Getting to the Root of the Issues

A Follow-Up to the 2019 Tree Maintenance Services Audit

February 2, 2021

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Executive Summary

Follow-up review of key steps PFR has taken since 2019 tree maintenance audit

The Auditor General's Office regularly conducts reviews to follow-up on the implementation status of outstanding audit recommendations made in previously issued audit reports. In light of

- Parks, Forestry and Recreation's (PFR) October 2019 report indicating they had vigorously undertaken steps to meet the Auditor General's recommendations and improve management oversight,
- PFR's July 2020 report on their review of work performed by tree maintenance vendors, and
- City Council's subsequent request for the Auditor General to report further on this matter to the Audit Committee,

in August 2020, we commenced a limited-scope follow-up review of certain aspects of tree maintenance services to assess PFR's progress towards addressing issues and recommendations identified in our April 2019 audit report, "***Review of Urban Forestry - Ensuring Value for Money for Tree Maintenance Services***".

More than 1.5 years later, issues persist

In the more than a year and a half since our 2019 audit, there have been some improvements, but many concerns from our original audit persist. In our view, the City is still not receiving value for money for tree maintenance services.

More focus is needed to make sure the City is receiving value for money for tree maintenance services

Together, the 2019 audit and this follow-up show a culture shift is needed. Although management's actions to date have moved the City forward in small ways, PFR needs a more holistic view of how it delivers tree maintenance services to make sure it is receiving value for money and to keep its focus on:

- maximizing the amount of time spent actively working on tree maintenance activities (e.g., pruning, removal, stumping, fill and seed, etc.)
- reducing the time spent on supporting activities (e.g., time spent at the yard, dumping, driving, etc.)
- minimizing non-productive time (e.g., time waiting for parked vehicles to be moved, excessive idle time, unreported breaks, etc.)

Understanding what is happening on the ground is key to getting to the root of the issues

Getting to the root of tree maintenance issues requires unpacking what is actually happening on the ground so that problems can be identified and solved. This report highlights our findings based on over 500 hours of direct physical observation of crews in the field, in order to help move the City towards better outcomes.

Reviewing GPS can raise a red flag – but physical monitoring also assists

The key lesson from this follow-up review is that reviewing work logs and associated GPS records on a sample basis can raise a red flag when there are discrepancies, but review of records must be paired with physical observation to have a more fulsome picture of what is actually happening in the field.

Crews were where the GPS said they were, but crews were not always doing what they reported they were doing

The 2019 audit identified that the daily logs that recorded crews' whereabouts differed significantly from GPS records. In this review, we wanted to see if there was any improvement, so we conducted real-time physical monitoring of crews to verify that GPS locations matched crews' actual whereabouts and the locations recorded on the logs prepared by the crews.

We observed that the GPS situation had improved. For the most part, trucks were parked at the locations identified on the daily logs and this matched the GPS (i.e. crews were where the GPS said they were).

However, during our observations we noted that crews were not always actively working on trees when trucks were parked at the tree service locations (i.e. some crews were not doing what they reported they were doing). This is true of both City and contracted crews.

City and contracted tree maintenance crews were observed actively working on trees, on average, for less than half the day

Overall, we observed crews spending, on average, about 3.5 hours (i.e. less than half the work day) actually working on trees. Several of the issues affecting productivity and efficiency, including the need to address unreported breaks and reduce time spent waiting on parked vehicles and at yards, were pointed out in the 2019 audit.

Better planning and monitoring are needed

After our 2019 audit, we expected PFR to take action to address crew productivity. As was the case in 2019, PFR management are indicating that a new procurement process and resulting contract, and a new IT system, will solve many issues. While this remains to be seen, it is our view that these are not sufficient steps to address underlying oversight, contract management, and operational issues that have been present and prevalent since before our 2019 audit – issues that impact productivity and outcomes for both City and contracted tree maintenance crews.

PFR is accountable for outcomes and value for money of tree maintenance services

PFR and its vendors have a shared responsibility for planning and assigning sufficient work to keep crews busy and productive, addressing areas that impact operational efficiency, and monitoring and signing off on the quantity and quality of work being completed.

Supervisors and managers in PFR's Urban Forestry (PFR-UF) branch are responsible for supervising City crews and making sure City employees are accurately reporting activities on their daily logs. Similarly, vendors are responsible for fulfilling their contractual obligations, including supervising their own crews' work and making sure their employees are accurately reporting activities on their daily logs.

Regardless of whether the work is performed by City or contracted crews, **PFR is ultimately accountable for ensuring productivity and achieving expected outcomes** and value for money of tree maintenance services.

Results in Brief: Follow-Up Review of Tree Maintenance Services

Follow-up focused on confirming PFR progress in improving the accuracy of work logs, identifying discrepancies, and confirming paid work time was completed as reported

City Council's direction, in response to our audit in 2019, was for PFR to conduct a review of tree maintenance contracts to include, *but not be limited to*, a review of the vendor's work logs and associated GPS records to:

1. review the accuracy of work logs,
2. confirm work completed, and
3. identify discrepancies.

