree locations or time spent for inspection. However, driving time should be separately reported in daily logs, and these crews did separately record driving time in their logs. We also noted other crews reported zero activity time for addresses with dead trees or no tree.

Missing work orders or service requests to support maintenance work performed

In nine contractor crew logs, the crews' reported activity time in their daily logs do not agree to their own records on the supporting documents (e.g., service requests, work orders, work assignment lists). In particular, for storm cleanup activities, we noted several logs do not have a service request to justify the work performed.

While the inconsistencies could be recording errors they were not identified by the Forepersons' review of the logs.

For storm cleanups with no record of requests, management staff explained that after removing the immediate tree hazard, crews may leave piles of branches at various locations for pick up at a later time. While Forepersons assign crews to pick up the remaining branches, there is no record to track this type of work assignments.

Incomplete information in daily logs and missing foreperson approval

Missing information in daily logs

26 logs contained incomplete information, such as not including the specific position number of the tree they worked on. Without this information, the Foreperson would not know exactly which tree was maintained, and accurate data cannot be entered into the TMMS system to update the tree maintenance history. Five logs do not have the Foreperson's approval signature.

Despite Urban Forestry's requirement for a detailed review of the daily logs by the Forepersons or Supervisors, none of the above questionable entries or missing information were identified in the Forepersons' reviews.

Recommendation:

3. **City Council request the General Manager, Parks, Forestry and Recreation Division, to require supervisory staff to conduct thorough reviews of Daily Work Activity Report (daily logs) from both City crews and contractor crews to identify duplicated and questionable tree maintenance activities.**

A.4 Ineffective On-site Inspections and Quality Control Inspections

Foreperson inspection is a key control

In addition to reviewing daily logs, Forepersons conduct random inspections. There are two types of inspections:

- An **on-site inspection** is conducted while a crew is working at the location
- A **quality control inspection** is conducted after a crew has finished their work at the location.

According to Urban Forestry's Performance Inspections Report Training Module (the Module), the inspection is to:

> "*...ensure safety procedures are being followed, efficiency is maintained and that crews are equipped with the tools needed to complete the tasks.*"

Forepersons should also identify excessive time (e.g., excessive time to prune a tree, excessive dumping, fueling, and driving time) during their inspections. The time contractor crews spend to fix deficiencies identified during the inspections is not billable to the City.

We found that the inspection program is not effective for monitoring and assessing crews' performance because many regional offices did not meet the minimum number of inspections, and the Forepersons' inspection methods are ineffective. Management staff explained that Forepersons were tasked with competing priorities and thus did not perform the required minimum number of inspections.

Non compliance with the required number of inspections

Minimum number of inspections

Table 5 outlines the minimum number of inspections required by the type of inspection and the type of crew.

Table 5: The Minimum Number of Inspections to be Completed in a Year by Each Regional Office

	Number of On-Site Inspections	Number of Quality Control Inspections
City Crew	1 Per Crew Per Week	1 Inspection Per Week
Contractor Crew	1 Per Crew Per Week	2 Inspections Per Week

The number of on-site inspections varies amongst regional offices as it is based on how many crews reported to the office in the week.

Required minimum number of inspections not met in 2017 and 2018

We found that Urban Forestry did not meet the required minimum number of on-site and quality control inspections in both 2017 and 2018. This issue was also raised by the City's Internal Audit in its 2016 report on Urban Forestry's tree pruning and removal contract.

On-site inspections

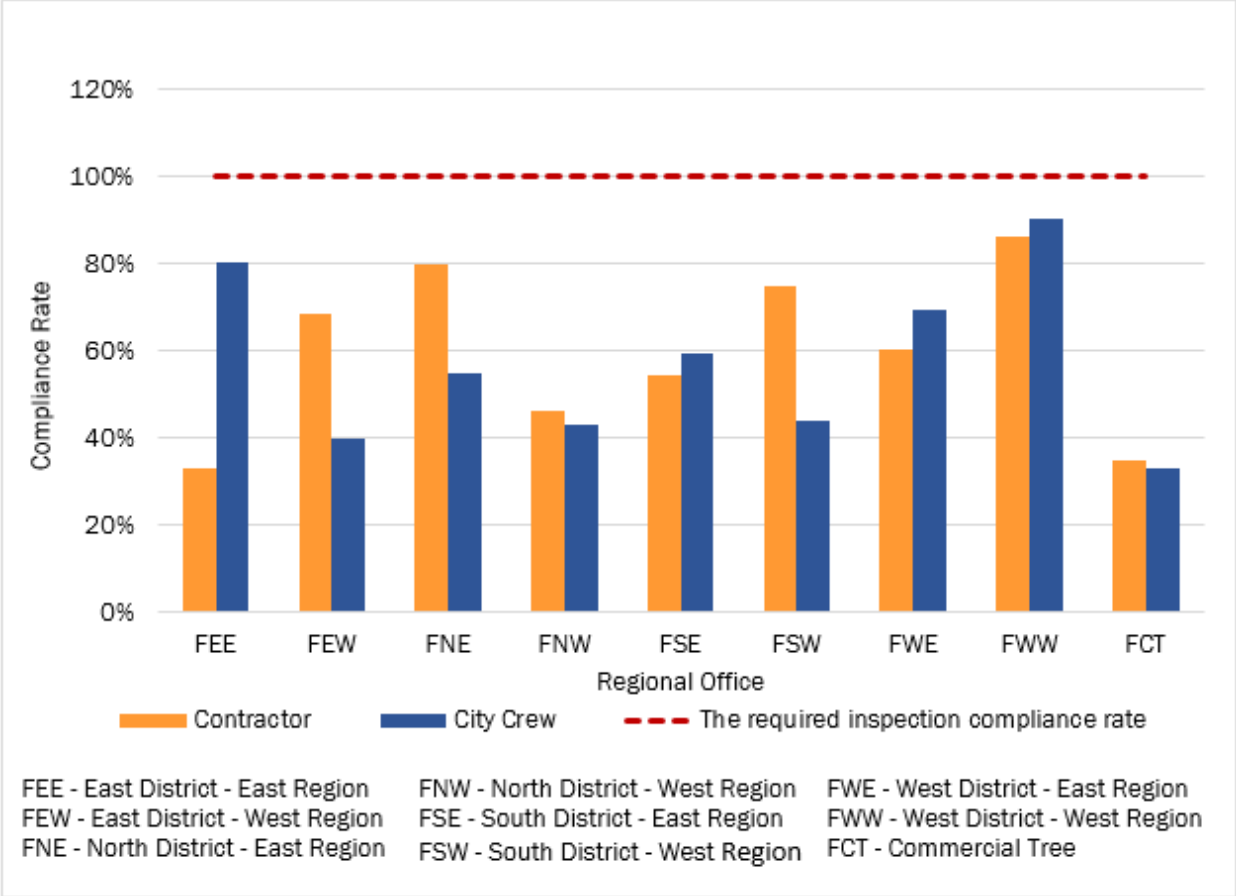
Forepersons only conducted 60% of required on-site inspections

For both 2017 and 2018, Forepersons only conducted about 60 per cent of the required number of on-site inspections for both City and contractor crews. None of the regional offices met their required minimum number of on-site inspections.