As part of our follow-up, and to confirm PFR's progress, our staff and surveillance specialists engaged by our Office observed City and contracted tree maintenance crews from July 31 to September 25, 2020.

We observed crews in the field for over 500 hours across a two-month period

In general[1], crews were observed from the time they exited a City yard until their return to the City yard at the end of the work day. In total, our surveillance teams observed vendor and City crews for over 500 hours spread across 36 working days. Surveillance teams documented crew movements and observations in a log and captured video footage, where feasible. We then compared our physical observation logs and video footage to the tree maintenance crews' daily logs and GPS data.

[1] In some cases, physical observations were halted where the team could not continue to safely follow the crews (e.g., when crews went the wrong way down a one-way street or ran red lights). Our observations on safety are included in section B.2. of this report. In some cases, our teams were tasked with observing specific locations frequented by vendor crews rather than following a crew for the whole day.

Our physical observations show some things have improved, other issues persist, and new concerns have been identified

In this follow-up review, we:

- found the accuracy of tree service locations reported on crew work logs had improved and now better matched with GPS data, but accuracy of work activities reported still need improvement
- confirmed that many issues from our original audit regarding operational efficiency persist
- identified further issues not demonstrable through a review of documents alone

A. Prioritize Actions to Improve Operational Efficiency and Productivity

City needs to increase productivity to achieve better value for money for tree maintenance

Where the 2019 audit questioned productivity and flagged potential losses primarily related to potential discrepancies between the GPS and the crews' reported locations, this follow-up review shows a marked improvement in discrepancies in tree service location reporting. Still, extended physical observations of crews demonstrates PFR-UF management needs to better plan and monitor work to address productivity and potential losses from avoidable down time while waiting for parked vehicles to be removed, excessive and unreported breaks, and other non-productive time at job sites.

Crews were actively working on trees for, on average, less than half of the eight-hour standard paid work day

In this follow-up review, as shown in Figure 1 below, we found that out of an eight-hour standard paid work day, vendor crews were actively working on trees for, on average, only about 3.5 hours (44 per cent of the day). For the purpose of this review, crews were considered to be "actively working on trees" if one or more crew members[2] were observed:

- setting up the job site (e.g., placing out pylons and signs, repositioning the truck, etc.)
- preparing to work (e.g., clearly discussing or inspecting the tree to be serviced, putting on safety equipment, getting out tools and tree maintenance equipment, etc.)
- directly performing the tree maintenance activity (e.g., pruning, tree removal, stumping, chipping branches, etc.)

[2] This is not to say that all crewpersons were observed working efficiently or effectively at a given time – as this was not always the case.

- cleaning up the job site (e.g., blowing leaves, sweeping, putting away pylons and work signs, etc.)
- other related activities (e.g., completing paperwork, on-site inspection by PFR-UF staff, speaking with local residents about the tree, etc.).

City crews we observed during the follow up also spent less than half the day actively working on trees. City crews actively worked on trees for, on average, slightly less than 3.5 hours per day.

Over a quarter of the day crews were taking breaks, idle, or otherwise not observed to be productive and actively working on trees

Vendor crews were not considered to be productive for over two hours of the eight-hour standard paid work day, on average, when:

- waiting for removal of parked vehicles blocking crews' access to the tree
- taking breaks[3] based on the City's practice to pay for 30 minutes of such time daily
- there was no other apparent reason why crews were idle and not actively working on trees or otherwise moving on to the next site or where breaks and lunches exceeded 60 minutes[4] total for the day

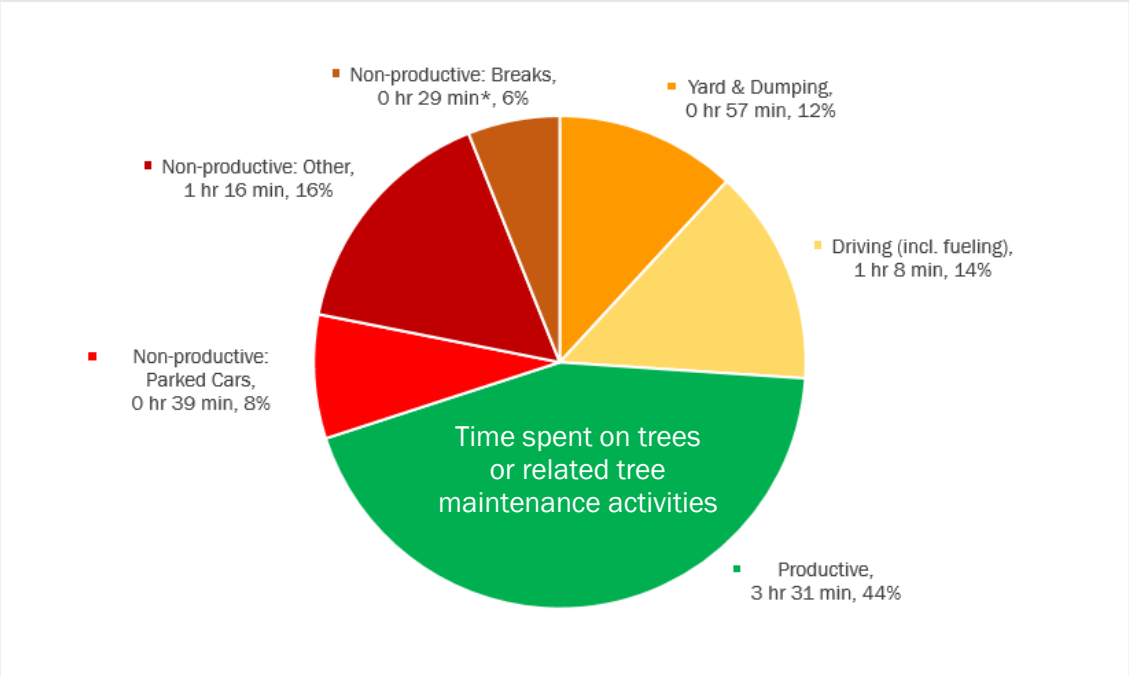
Over a quarter of the day was spent at the yard, dumping woodchips or driving between locations