Compliance rate varies significantly amongst regional offices

The compliance rate varied significantly amongst regional offices. For example in 2018, it ranged from 33 per cent to 90 per cent for City crew, and 33 per cent to 86 per cent for contractor crews. Figure 3 provides the on-site inspection compliance rate for each of the regional offices in 2018 for City and contractor crews.

Figure 3: Compliance Rates for the Required Number of On-Site Inspections for City and Contractor Crews, 2018



Quality control inspections

Urban Forestry did not meet required minimum number of quality control inspections

Figure 4 provides a breakdown of the quality control inspection compliance rate for each of the regional offices in 2018 for City and contractor crews.

2018 inspection completion rate for city crew was 50% and for contractor crew was 86%

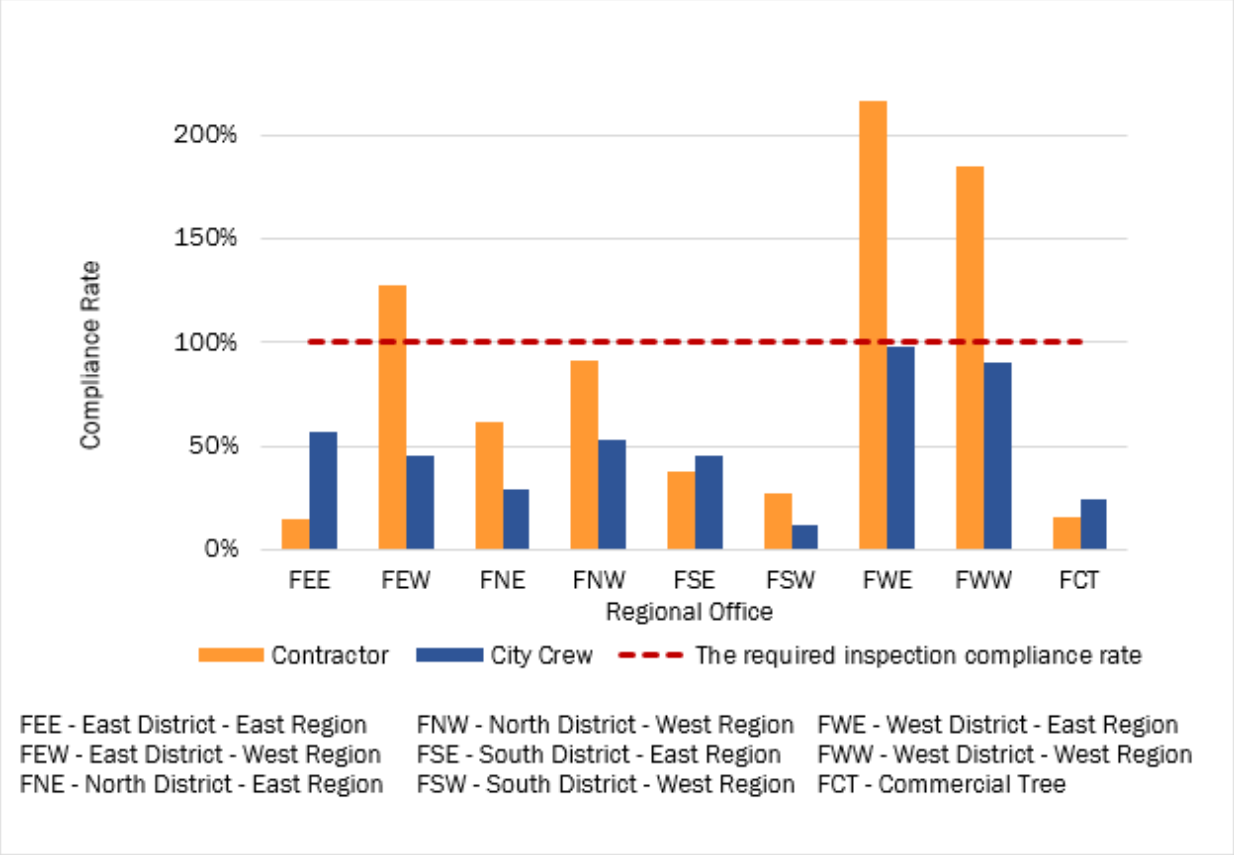
The number of inspections performed on contractor crews was significantly higher than that performed on the City crews for both 2017 and 2018. On a City-wide basis, Forepersons conducted 37 per cent of the required number of quality control inspections on City crews in 2017, and 50 per cent in 2018. The rate for contractor crews was greater than 85 per cent for both 2017 and 2018.

None of the regional offices met the required number of inspections for City crews

For the City crews, while none of the regional offices met the required minimum number of inspections, two of them were close to the targets.

For contractor crews, three regional offices exceeded the required minimum number of inspections in 2018, but six regional offices did not meet the yearly requirement.

Figure 4: Compliance Rates for the Required Number of Quality Control Inspections for City and Contractor Crews, 2018



Inspection effectiveness can be improved

In some cases Forepersons call ahead to find out where crews are before inspecting

One of the purposes of conducting random on-site inspections is to make sure that crews are actually working at the sites. We found that Forepersons do not always perform surprise on-site inspections. Most of the Forepersons we interviewed indicated that they would normally call the crews to find out where they were located prior to visiting the site. One Foreperson we interviewed managed to conduct surprise on-site inspections without calling the crews ahead of the time.

Inspections usually took place in the morning while activities needing closer scrutiny tended to occur in the afternoon

The Forepersons usually perform the inspections in the morning. However, from our review of the contractor crews' GPS reports, the activities that should have been scrutinized (e.g. extended lunch or break, travel to locations not related to work assignment) usually occurred in the afternoon.

Recommendation:

4. City Council request the General Manager, Parks, Forestry and Recreation Division, to improve the effectiveness of on-site and quality control inspections for monitoring daily tree maintenance work by City and contractor crews by:

a. ensuring compliance with the required minimum inspection numbers in all regional offices

b. ensuring inspections are conducted by staff on a surprise basis

c. performing random on-site inspections at different times of a work day.

B. Improving Operational Efficiency

B.1 Many Hours were Spent on Supporting Activities

Considerable time spent on supporting activities

From our review of 139 daily logs (59 City crew logs and 80 contractor crew logs), we noted that crews needed to spend a considerable amount of work hours each day on supporting activities, such as waiting for vehicles to be moved and wood disposal.

These activities include:

- Yard time - averaging 53 minutes each day
- Driving time – averaging 93 minutes each day; part of this could be driving to non-work related locations as discussed in the previous section
- Waiting for parked vehicles on streets to be moved to access the trees – more than a quarter of the sampled daily logs show this activity ranging from 15 minutes to 3.5 hours per day per crew
- Wood disposal at woodchip compounds – about 30 per cent of the sampled logs show this activity and it usually took an average of 20 minutes (not including driving time)
- Time spent on equipment or vehicle repairs – seven of the 59 City crew daily logs show this activity, with an average of 76 minutes per log

Many daily logs show 3 hours of supporting activities

All of the above supporting activities can add up to a considerable amount of work hours each day. In many daily logs we reviewed, these activities took at least three hours of an eight-hour working day.

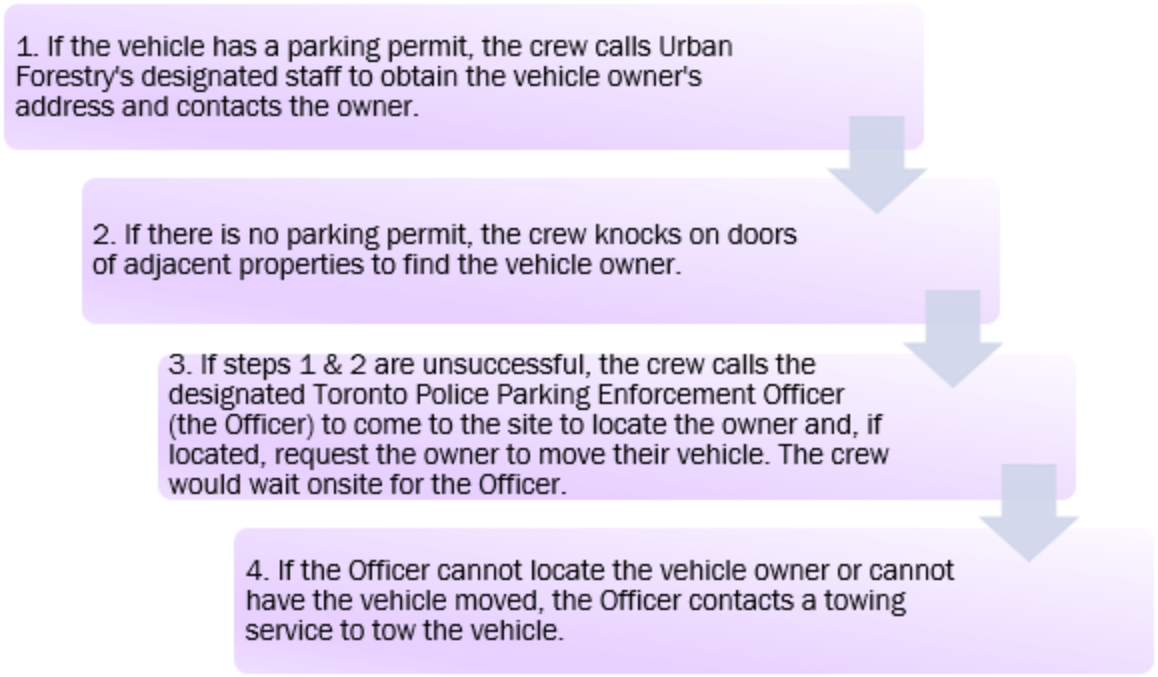
Audit identified 3 areas for potential improvement

It is recognized that some of the time spent on supporting activities is unavoidable as they are part of the working process. However, there may be room to reduce these activity time. We identify three areas for potential improvement:

1. Reduce time spent on moving parked vehicles on streets
2. Increase City locations with a woodchip compound
3. Reassess the yard time at the beginning and end of shift

B.2 Reduce Time Spent on Moving Parked Vehicles on Streets

When a vehicle is parked on a street close to a tree scheduled for maintenance (e.g. pruning, removing), in some cases the crew would need to have the vehicles moved in order to carry out the work. When this happens, the crew needs to:



Urban Forestry does not chargeback owners of parked vehicle for towing cost

In 2018, Urban Forestry paid about $60,000 for the related towing costs. The owners of the parked vehicles are not charged for the towing cost.

Crews reported half an hour to 3.5 hours for waiting parked vehicles to be moved in many logs reviewed

Our review of a sample of 139 logs found that crews frequently reported time spent on moving parked vehicles. Of the 139 logs reviewed, 37 logs (27 per cent) recorded time spent waiting for parked vehicles to be moved. Among these 37 logs, 31 reported spending between half an hour and 3.5 hours on this. It is important that Urban Forestry looks for ways to reduce the frequency and the time spent on this activity.

We were informed that Urban Forestry had in the past tried different methods to address the issue, including placing cones to block parking spaces the night before the scheduled maintenance, and placing signs on trees alerting people not to park their cars nearby. But staff indicated that these were ineffective as the cones and signs were often ignored. Urban Forestry had also inquired about establishing temporary no parking zones and bylaws for no parking zones, which were both deemed not feasible, according to staff. Currently, the practice of placing cones and posting signage is only used occasionally. Figure 5 shows an example of the type of road blocks and signage used by Urban Forestry.

Figure 5: An Example of the Type of Road Blocks and Signage Used by Urban Forestry

While we understand the challenges faced by Urban Forestry, it is important for it to look for more proactive and preventive measures to reduce the occurrences of parked vehicles that can substantially delay the daily tree maintenance work. The following are our observations and suggestions for Urban Forestry to consider:

Urban Forestry should verify the reported time spent by crews for moving parked vehicles

a. Verifying the reported time spent is valid

Urban Forestry needs to verify the reported time spent by crews waiting for parked vehicles to be moved. Currently, management staff do not verify this reported time. Steps such as requiring crews to provide a photo of the parked vehicles at the tree location with date and time, and checking records to confirm the crews had contacted Urban Forestry staff to obtain vehicle owner information, should be built into the management monitoring process.

Urban Forestry should put more effective preventive measures in place for regions with more parked vehicles

b. Identifying problem regions

Based on our interviews and our review of daily logs, certain regions in the City tend to have more frequent parked vehicles issues due to a lack of driveways or large number of street parking permits. In these regions, the average time spent on moving parked cars (as reported by the crews in their daily logs) is 83 minutes per day per crew. Urban Forestry should proactively identify these areas and put in place more effective preventive measures, which are discussed below.

c. Better coordination with the Parking Enforcement Office

According to Urban Forestry's Procedures, crew leaders can contact the Parking Enforcement Office the day before the scheduled maintenance to set up tows and arrange to meet the Officer at the site. This would reduce the time needed to spend waiting for the Officer and the tow trucks to arrive. Based on our discussions with the Parking Enforcement Office, crew leaders had infrequently contacted the Office to pre-arrange for assistance to speed up the towing process.

d. Exploring more effective communication and deterrent methods

Staff informed us that their past efforts using cones and signs to request people to refrain from parking their cars on certain sections of the street were ineffective. There may be a need for Urban Forestry to look for more effective communication methods with residents, such as sending notices through the mail, posting more prominent warning signs, and using more effective road-blocking devices. Urban Forestry should also explore the feasibility of charging the vehicle owners the towing cost after proper notices have been given.

e. Other municipalities' policies and practices

We obtained information from three Ontario municipalities. In general, all three of them used different proactive measures to manage their parked vehicle problems:

- In one municipality, the forestry staff coordinates with their Roads Department to put out road blocks around the tree maintenance area the night before. The staff indicated this has been an effective measure in preventing parked vehicles. A photo of an example of the type of road block is provided in Figure 6 below.

Figure 6: An Example of the Type of Road Block Used in Another Municipality

- In another municipality, the forestry staff would also arrange with their Roads Department to setup "no parking" signs the night before the scheduled tree maintenance work. A temporary street posting affidavit would be created in the Municipal Bylaw Parking Enforcement system. If a vehicle is parked in the blocked area, and forestry staff cannot locate the vehicle owner to move the vehicle, the staff would notify the bylaw enforcement to issue a ticket to the vehicle owner. In an emergency situation, the bylaw enforcement officer would tow the vehicle.

- In another municipality, the forestry staff give out notices in person to homeowners a week before the schedule tree maintenance work, or leave the notice in the mail box if no one is present. Staff indicated that this is an effective communication method for this municipality.