For the remainder of the day – more than two hours, on average – vendor crews spent their time on supporting activities at the yard, dumping woodchips, or driving between locations.

We observed that, on average, City crews have slightly less non-productive time than contracted crews but spend more time on supporting activities.

[3] Many crews were observed taking breaks that were not properly reported on their daily logs.
[4] City's practice to pay for 30 minutes of breaks together with 30 minutes for lunch (unpaid) as per contract

Figure 1: Average Time Spent on Trees by Vendor Crews in a Standard Eight-Hour Paid Work Day, Based on Auditor General's Observations During This Follow Up



*Some crews were observed to have significant down time while waiting for parked vehicles to be removed. Some breaks are included as "Non-productive: Parked Cars" because that is how those crews reported the time on their daily logs (i.e., they reported less than 30 minutes of breaks on their daily logs even though they were physically observed to have taken breaks while waiting for parked cars to be removed).

Some Toronto residents have reported concerns regarding tree maintenance productivity

Concerns about crew productivity are also being noticed by some Toronto residents. Some were so concerned that they sent their own detailed observations, sometimes with photos, as complaints to the Auditor General's Fraud & Waste Hotline or PFR-UF for investigation.

To increase overall productivity, PFR needs to take action to:

PFR needs to maximize crew productivity at work sites

1) **Address crew productivity at work sites**

While this report mainly focuses on improving contract management and monitoring to address productivity of contracted tree maintenance crews, some of our observations also apply to City crews performing tree maintenance work.

2) Improve operational efficiency by reducing time spent on supporting activities

PFR needs to reduce the time crews spend on supporting activities

In our 2019 audit, we noted that crews spent considerable time each day on supporting activities. This included significant yard time, time spent driving to / from tree service locations and wood disposal at wood chip compounds.

Audit issues regarding operational efficiency persist. Through our follow-up review, we have identified additional opportunities to address inefficiencies related to supporting activities.

By increasing productivity by 30 minutes daily, the City gains $1M worth of additional tree maintenance work a year

If all crews increase the time they actively work on trees by an average of 30 minutes daily, we estimate the City would produce around $1 million more work on trees annually, based on 2019 contracted rates and crews. Some crews have much higher rates of unproductive time that is not effectively being identified and addressed. PFR-UF management has further work to do to improve how it oversees and manages tree maintenance.

Accurate reporting of activities is key when addressing productivity.

Accuracy of tree service locations reported on daily logs has improved since 2019 audit

Issues we saw in the 2019 audit relating to GPS locations differing greatly from the tree service locations noted on daily logs (also referred to as Daily Work Activity Reports or DWAR) appear to be improving.

GPS reports accurately show where tree maintenance crews are located

We know GPS reports accurately show where tree maintenance crews are located – this was corroborated by the extensive physical observations during this follow-up review. GPS providers also confirmed that GPS is generally accurate to within three to five metres. One of the GPS providers is also the vendor of the GPS systems used on City vehicles, including the GPS installed in trucks by City forestry crews and GPS installed on winter maintenance equipment. This vendor's staff advised that, in Toronto, their systems are accurate to within one metre (three feet).

Improved accuracy of tree service locations reported on daily logs is likely due to the increased scrutiny from the 2019 audit, together with new procedures PFR-UF put in place to perform GPS reviews and the City's ongoing discussions with the vendors on these matters.

Crews are still not always accurately reporting locations or working time

Still, locations and working times reported by tree maintenance crews did not always match GPS records and real-time physical observations.

Unreported stops for food, drinks or other purchases, as well as other unreported breaks continue to be charged to the City

- Many crews **routinely stop at certain locations** for food, beverages or other purchases **and do not report them as breaks**. On multiple occasions, we observed crews stopping at the same locations in the mornings and/or afternoons. We noted that at one stop location (a plaza) frequented by contracted crews, vendor vehicles were even captured by Google Maps' Street View multiple times across many months.