B.3 Increase City Yards with a Woodchip Compound

Crews dispose chopped wood to woodchip compound 2 to 3 times a week

Maintenance crews in general need to dispose of chopped wood two to three times a week. Currently, four of the eight Forestry yards and two yards (one belongs to Parks and the other one belongs to Transportation Services Division) have a compound for woodchips and wood disposal. Figure 7 shows an example of a wood compound.

Figure 7: Photos of a Woodchip Compound at a City Yard

Not all yards have woodchip compounds, causing long driving time for some crews

Since wood disposal is part of the tree maintenance process, efforts should be made to minimize the need for crews to routinely drive to another yard for this activity. In particular, we observed from the GPS reports that crews working out of the Birchmount yard frequently needed to drive half an hour to 45 minutes to the Unwin yard because the Birchmount yard does not have a woodchip compound area. The same issue was also noted for crews working out of other City yards. The extra driving time reduces the actual tree maintenance times.

We understand that not all City yards may be suitable for setting up a woodchip compound area due to restricted yard size or proximity to a residential area. However, given the considerable amount of time and frequency of this activity, Urban Forestry should consider the feasibility of setting up more woodchip compounds in its yards as well as exploring alternative sites in the City.

B.4 Reduce Daily Yard Time

A considerable time spent at yard in the morning and at the end of day

All Crews, including City and contractor crews, start their day at a City yard and obtain work assignments, discuss issues with their Forepersons, perform circle checks on trucks and equipment, and load equipment to the vehicles. Based on our review of the daily logs, this can take between 15 to 45 minutes in the morning.

The crews then spend another 15 to 30 minutes at the yard at the end of day, primarily for the crew leaders to hand in the daily logs for approval.

In addition to attendance reporting, ensuring crews to conduct vehicle and equipment safety checks in the morning is important. In our view, handing in the daily logs at the end of each day does not appear to warrant 15 to 30 minutes for the entire crew waiting at the yard. Urban Forestry should review this process to minimize crews' waiting time at the yards.

Furthermore, in seven of the 59 City crew daily logs we reviewed, the crews noted instances of equipment or vehicle malfunctions, resulting in disruption of work and reduced productivity. About half of these instances were identified by crews in the morning prior to leaving the yard and the other half occurred at tree service locations, as per the daily logs.

The issue of City vehicle and equipment out of service has recently been highlighted in the Auditor General's April 2019 report on City Fleet Services Operation entitled "Phase One: Lengthy Downtime Requires Immediate Attention".

Recommendation

5. **City Council request the General Manager, Parks, Forestry and Recreation Division, to review the time spent by tree maintenance crews on supporting activities with a view to maximizing the actual onsite tree maintenance time. Consideration should be given to:**

   a. **undertaking steps to reduce time spent on moving or towing parked vehicles on streets obstructing the scheduled tree maintenance activities**

   b. **assessing the feasibility of installing a woodchip compound in more City yards to reduce driving time for wood disposal**

   c. **assessing ways to reduce wait time for crews at the City yards, particularly at the end of each shift.**

B.5 Unnecessary Maintenance Work on Trees under Warranty

Trees planted by contractors come with a 2-year warranty including maintenance services

The trees planted by contractors under the arterial road, parks, and open space planting programs come with a two-year warranty. This includes watering, maintenance of all plant material, planting areas and accessories, and pruning and trimming plant material for the duration of the warranty period. Once the warranty expires, Urban Forestry is responsible for maintaining the trees.

Urban Forestry's crews performed maintenance work on trees that were still under warranty

Of the total 22,244 trees planted on arterial roads from 2015 to 2018, our analysis showed that 2,712 [5] or 12 per cent of them had maintenance work performed by Urban Forestry's City and contractor crews while the trees were still under warranty. Using the average time used by contractor crews on the activities and the associated cost, we estimated the cost incurred by the unnecessary work to be approximately 2,492 hours or $270,000 over the four years. This does not include the driving time to those tree locations.

We could not assess the cost involved with unnecessary work performed on park trees or trees in open spaces due to the limited data available.

Although the yearly cost may not appear to be significant, the time incurred to work on the trees under warranty represents the time and opportunity lost to maintain City trees that actually needed maintenance.

[5] Watering activities performed by Urban Forestry on the trees are excluded from our analysis as management staff indicated that extra watering activities were necessary due to drought conditions in those years.

Subsequent to our Part One audit, in late 2018, Urban Forestry updated its Area Street Tree Maintenance Program listing. This is provided to crews for proactive pruning of street trees; it flags the trees under warranty that do not require maintenance work. Urban Forestry should assess if this new alert procedure is effective in minimizing unnecessary maintenance work on trees under warranty.

Recommendation:

6. **City Council request the General Manager, Parks, Forestry and Recreation Division, to assess whether the new system procedure is effective in minimizing unnecessary maintenance work performed by City and contractor crews on trees that are still under warranty.**

C. Compliance with Service Standards

C.1 Compliance with Residential Tree Planting Service Standards can be Further Improved

Homeowners who want the City to plant or replace City trees need to make a tree planting request through the City's 311 Service. 311 then transfers the planting request information to Urban Forestry's system (TMMS) for staff to respond.

Service standards allow 8 weeks to inspect the tree and 18 months to plant the tree from date of request

Urban Forestry has established specific service standards for responding to residential tree planting requests as follows:

- **Inspect the site within eight weeks from the date of the request:** A staff member should inspect the site within eight weeks to determine if a new tree needs to be added or the old tree needs to be replaced, and suggest a tree species. The staff member should then create a planting work order.

- **Plant the tree within 18 months from the date of the request:** For requests with a planting work order, staff should plant the tree within 18 months from the tree planting request date.

Standards are consistent with other municipalities

We found that Urban Forestry's standards for inspection time and planting time are consistent with several other Canadian municipalities.

To assess how well Urban Forestry met its service standards, we analysed a total of 19,433 applicable residential planting service requests[6] received between January 2015 and June 30, 2017. These service requests should have all been completed by December 31, 2018 according to Urban Forestry's service standards. We found that:

1% of requests were never responded

☒ About **one per cent** of the planting requests in TMMS were never responded to by Urban Forestry

For the requests where Urban Forestry staff created a tree planting work order:

☑ **88 per cent** had trees planted within 18 months

12% of planting work orders were either not completed or completed later than standard

☒ **9 per cent** took longer than 18 months for the tree(s) to be planted – a small number of them waited longer than 2.5 years for the tree(s) to be planted

☒ **3 per cent** were still waiting for trees to be planted (as of December 31, 2018) – about half of them had been waiting for at least 2.5 years

Staff explained that some planting activities were delayed due to construction on the sites, tree stumps had not been removed by Forestry Operations Unit, or the delays were at the request of the homeowners. Table 6 provides further details of our analysis.

Table 6: An Analysis of the Residential Tree Planting Requests, January 2015 to June 30, 2017

Service Request	# of Applicable Service Requests	# of Service Request without an Inspection	# of Work Orders Created for the Requested Service	# of Work Orders Completed Within the 18-month Standard	# of Work Orders Completed not Within the 18-month Standard	# of Outstanding Work Orders
Tree planting	19,433	230 (1% of service requests)	15,090 [7] (100%)	13,261 (88%)	1,380 (9%)	449 (3%)

Source: AGO analysis based on TMMS data

[6] Requests that were later cancelled, or requests that were not expected to have been inspected as of December 31, 2018 are excluded from the analysis.

[7] 3,873 of the tree planting requests were deemed no work required after inspection by staff. For some tree planting requests, staff created other types of work orders such as tree pruning. Work orders that were later cancelled are excluded.

C.2 Compliance with Tree Removal Service Requests Need Improvement

Up to 4 work orders to remove a tree

Tree removal requests are more complex than tree planting requests, and involve up to four different steps. Forestry staff explained that the first two steps are important to eliminate safety risks and liability concerns; the third and fourth steps complete the process and restore the site for potential replanting. Each step requires a separate work order:

- Topping – removal of the smaller branches (for larger trees)
- Stemming – removal of the main stem and larger sections of branches that remain after topping.
- Stumping – grinding of the stump below ground level
- Fill and seed – removal of loose stump material, followed by filling the cavity with topsoil and then grass seed.

Stemming or stumping request is made for tree removal

When 311 receives a request to remove a tree, staff create either a stemming or a stumping request depending on the information provided by the homeowner. Urban Forestry staff then inspect the tree to decide the specific work orders that need to be created.

Service standards allow for 8 weeks to inspect the tree and 6 months to complete the work from date of request

Urban Forestry's standards for stemming and stumping service requests are:

- **Inspect the tree within eight weeks from the date of the request**
- **Tree removal work to be completed within six months from the date of the request.**

We analyzed 42 months of tree removal records (from January 2015 to June 30, 2018) to assess how well Urban Forestry met its service standards. We found that:

- ☑ **62 per cent** of the tree removal requests were fully completed within six months

38% of removal requests were either not completed or completed later than standard

- ☒ **32 per cent** had to wait for longer than six months for all of the tree removal work to be completed – about one-fifth of them waited for at least a year for all work to be completed
- ☒ **6 per cent** were still waiting for the work orders to be completed (as of December 31, 2018) – about one-fifth of them had been waiting for at least a year

Table 7 provides further details of the analysis results.

Table 7: An Analysis of the Tree Removal Service Requests, January 2015 to June 30, 2018

Service Request Activity	# of Applicable Service Requests	# of Service Requests Completed Within the 6-month Standard	# of Service Requests Completed not Within the 6-month Standard	# of Outstanding Service Requests
Stemming or stumping	12,019 [8] (100%)	7,522 (62%)	3,806 (32%)	691 (6%)

Source: AGO analysis based on TMMS data

Overall, 38 per cent of the tree removal requests did not meet Urban Forestry's service standards. In particular, 702 took longer than a year to have all tree removal steps completed. The timeliness of completing a tree removal request affects the tree replacement planting as the latter cannot take place until the tree has been removed. From our review of planting data, one of the reasons that contractors could not plant a replacement tree was because the old tree or stump had not been removed.

C.3 Overall High Compliance with Service Standards for Maintenance Related Service Work Activities

Two most common types of tree maintenance requests are tree pruning and storm cleanup

In addition to responding to tree planting and removal requests, Urban Forestry responds to various tree maintenance requests and has established a specific service standard for each type of request. The two most common types of maintenance requests are for tree pruning and storm cleanup[9], and their respective service standards are:

For **general tree pruning** requests:

- Inspect the tree within eight weeks from the date of the request
- Perform the work within six months from the date of the request

For **storm cleanup** requests:

- Inspect the site within 72 hours to up to five days from the date of the request
- Perform the work within six months from the date of the request

[8] Requests that were later cancelled, or requests that were not expected to have been inspected as of December 31, 2018 are excluded from the analysis. Work orders for tree removal activities were created by Urban Forestry staff between January 2015 and June 30, 2018. These removal activities should have been completed by December 31, 2018 according to the standard.

[9] A storm cleanup involves removal of fallen trees, broken limbs and branches after a storm

We analysed three years of records (from January 2015 to June 30, 2018) to assess how well Urban Forestry met these service standards.

Only very few tree pruning and storm cleanup requests did not have an inspection performed

We found that only very few tree pruning and storm cleanup requests did not have an inspection from staff according to the system records.

Regarding the timeliness of meeting the service standards, we found that:

For **general tree pruning** requests:

- ☑ **90 per cent** of the pruning work orders were completed within six months

10% of pruning requests were either not completed or completed later than standard

- ☒ **9 per cent** had to wait for longer than six months for the work to be completed
- ☒ **1 per cent** were still waiting for the tree pruning service (as of December 31, 2018)

For **storm cleanup** requests:

97% of storm cleanup work orders were completed within the service standard

- ☑ **97 per cent** of the storm cleanup work orders were completed within six months; about 90 per cent were completed within a month
- ☒ **3 per cent** had to wait for longer than six months for the service to be completed
- ☒ **Less than 1 per cent** were still waiting for the service (as of December 31, 2018)

Table 8 provides further details of our analysis.

Table 8: An Analysis of the Tree General Pruning and Storm Cleanup Requests and Related Work Orders, January 2015 to June 30, 2018

Service Request Activity	# of Applicable Service Requests [10]	# of Service Request without an Inspection	# of Work Orders Created for the Requested Service	# of Work Orders Completed Within the 6-month Standard	# of Work Orders Completed not Within the 6-month Standard	# of Outstanding Work Orders
General Pruning	43,504	9	27,810 (100%)	25,156 (90%)	2,360 (9%)	294 (1%)
Storm Clean Up	32,673	2	23,814 (100%)	22,985 (97%)	640 (3%)	189 (<1%)

Source: AGO analysis based on TMMS data

[10] Requests that were later cancelled, or requests that were not expected to have been inspected as of December 31, 2018 are excluded from the analysis.

Good compliance rate for service requests

We found Urban Forestry was able to achieve a good compliance rate for the tree pruning requests (90 per cent) and a high compliance rate for storm cleanup requests (97 per cent).

Overall observations and areas for improvement

Our analysis found that Urban Forestry's compliance with service standards varied among the different types of service requests. It was able to achieve:

- high compliance with storm cleanup requests (97 per cent)
- reasonably good compliance with the tree planting requests (88 per cent) and general tree pruning requests (90 per cent)
- low compliance with tree removal requests (62 per cent). The low compliance is probably due to the multiple steps involved in a complete removal of a tree.

311 reports only show compliance with the inspection requirements

We were informed that management monitors backlog associated with tree service delays on a regular basis, and at times they would review the compliance reports generated by 311 Services. However, the 311 reports only show compliance with the inspection requirements (e.g., if a tree planting request was inspected within the eight weeks standard), but not compliance with the actual service delivery.

Urban Forestry can further improve its compliance level by enabling management staff to regularly review exception reports that flag the outstanding service requests and requests that remain open near the end of the service standard period.

C.4 Compliance with Other Tree Planting Programs Is not Measured

In addition to managing the residential tree planting program, Urban Forestry manages three other planting programs for:

- Arterial road tree planting
- Park tree planting, and
- Naturalization tree planting

The service standards for the **arterial road and park tree** planting programs are:

- **Inspect the site within eight weeks from the date of the request:** A staff member should inspect the site within eight weeks of the request to determine if new trees need to be planted. The staff member should then create a planting work order and select the species.

- **Plant the trees within 18 months from the date of the request:** For requests with a planting work order, Urban Forestry should plant the trees within 18 months from the tree planting request date.

There is no service standard for naturalization tree planting requests.

Many of the arterial road and park tree planting requests were made by residents, City Councillors, and other City divisional staff who contact the Urban Forestry or the Urban Forestry's data management centre directly.