Idle or non-productive time at tree service locations is not always accurately reported

- Real-time physical observations of crews showed trucks could be parked at a tree location as per daily logs and GPS, but **reported work was not actually being performed**. There were extended periods of time where vendor trucks were at tree service locations matching GPS records, but crews were not observed to be actively working on trees.

- During periods of time where crews reported on their daily logs that they were working on trees, crewpersons were observed eating, drinking, chatting with others, smoking, using their phones, sitting in the truck / on the curb / on the grass or just standing around. We observed that the total idle or non-productive time at tree service locations plus reported breaks and lunches almost always exceeded 60 minutes per day (the amount of time PFR-UF allows for breaks and lunches).

We recognize that crews need to eat, drink, rest, go to the washroom or conduct personal business. **Crews can take as much time as they need to do so, but they should accurately report this as non-working time on their daily logs**. This is important because the City pays the vendors based directly on the time and activities their crews report on their daily logs, and time spent on **these activities are not paid for by the City** except as prescribed by the express terms of the contract.

Seeing how crews work provides a sense of the culture fostered by PRF-UF's approach

Seeing how crews work when they don't know they are being observed sheds light on the culture (quality, efficiency, effectiveness, and economy) fostered by PFR-UF's current approach to tree maintenance.

Some crews reported parked cars but we did not always observe cars blocking the trees

An example of how physical observations shed light on what is happening in the field is when we found that some **crews reported down time due to parked cars, but we did not actually observe parked cars** preventing work from proceeding.

Some crews waited a long time for parked cars to be removed

Where there were actual parked cars in the way, we observed crews staying and waiting for extended periods of time for parking enforcement and towing rather than proceeding to the next tree service location. In one example, the Auditor General personally observed that the crew could have proceeded with work at the next location just up the street instead of being unproductive while waiting for the parked vehicle to be removed.

Crews should be required to submit geo-tagged photos of parked vehicles

At the time of our follow-up, PFR-UF was not tracking whether crews had called in to request vehicle licence plate information or requiring them to submit photos to support that vehicles were obstructing work from proceeding. As suggested in our 2019 audit, PFR-UF should be requesting that crews call in licence plates to try to locate and request owners to remove the vehicles. We also suggested that PFR-UF obtain geo-tagged photos of the parked vehicles blocking trees. PFR-UF forepersons can then reconcile reported down time due to parked vehicles to the submitted evidence of the obstruction when they review actions taken by the crew, before signing off on daily logs.

For crews reporting to one yard alone, down time due to parked cars is estimated to cost the City around $408,000 annually

Even though the issue was raised in our 2019 report, crews continue to report significant down time waiting for parked vehicles to be removed. For example, 478 hours[5] of down time due to parked cars was reported by contracted crews operating out of one yard during the two-month follow-up. PFR paid an estimated $68,000 for this time ($408,000 annualized). There are eight other yards.

PFR has not performed extensive physical monitoring of crews in real-time

Extensively understanding what is happening in the field is a critical first step for the City to move forward in setting key measures to assess and address expected outcomes. It can also inform how the Division procures tree maintenance services and designs processes and controls to manage and monitor vendor contracts.

At no time in the last 18 months has PFR taken steps to vigorously perform physical monitoring of crews in real-time to get a solid understanding of what a typical day of work looks like for their tree maintenance crews.

[5] Out of an estimated 6,200 hours (8 per cent) reported by contracted crews operating out of one yard during the two-month follow-up.

On-site and quality control inspections were not always effective

Furthermore, from our physical observations, we found that PFR-UF's **on-site and quality control inspections were not always effectively conducted** and did not always meet the intent for such reviews (i.e., to monitor crew efficiency and to verify quality in performing the work). For example,

- Where crews we observed had an on-site inspection, the **inspections ranged from as little as five minutes** up to half an hour. For some inspections, PFR-UF staff arrived and **completed the review when no work had even started**. For other inspections, the crew only began working when the PFR-UF inspector arrived, after a period of time sitting in their vehicles and not actively working on the tree. Even though the PFR-UF inspectors did not spend sufficient time at the job site to observe and effectively assess the quality and efficiency of work performed by the crew, Forestry Performance Inspection Reporting (FPIR) records show that inspectors concluded that completed work reflects efficient use of time, work quality met proper arboricultural practices, work order was completed to standards, and tools were used in a safe manner. This is even more concerning when the crew had not even started working or had just started setting up the work by the time the inspection was completed.

- PFR-UF staff also completed after-the-fact, quality control inspections on four crews we observed. In our real-time physical observations, we noted two of the crews took significantly less time to complete the tree maintenance work than they reported on their daily log. Instead they were observed taking unreported and extended breaks and lunch. PFR-UF staff who conducted the quality control reviews found no deficiencies in the work logs and concluded that the completed work reflected efficient use of time by the crews.

- For four crews we observed, PFR-UF staff reviewed GPS reports as part of the quality control inspection process the Division put in place after our 2019 audit. For three of them, (two vendor crews and one City crew), PFR-UF staff did not properly identify discrepancies between the GPS reports and daily logs that should have been questioned.