Urban Forestry staff use a planting project list (excel based spreadsheet) and hardcopy files to track these types of requests, and input the planting information into the TMMS system by creating a service request.

Upon a closer examination of the planting project list and TMMS data, we noted a number of issues:

Requests that were denied or not inspected were not recorded

- Information on requests are only recorded on the project list and TMMS when staff decided to proceed with the tree plantings, but they did not record requests on the project list that had not yet been inspected or requests that they denied.

- The request date recorded in the project list and TMMS is not the actual date the request was received. Instead it is the date when the staff visited the site.

- Key information is either missing or inaccurately recorded on the project list, such as incorrect information regarding the type of project (proactive or request), missing project ID, dates with invalid year, missing number of trees to be planted, and plantings from other programs.

Request response rate and compliance level cannot be measured

Given the incomplete and inaccurate information on the list, it is impossible for Urban Forestry or audit staff to assess if all of the arterial road and park tree planting requests are responded to by staff, or if the requests are completed within the established service standards.

When asked, management staff indicated that most of the arterial road and park tree planting requests are not made by members of the public and therefore there are very few requests for updates on the status of planting. In our view, responses to requests for arterial road and park tree planting is an important part of Urban Forestry's tree planting efforts, and they should be adequately tracked to ensure timely responses.

Recommendations:

7. **City Council request the General Manager, Parks, Forestry and Recreation Division, to further improve the compliance levels with tree planting and maintenance service standards. Steps to be taken should include regular review of exception reports by management to identify the outstanding service requests and requests that remain open near the end of the service standard period.**

8. **City Council request the General Manager, Parks, Forestry and Recreation Division, to systematically and accurately track all necessary service request data for the arterial road and park tree planting programs, including recording of all incoming requests and request dates, and analyze the data to accurately assess compliance with the service standards.**

D. Other Improvement Opportunities

D.1 Ensure City Trees Removed by Urban Forestry are Replanted If Possible

For every City tree that has been removed, a replacement tree should be replaced unless for a valid reason

In keeping with its Strategic Plan to increase the City's tree canopy, Urban Forestry should schedule a replacement tree for every City tree removed unless there is a valid reason such as a lack of space.

According to the Urban Forestry Tree Inspection Training and Reference Manual:

> "*when trees have been removed they are replaced by Urban Forestry with BR [Bareroot] trees on residential streets and B&B [Balled and Burlapped] trees on arterial roads or around school properties.*"

Furthermore, when an applicant applies for a tree permit to remove or injure a tree, under the Street Tree By-law (Municipal Code Chapter 813), the applicant is required to ensure "*a replacement tree must be planted unless otherwise determined by the General Manager.*" The same should apply to a tree that has been removed by Urban Forestry.

Urban Forestry did not always plant a replacement tree

Based on our review of the data, we found that Urban Forestry did not always plant a replacement tree after staff had removed a city tree.

At least 6,831 trees were removed by Urban Forestry and not been replaced

Between 2015 and 2018, there were 32,601 addresses with completed tree removal records (including some park tree removals). However, 5,363 or 16 per cent of these addresses had no planting service requests. Based on our analysis, at least 6,831 trees[11] were removed by Urban Forestry staff from these addresses without planting replacement trees afterward.

We recognize that Urban Forestry staff might decide that certain addresses were not suitable for a replacement tree. To assess how frequently this could occur, we reviewed 15 sampled files and staff indicated that a replacement was not needed in only two of them. While some of the remaining 13 files might have a valid reason for not creating a tree replacement request, there is no documentation on file to indicate the reason for not creating such a request.

System does not automatically generate a planting request when a when a tree has been removed by staff

Without a tree planting request, staff will not proceed to plant a replacement tree because currently the tree removal and tree planting activities are performed by two different groups within Urban Forestry.

TMMS does not automatically generate a planting service request or flag the tree location where a tree has been removed. The tree maintenance staff who ordered a tree to be removed need to manually create a planting service request to inform the tree planting staff to survey the location to assess replanting possibility.

[11] This number only represents the minimum number of trees not replaced because the system had no information on the number of trees removed for 1,582 addresses. We estimated at least one tree was removed from each of these addresses. For the remaining addresses, system records indicate 5,249 trees were removed (more than one tree could be removed from an address).

Recommendation:

9. **City Council request the General Manager, Parks, Forestry and Recreation Division, to take the necessary steps to ensure City trees removed by Urban Forestry are replanted where suitable. Such steps should include, but not be limited to:**

   a. **periodic reviews of tree removal records in conjunction with tree planting records to identify missed tree replacements**

   b. **ensuring that the new Work Management System has the ability to automatically generate a planting service request or at least flag a planting opportunity when a City tree has been removed.**

D.2 Potential Benefits in Consolidating Tree Planting Contracts Among City Divisions

Other City divisions also plant trees in the City

In addition to Urban Forestry's tree planting programs, other City Divisions and other government agencies also plant trees in the City public land. We were informed that Urban Forestry coordinates tree purchase and planting activities with divisions and agencies such as Toronto Water, Transportation, and Toronto District School Board.

However, there are other divisions, agencies, and corporations that still plant trees in the City public land using their own contractors under various projects. For example,

- Many of the Engineering and Construction Services' construction projects require tree planting and the Division uses its own contractors to plant trees. It spent about $72,000 and $56,000 on tree planting in 2017 and 2018, respectively.

- Beautiful Streets, Public Realm Section of the Transportation Services typically plants 20 to 100 street trees in any given year. For example, in one of its construction projects in 2017, the contractor planted 50 trees at $450 each.

- Basement Flooding Protection Program, in each of its construction projects, uses its own contractors to replant trees to meet the tree removal permit condition. For the 43 projects between 2010 and 2015, over 1,200 trees were planted as part of the Program. The unit price for the tree planting ranged from $600 to $1,500 per tree.

Several potential benefits from consolidating tree planting activities and contracts among City divisions

We understand that there are legitimate project management reasons for City divisions to use their own contractors for tree planting. However, there could be a number of potential benefits from consolidating the tree planting activities and contracts among various City divisions. These include:

- Easier for Urban Forestry to identify and track these trees to ensure proper maintenance after the warranty period. Currently, there is no process for Urban Forestry to identify trees planted by other City divisions;
- Lower contract cost due to volume purchase - Urban Forestry's current average tree planting unit price ($325) is lower than the contract price obtained by individual City divisions;
- Divisions can leverage Urban Forestry's expertise in tree planting instead of relying on external arborists;
- Urban Forestry can make sure the correct tree species and sizes are planted;
- Streamline the tree removal and planting permit requirements when Urban Forestry is managing the tree removal and planting process itself.

Current initiatives for tree planting services and contracts

According to staff, through the implementation of its Tree Planting Strategy, Urban Forestry has created an Urban Forestry Working Group in October 2018. One of the Strategy's goals is to create best management practices for tree planting that Urban Forestry can use to help other divisions manage construction projects. In addition, Urban Forestry currently partakes in the corporate Category Management Strategy. Category management is the process of strategically managing key spend categories with the objective of lowering total cost of ownership while respecting the City's public service mandate. One of the areas being explored is landscaping equipment and supplies and landscaping services.

Given the potential benefits, opportunities for better coordinating and consolidating tree planting activities and contracts across the City should be thoroughly explored in the existing or new initiatives undertaken by Urban Forestry.