2019 audit already highlighted that PFR's inspection program was not effective for monitoring and assessing crews' performance

Our 2019 audit previously highlighted that the inspection program was not effective for monitoring and assessing crews' performance because many regional offices did not meet the minimum number of inspections, and the inspection methods were ineffective. Our physical observations of PFR's on-site and quality control inspections during this follow-up review are troubling because these inspections are a key control that the City relies on to monitor compliance with tree maintenance contracts and to assess whether outcomes are being achieved.

B. Apply the Express Terms of Contract in Practice

City should enforce the express contract terms

In this follow-up review, we have observed that PFR could do better to monitor and enforce compliance with the express terms of tree maintenance contracts.

a) City paid vendors for break times. This business practice differs from the express terms of the contract.

City followed a practice of paying for 30 minutes of break time even though contracts did not provide for any paid breaks

The 2017, 2018, and 2019 contracts indicate that within a standard eight-hour paid work day, crews can take a ½ hour unpaid lunch break. This is the basis upon which the contracts were procured, and firms submitted bids. The express terms of the contracts do not entitle vendors to be paid by the City for any breaks including the cumulative 30-minutes of break time per shift that PFR-UF historically approved for payment.

City paid an estimated $1M to vendors annually for breaks

Even if the vendors' obligations to their own employees included paid break and / or lunch times, it is not a cost that needs to be borne by the City based on the current contract terms. We estimate that paying for 30 minutes of break time[6] per day for each vendor crew costs the City approximately $1 million annually, based on 2019 contracted rates and crews. Given this practice has been in place for at least several years, we estimate that the City has paid at least $3 million between 2017 and 2019 towards break times where crews were not working on trees.

New procurement call now includes paid breaks

It is worth noting that the new procurement call for the 2021 contract year expands the definition of "Work Hours" to mean eight hours daily which includes a ½ hour unpaid lunch and two 15-minute paid breaks.

[6] During this follow-up review, we observed that even if crews were not properly recording break times on their daily logs, they were still taking at least 30 minutes in break times.

Potentially unsafe work practices were sometimes observed

b) We noted some crews exhibiting work practices that raise a potential safety concern. For example, some crews do not appear to be wearing the proper safety equipment, or were operating machinery in a potentially unsafe manner. A few crews were observed running red lights or driving the wrong direction on one-way streets. In contrast, PFR-UF on-site inspections have identified relatively few deficiencies relating to unsafe work practices.

Contract requires vendors to comply with safety requirements at their own expense

The contract requires vendors to comply (at their own expense) with applicable provincial legislation including (but not limited to) Occupational Health and Safety Act & Regulations, Arborist Industry – Safe Work Practices, and the Highway Traffic Act.

City should verify vendors comply with contract requirements

It costs money for companies to train and ensure their employees comply with these requirements. To ensure a level playing field, the City should verify that vendors comply with contractual requirements. Otherwise it is unfair to those who invest the cost to ensure compliance while others do not. The existing on-site inspections by PFR-UF staff are not sufficient to verify compliance in practice. During the follow-up review, we observed PFR-UF staff arriving at the job site when crews were not actively working on trees and remaining on-site for only a brief period of time. This was insufficient to be able to observe and confirm if contractual provisions for safe work practices were consistently being followed.

c) Record retention and right to audit

City could not retroactively obtain GPS records for 2017 and 2018 based on contracts

PFR did not incorporate key record retention and right to audit clauses in their previous years' contracts. Consequently, PFR could not retroactively conduct reviews to identify problematic daily logs with GPS discrepancies for the years covered by our 2019 audit (i.e. 2017 and 2018 contract years). The City did not have all the GPS records for those prior contract years and the City was not able to subsequently obtain those GPS records once the contracts expired.

No record retention or right to audit clauses prior to 2019 contract

The 2019 contract year was the first year the City incorporated terms that specified that, "*All Global Positioning Report records must be retained and available for the duration of the contract*" and a "right to audit" clause was included, giving the City access to all financial and related records during the term of the contract and for a period of 20 years after the contract end date.

PFR has improved record retention requirements in new procurement call

Appropriate record retention and right to audit clauses are important contract management mechanisms. They enable the City to obtain records for prior contract periods, when needed (e.g., when a retrospective review of the contract is required). PFR has improved their requirements for vendors to retain and provide access to records in their new procurement call.

C. Leverage High Quality GPS Records to Support Contract Monitoring

PFR obtains and retains some, but not all, GPS records

PFR-UF only obtains and retains some, but not all, of the GPS records it is entitled to in accordance with contract requirements and to support paid invoices.

Access to Vendor A and Vendor B GPS information increased since 2019

For Vendors A and B, after our 2019 audit, PFR-UF obtained real-time access to the vendors' GPS systems to download GPS reports. Through their live access to the vendors' GPS systems, PFR-UF can see where crews are in real-time and can generate maps showing a crew's route.

City does not have live access to historical GPS data for crews no longer assigned to City work

Unfortunately, although PFR-UF has access to the live system and generates reports on an ad-hoc basis, it does not obtain and retain all GPS data. For example, in conducting this follow-up review, PFR-UF did not have live access to the GPS data for certain crews we observed who were no longer assigned to work on the City contract. PFR-UF had to request the vendors to provide this data. The City should ensure it obtains and retains all GPS information it is entitled to under contract before paying invoices.

Weekly GPS reports PFR obtains from Vendor C has less detail than was provided for our 2019 audit and does not fully meet contract requirements

PFR-UF did not obtain real-time access to Vendor C's GPS system, and the vendor has no obligation to provide such access under the existing contract terms. Vendor C provides PFR-UF with weekly GPS reports, but these reports have less detail than what was provided to the Auditor General at the time of our 2019 audit and is of lesser quality than what is available from their GPS system (i.e. they do not provide longitude and latitude coordinates on a minute-by-minute basis). Furthermore, the GPS reports PFR-UF obtains from Vendor C do not include information about routes travelled. Even though PFR-UF knows that more detailed minute-by-minute information is available, it has not obtained the more detailed information.

City should obtain and retain routes travelled information from all vendors in accordance with the contract

While the existing contracts require it and all three vendors' GPS systems have the capability to provide detailed route travelled information, meaning longitude and latitude coordinates captured by the GPS device at frequent intervals (minute-by-minute or more frequent), PFR-UF does not obtain and leverage this information. PFR-UF should be obtaining and retaining this more detailed information, already required under its current contracts, to enable more effective contract management. The new procurement call requires vendors to provide the City with real-time access to their GPS systems.

Standard City-wide requirement for GPS to be installed on contractor vehicles may enable better oversight, monitoring, and management of contractors

Given common audit issues observed with leveraging GPS data for contract management and monitoring, the City should consider standardized City-wide requirements and specifications for GPS installed in vendor vehicles. Recognizing that a contract requirement for complex GPS systems may be cost-prohibitive for smaller vendors wanting to compete for City business, the City should consider procuring and requiring vendors to install the City's GPS system in their vehicles. This enables the City to control access to the GPS data it needs to effectively monitor and manage contractor performance.

Economies of scale and efficiencies from cross-divisional collaboration in developing approaches to leveraging and analyzing GPS data

Recommendations from the Auditor General's audit of the Winter Road Maintenance Program[7] highlight opportunities from having a City-wide GPS strategy with real-time GPS information, alerts, and the ability to report exceptions to enable staff to track and monitor the routes, ensure payments are accurate, and better respond to claims and service requests. This results in more efficient processes. Our 2020 winter maintenance audit report highlighted that modernizing and integrating processes with enhanced use of GPS technology and having the ability to extract key data reports will help to improve efficiencies, help the division improve how it manages contractor performance, and ensure that service levels for contracted services are achieved.

There may be economies of scale and efficiencies from cross-divisional collaboration in developing approaches to leveraging and analyzing GPS data.

[7] AU6.2 Audit of Winter Road Maintenance Program - Phase One: Leveraging Technology and Improving Design and Management of Contracts to Achieve Service Level Outcomes

D. Strengthen Contract Management and Contract Monitoring Mechanisms

New procurement call changes the way the City will pay for tree maintenance services

In March 2020, the City put out a negotiated request for proposals for the supply and delivery of arboricultural services. The new procurement will modify how the City pays for tree maintenance services. PFR-UF will approach a portion of the work the same way it currently does, with work being paid for on an hourly rate per crew basis. However, the approach for other types of work will change so that the City is charged at unit rates per work package, depending on the type of work.

To improve outcomes, City should address how it will measure performance

Regardless of the method of establishing the price for tree maintenance services, to improve outcomes PFR-UF needs to make sure that:

- procurement call documents and ensuing contracts clearly lay out the demonstrable outcomes for the contracted services in a way that the City can measure whether they are being achieved by vendors
- the City has implemented effective processes to monitor contract compliance and measure vendor performance and achievement of required outcomes

PFR still has more to do to achieve better outcomes and value for money for tree maintenance services

Based on our review of the call documents together with findings from the original audit, as well as this current follow up review, PFR-UF still has more to do to ensure expected outcomes in terms of quality (in accordance with specifications / accepted arboricultural practices), quantity of work to be delivered within contracted costs, and productivity / efficiency.

It remains to be seen how PFR-UF will improve its processes in order to effectively oversee tree maintenance services and monitor outcomes expected under the blended approach to paying for contracted tree maintenance services. Under the new approach, we would expect PFR-UF management to:

- Define expected outcomes and have in place processes to assess achievement of those outcomes as well as actions and remedies if vendors do not meet them. These expectations should be embedded directly into call documents and contracts.

- Ensure contracts make clear the responsibilities of City staff and the vendor for resolving problems that impact performance outcomes. For example, vendors are responsible for submitting accurate daily logs and billing accurately. The City remains accountable for making sure it has effective contract management mechanisms in place to detect inaccurate reporting and prevent overpayments.