Recommendation:

10. City Council request the General Manager, Parks, Forestry and Recreation Division, to further expand its efforts to coordinate and consolidate tree planting activities and contracts with other divisions and agencies and corporations, where feasible.

Conclusion

This second audit report focuses on tree planting and maintenance services

This is the Auditor General's second report from her audit of the Urban Forestry Branch. This report provides our findings and recommendations relating to tree planting and maintenance services.

10 recommendations to help improve contract management, customer services and operational efficiency

Our audit identified the need for Urban Forestry to improve its oversight of contractor work on delivering daily tree maintenance services, and identified opportunities to improve the efficiency of the tree maintenance services by the contractor and City crews. Our audit provided 10 recommendations to help Urban Forestry improve its contract management, customer services and operational efficiency.

Audit Objectives, Scope and Methodology

The Auditor General's 2017 Work Plan included an audit on Urban Forestry, under the Parks, Forestry and Recreation Division. In June 2018, the Auditor General released the first part of the audit on permit issuance and tree by-law enforcement functions: https://www.toronto.ca/legdocs/mmis/2018/au/bgrd/backgroundfile-117956.pdf

This second part of the audit focused on the trees planting and maintenance activities performed by the Urban Forest Renewal and Natural Area Management, and the Forestry Operations Units.

The objective of this second part of the audit was to assess whether Urban Forestry has adequate systems and procedures in place to:

- plant and maintain trees in the City's urban forest effectively and efficiently, and
- reliably measure and report on its effectiveness in maintaining and enhancing the City's urban forest.

This audit covered the period from January 1, 2015 to December 31, 2018.

Our audit methodology included the following:

- Review of relevant legislation, policy, procedures or guideline requirements for tree planting and maintenance
- Review of literature and reports relating to Urban Forestry
- Review of complaints received by the City's Fraud and Waste Hotline
- Meetings and interviews with staff of Urban Forestry
- Contacted other municipalities for benchmarking information
- Interview with staff from 3-1-1 Services
- Obtained information from other relevant City Divisions
- Conducted an unannounced site visit to understand and observe the operation of a yard
- Conducted site visits to confirm the work performed on selected trees
- Review of planting summaries and planting contracts
- Review of maintenance contracts and payment information
- Analyzed tree maintenance and planting data
- Review of planting complaints data
- Selection of audit samples for a more detailed examination
- Review of different Daily Work Activity Report (daily logs) and the related GPS report
- Review of locations and GPS route on internet
- Review detailed records on the TMMS system
- Review of inspection records
- Review management performance report and other relevant report.

Scope Limitation

Our analysis and conclusions on Urban Forestry's compliance with service standards were based on data in Urban Forestry's TMMS system. During our audit, we noted certain data integrity issues with TMMS which can potentially affect the accuracy of our analytic results of service standard compliance.

Some of the GPS reports from Contractor A were found to be unreliable and as a result, Contractor A's GPS reports were excluded from our analysis of daily logs and GPS reports.

We were unable to perform the same comparative analysis for the City crews due to the lack of a GPS system on Urban Forestry's vehicles.

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.

Appendix 1: Management's Response to the Auditor General's Report Entitled: "Review of Urban Forestry – Ensuring Value for Money for Tree Maintenance Services"

Recommendation 1: City Council request the General Manager, Parks, Forestry and Recreation Division, to take the necessary steps to ensure the City only pays for legitimate tree maintenance work that has been performed by contractor crews in accordance with the contractual terms. Such steps should include, but not be limited to, a regular review of a sample of contractor crews' Daily Work Activity Reports (daily logs) with the Global Positioning System (GPS) reports to:

a. **identify questionable records**

b. **follow up on the discrepancies**

c. **identify high-risk crews for further review and follow-up.**

Management Response: ☒ Agree ☐ Disagree
Comments/Action Plan/Time Frame:

Agree. Urban Forestry began formal auditing of daily logs and completion of performance inspection reports in 2016 to improve oversight of crews. Under the current arboricultural services contract staff will continue to review logs for discrepancies and utilize available GPS information to detect unusual crew activity. Further training for UF staff is scheduled to start in the 2nd quarter of 2019. Increasing the frequency of review will require additional staffing resources for oversight.

In 2015 UF began active participation in the creation of a new multidivisional enterprise work order management system. This system is anticipated to provide: improved controls and accountability, improved data quality and information sharing, increased interdivisional collaboration, improved customer service and enhanced planning and scheduling services.

The new enterprise work management system, through mobile application use at the worksite, is anticipated to better link work performed on site to our asset database allowing UF managers and forepersons to better oversee forestry crews in real time. Address based mapping and GIS tools will also be available to better track work through the new system. Additionally, a noted requirement for the new work management system will be to automatically produce a sample of work that needs to be reviewed by UF forepersons and supervisory staff. Implementation of the new system within Urban Forestry is currently scheduled to begin in late 2019 with roll-out anticipated for mid-2020.

Timing: Procedures & Training, Q4, 2019; implementation Q1, 2020
Staffing,: 2020 budget process, implementation Q4, 2020 subject to Council approval of the budget
Remaining to coincide with roll out of EWMS

Recommendation 2: City Council request the General Manager, Parks, Forestry and Recreation Division, to consider installing a Global Positioning System (GPS) tracking system on the vehicles used by Urban Forestry staff for tree maintenance activities.

Management Response: ☒ Agree ☐ Disagree
Comments/Action Plan/Time Frame:

Agree. Urban Forestry supports installation of GPS tracking systems for Forestry vehicles Additional funding will be necessary for implementation and effective application of the tool.

Timing: Subject to funding approvals, collaboration with other City divisions utilizing this technology and the purchasing process.

Funding: 2021 budget process

Recommendation 3: City Council request the General Manager, Parks, Forestry and Recreation Division, to require supervisory staff to conduct thorough reviews of Daily Work Activity Report (daily logs) from both City crews and contractor crews to identify duplicated and questionable tree maintenance activities.

Management Response: ☒ Agree ☐ Disagree
Comments/Action Plan/Time Frame:

Agree. As in recommendation response No. 1, UF will continue its protocol to review and oversee daily logs. Additional training on this process will be provided to staff in 2019, however, additional staff will be required to meet the full scope of the recommendation.

Transition to the new enterprise work management system should eliminate many entry errors and duplicate submissions for the same activity. It will also apply greater efficiency to staff performing oversight functions to focus on work performance auditing. Implementation of the new system within Urban Forestry is currently scheduled to begin in late 2019 with roll-out anticipated for mid-2020.

Timing: Procedures & Training, Q4, 2019; implementation Q1, 2020
Staffing,: 2020 budget process, implementation Q4, 2020 subject to Council approval of the budget
Remaining to coincide with roll out of EWMS

Recommendation 4: City Council request the General Manager, Parks, Forestry and Recreation Division, to improve the effectiveness of on-site and quality control inspections for monitoring daily tree maintenance work by City and contractor crews by:

a. **ensuring compliance with the required minimum inspection numbers in all regional offices**

b. **ensuring inspections are conducted by staff on a surprise basis**

c. **performing random on-site inspections at different times of a work day.**

Management Response: ☒ Agree ☐ Disagree
Comments/Action Plan/Time Frame:

Agree.
a. & c. Urban Forestry will continue to improve the effectiveness of quality control inspections through increased compliance with target volumes, and inspections being completed in mornings and afternoons.