- Improve how it monitors contract compliance and addresses operational inefficiencies and productivity concerns by:
    - Undertaking periodic physical observation of vendors to enrich the City's understanding of daily routines, productivity loss and generally what is happening in the field
    - Enhancing the effectiveness of on-site inspections and quality control reviews of the work performed
    - Obtaining, reviewing, and retaining key records (including GPS information) in support of contract payments

Accountability mechanisms for contract management

Given our observations in this follow-up review, we recommend the City Manager implement additional supports and greater City-wide accountability for effective monitoring and management of significant outsourced contracts. This includes a structured approach to documenting risks and controls associated with contracted services, divisional management confirming that key contract management controls have been appropriately designed and implemented in practice, and a robust independent compliance review process.

PFR will need to separately address outcomes and productivity of the City's own tree maintenance crews.

Conclusion

PFR still needs more focus on making sure it is receiving value for money for tree maintenance services and tracking and reporting on meaningful outcomes

The General Manager of Parks, Forestry and Recreation reported in October 2019 that:

> *"Parks, Forestry and Recreation (PFR) **has vigorously undertaken steps to meet the AG's recommendations**, improve management oversight, explore options associated with contractual agreements with vendors and, in collaboration with the City Solicitor, pursue legal action if needed to recover any losses."*[8]

[8] AU4.14 Urban Forestry Status Update on Ensuring Value for Money for Tree Maintenance Services

It is our view that in the 18 months since our audit, more action should have been taken by PFR to improve productivity and to support value for money for tree maintenance services, increasing the amount of time crews actually spent maintaining trees and reducing non-productive time.

From this follow-up review, it is clear that PFR still needs more focus on making sure it is receiving value for money for tree maintenance services. The Division should be tracking and reporting on its progress in achieving meaningful outcomes - such as increasing the amount of time actually spent maintaining trees above 3.5 hours per day and reducing non-productive time.

This report highlights some key lessons learned for the City to increase productivity and value for money for tree maintenance services. The report provides a further 17 recommendations to strengthen PFR (and, more generally, City) contract management mechanisms, addresses availability and quality of data and records needed to manage contracts, and suggest additional considerations for outsourced contracts.

Background

April 2019 – Audit highlighted need for PFR to strengthen oversight and monitoring of tree maintenance services

The Auditor General's 2019 report "***Review of Urban Forestry - Ensuring Value for Money for Tree Maintenance Services***" highlighted that the Parks, Forestry and Recreation (PFR) Division's Urban Forestry branch (PFR-UF) needed to strengthen its oversight and monitoring of tree maintenance services to ensure value for money for the City. The report provided 10 recommendations to help improve contract management, customer service and operational efficiency for tree planting and maintenance programs.

http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2019.AU2.4

In the 2019 audit, we identified:

- Concerns with management of daily tree maintenance work
    - Contractor crews' reported work locations not matching GPS reports
    - City crew vehicles had no GPS system
    - Questionable records in daily logs by City and contractor crews were not identified
    - Ineffective on-site inspections and quality control inspections

- The need to improve operational efficiency because many hours were spent on supporting activities
    - Reducing time spent on moving parked vehicles on streets
    - Increasing the number of City yards with a woodchip compound
    - Reducing daily yard time
    - Reducing unnecessary maintenance work on trees under warranty

- The need for improvements to compliance with service standards and other opportunities

In daily logs with discrepancies, on average, 1.7 hours should have been questioned

At the time, we noted discrepancies between the reported activities in the daily logs and the vehicle GPS reports in 28 of the 45 sampled contractor crews' logs (62 per cent). On daily logs with discrepancies identified, after deducting the average time spent on supporting activities such as driving time and time at the yard, the on-site tree maintenance time averaged 4.5 hours within a standard eight-hour paid work day[9], as reported in the crews' daily logs. However, about 1.7 hours of the 4.5 hours reported work hours did 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.

13% of overall time reported should have been questioned

Based on the GPS records, the time spent at locations that should have been questioned from the 28 logs totalled 46 hours and 44 minutes (including driving and stopping time at the locations) after taking into account the driving time for the crews to go back to the yards. This represented 13 per cent of the total 360 hours (45 daily logs*8 hours) paid by the City[10].

Potentially $2.6M in productivity loss

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

City Council expected PFR to take immediate action

City Council expected immediate action to be taken by Parks, Forestry and Recreation.

Council directed PFR to conduct a review of tree maintenance contracts

In response to our audit, City Council directed the:

> *"General Manager, Parks, Forestry and Recreation, in consultation with the City Solicitor and the Chief Purchasing Officer, to conduct a review of the tree maintenance contracts referenced in this report in order to determine if the City can pursue legal action against the vendors to recover any money, or to consider suspending any of the vendors from future work. The review should include, but not limited to, a review of the vendor's work logs and associated GPS records to review the accuracy of work logs, confirm work completed and identify discrepancies."*

[9] Crews are supposed to work for eight hours a day. Lunch is not paid, so the actual work day is 8.5 hours long (an 8-hour shift plus a ½ hour for lunch).

[10] In the current follow-up review, we physically observed that, on average, crews were actively working on trees for about one hour less than they reported on their daily logs, or about 12.5% of the paid eight hour shift.