Timeline: Q4, 2019;

b. While surprise inspections can currently be completed when a crew is known to be working in a limited local area (in a park or on proactive area maintenance), surprise visits for other work may not be effectively achieved until the City is provided with real-time on-line access to the associated GPS systems for both staff and vendors. Contract alterations will be necessary.

Timeline: limited implementation for select programs Q4, 2019 (ASTM, APTM); full implementation subject to accessibility of real-time on-line GPS data.

Recommendation 5: City Council request the General Manager, Parks, Forestry and Recreation Division, to review the time spent by tree maintenance crews on supporting activities with a view to maximizing the actual onsite tree maintenance time. Consideration should be given to:

a. **undertaking steps to reduce time spent on moving or towing parked vehicles on streets obstructing the scheduled tree maintenance activities**

b. **assessing the feasibility of installing a woodchip compound in more City yards to reduce driving time for wood disposal**

c. **assessing ways to reduce wait time for crews at the City yards, particularly at the end of each shift.**

Management Response: ☒ Agree ☐ Disagree
Comments/Action Plan/Time Frame:

Agree.

a. Towing of parked cars
UF recently obtained approval to access vehicle ownership and address information through the Provincial Ministry of Transportation (MTO) system to decrease time spent moving cars. Police checks, which are a requirement for accessing the system, are pending and we expect to have this improved system in place in 2019.

Furthermore, UF has been in consultation with Toronto Police Services to explore the potential for Forestry staff to be given the authority to authorize tow relocates. Feasibility and timelines for this initiative are pending further consultation with Toronto Police Services for implementation.

Timeline: MTO system, Q4, 2019

b. Wood chip compounds
All forestry yards that have sufficient space to accommodate a wood compound already have one in place, but increasing demand for valuable land is creating pressure to retain existing locations. The greatest need for another wood compound is in the north central portion of the City. UF has identified a potential site in this area and will contact stakeholder divisions to investigate the possibility of establishing a wood chip compound. The viability of this option is dependent upon costs associated with construction and other City of Toronto demands on the property.

Timeline: Feasibility and assessment of resource needs Q4, 2020;
Funding: 2021 budget process

c. Yard Time
The establishment of unit rate contracts is actively being explored. This option would reduce the number of crews that would need to be directly monitored by Forepersons at the beginning and end of each shift. Yard time could also potentially be incorporated into the unit rate.

Timeline: 2021

Recommendation 6: City Council request the General Manager, Parks, Forestry and Recreation Division, to assess whether the new system procedure is effective in minimizing unnecessary maintenance work performed by City and contractor crews on trees that are still under warranty.

Management Response: ☒ Agree ☐ Disagree
Comments/Action Plan/Time Frame:

Agree. A review will be completed based on 2019 data to determine if Operations performed any maintenance of trees still under warrantee through our proactive maintenance program. UF will continue to improve this protocol as necessary to mitigate this duplication.

Timeline: Q1, 2020

Recommendation 7: City Council request the General Manager, Parks, Forestry and Recreation Division, to further improve the compliance levels with tree planting and maintenance service standards. Steps to be taken should include regular review of exception reports by management to identify the outstanding service requests and requests that remain open near the end of the service standard period.

Management Response: ☒ Agree ☐ Disagree
Comments/Action Plan/Time Frame:

Agree. Review of compliance with tree service delivery timelines is a regular agenda item at UF meetings. Improved tools to facilitate better tracking are an important requirement for the enterprise work management system. This includes the enhanced ability to track and monitor all types of service requests, their status, and timelines and associated deadlines for service delivery.

In the interim management staff will continue to review the available 311 compliance reports to detect services that are not meeting the required standard.

Implementation of reviews described in this response will allow for adjustment of priorities based on current levels of service delivery and funding levels. Any increased level of service delivery required to meet service standards would be dependent on increases to program funding.

Timeline: Review procedure, Q4, 2019; 311 report implementation Q4, 2019;
Remaining to coincide with roll out of EWMS

Recommendation 8: City Council request the General Manager, Parks, Forestry and Recreation Division, to systematically and accurately track all necessary service request data for the arterial road and park tree planting programs, including recording of all incoming requests and request dates, and analyze the data to accurately assess compliance with the service standards.

Management Response: ☒ Agree ☐ Disagree
Comments/Action Plan/Time Frame:

Agree. Although the majority of arterial road planting and park planting is performed proactively UF will develop a procedure to regularly monitor and track SR's to identify outstanding and open SR's and ensure compliance with service standards.

Timeline: Interim procedure, Q4, 2019; long term procedure to coincide with roll out of EWMS

Recommendation 9: City Council request the General Manager, Parks, Forestry and Recreation Division, to take the necessary steps to ensure City trees removed by Urban Forestry are replanted where suitable. Such steps should include, but not be limited to:

a. **periodic reviews of tree removal records in conjunction with tree planting records to identify missed tree replacements**

b. **ensuring that the new Work Management System has the ability to automatically generate a planting service request or at least flag a planting opportunity when a City tree has been removed.**

Management Response: ☒ Agree ☐ Disagree
Comments/Action Plan/Time Frame:

Agree.

a. UF will continue to initiate planting SR's where a tree has been scheduled for removal, except where there is not suitable space for planting. Where there is no viable planting location notations are made on the associated SR. In addition to UF's park planting program UF recognizes that, for tree removal SR's, where one for one replacement planting is not always efficient, a protocol needs to be developed to identify replacement planting where suitable.

Timeline: Park Replacement Protocol, Q4, 2019; implementation 2020

b. Implementation of the Enterprise Work Management System will address this recommendation as it has the capability to automatically create a tree replacement work order when trees are scheduled to be removed. Improved asset tracking through GIS tools will also assist in identifying missed trees. Through the Auditor Generals July 2018 report, the Tree Protection and Plan Review unit is also

improving processes within the current system to track tree removals and replacements associated with developmental approvals.

Timeline: will coincide with roll out of EWMS

Recommendation 10: City Council request the General Manager, Parks, Forestry and Recreation Division, to further expand its efforts to coordinate and consolidate tree planting activities and contracts with other divisions and agencies and corporations, where feasible.

Management Response: ☒ Agree ☐ Disagree
Comments/Action Plan/Time Frame:

Agree. Urban Forestry currently co-ordinates tree planting contracts and tree purchases with other divisions and external partners including all branches of Parks, Forestry and Recreation, Toronto Water, Transportation Services, Toronto and Region Conservation Authority, Toronto Catholic District School Board and Toronto District School Board. Additionally, through the implementation of the Tree Planting Strategy, Urban Forestry has created an Urban Forest Working Group, comprised of internal and external stakeholders with expertise in tree planting. One of the goals of the group is to create best management practices for tree planting that can be used to help other Divisions and partners to manage construction projects and plant trees.

Urban Forestry is also taking part in the Category Management Strategy being led by PMMD. One of the goals of the strategy is to achieve efficiencies and savings by consolidating contracts across divisions for similar work such as tree planting. The implementation of the Ravine Strategy, will also provide the opportunity for all groups (Toronto Water, PF&R, Transportation Services, TRCA) involved in working in ravines to meet regularly and co-ordinate their work, including tree planting.

UF will continue to co-ordinate tree planting activities with both internal and external partners through these initiatives and assess future opportunities as they arise.

Timeline: ongoing

AUDITOR GENERAL TORONTO