October 2019 – PFR reported taking vigorous steps to improve management oversight

In October 2019, the General Manager, Parks, Forestry and Recreation, reported:

> *"Parks, Forestry and Recreation (PFR) **has vigorously undertaken steps to meet the AG's recommendations**, improve management oversight, explore options associated with contractual agreements with vendors and, in collaboration with the City Solicitor, pursue legal action if needed to recover any losses."*

http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2019.AU4.14

July 2020 – Legal Services and PFR reported to Council on its review of work performed by tree maintenance vendors

In early July 2020, the City Solicitor and General Manager, Parks, Forestry and Recreation, reported to the Infrastructure and Environment Committee on PFR's review of work performed by tree maintenance vendors and provided related legal advice.

In July 2020, the City Solicitor and General Manager, Parks, Forestry and Recreation, provided a supplementary report when the matter was considered by City Council.

At its meeting on July 28, 2020, City Council requested the Auditor General to report further to the Audit Committee on this matter.

http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2020.IE14.8

Observations pertaining to PFR review of contracts are provided in Confidential Attachment 1

In a **confidential attachment** to this report, we have provided our observations pertaining to PFR's review of work performed by tree maintenance vendors.

Results of Follow-Up Review

Understanding what is happening on the ground is key to getting to the root of tree maintenance issues

Getting to the root of the tree maintenance issues requires observing what is happening in the field and comparing this to information being submitted by crews so that issues can be identified and resolved. Seeing how crews work when they don't know they are being observed provides a better understanding of the culture (quality, efficiency, effectiveness, and economy) fostered by PFR-UF's current approach to tree maintenance.

Strategic leadership is key to moving PFR towards achieving better outcomes

Strategic leadership is key to moving the City towards achieving better outcomes.

Understanding what is happening in the field can provide insights to inform planning decisions about the appropriate mix of City staff and contracted services to leverage and improve how contracts are designed, managed, and monitored to support expected outcomes.

Moving forward, PFR should clearly define expected outcomes for tree maintenance and ensure that staff are monitoring and tracking the right measures to make sure expected outcomes are achieved.

Importance of physical observation

Upon City Council's July 28, 2020 request for the Auditor General to report further to the Audit Committee, the Auditor General followed a few crews for a day to understand what a standard day for tree maintenance crews looked like when they didn't know they were being observed. She immediately identified key productivity issues, like a crew waiting for a parked car to be moved rather than moving to a nearby tree to continue working. She also observed extended periods of time where crewpersons were not working on trees but were instead sitting in the truck and talking on the phone.

We observed tree maintenance crews for nearly two months

We engaged a surveillance specialist to work with our team to conduct and process extensive physical observations of City and contracted tree maintenance crews from July 31 to September 25, 2020. The Auditor General herself spent several days observing crews in the field.

This technique is normal when confronted with the type of risks identified in our 2019 audit. For example, in 2013, the City of Hamilton hired a private investigator and used video surveillance and GPS records to observe the activities of its public works employees when managers noticed some of the data collected by GPS devices installed on trucks was suspicious.

According to the arbitration report, surveillance revealed that significant amounts of time were being wasted by employees taking long breaks and lunches, running personal errands and engaging in other unproductive activities. Then-Hamilton City Manager, and current Toronto City Manager, Chris Murray said to media:

> ***"It was that surveillance that really told the story in terms of what they weren't doing."***

We compared observation logs, video footage, daily logs, and GPS data

For this follow-up, we observed City crews and contracted crews for over 500 hours spread across 36 business days:

City staff	10 full days
Vendor A	10 full days
Vendor B	11 full days
Vendor C	17 full days
	48 full days*

**plus 15 part days spread across City and contracted crews*

In general[11], crews were observed from the time they exited a City yard until their return to the City yard at the end of the work day. Crew movements and observations were documented in an observation log and video footage was captured where feasible. We then compared:

[11] In some cases, physical observations were halted where our teams could not continue to safely follow the crews. Our observations on safety are included in section B.2 of this report. In some cases, our teams were tasked with observing specific locations frequented by vendor crews rather than following a crew for the whole day.

1. Information from the physical observation logs and video footage, to

2. Crew-reported locations, activities, and times recorded in daily logs[12] that had been approved by PFR-UF forepersons and supervisors for payment and had been paid, and

3. GPS reports downloaded via PFR-UF's live access to City and Vendor A and B GPS platforms[13] or as supplied to PFR-UF by Vendors A, B, and C. Some GPS data was independently obtained by the Auditor General in order to corroborate or obtain more detail than was provided through PFR-UF.

Physical observation corroborated findings from original audit

Based on this, we:

- Found the accuracy of tree service locations reported on crew work logs had improved and now matched better with GPS data, but overall accuracy of activities reported still need improvement

- Confirmed that many issues from our original audit regarding operational efficiency persist

- Identified further issues not demonstrable through a review of documents alone

Issues are rooted in PFR's approach to tree maintenance

Of note is that many of the physical observation findings are applicable across City and contracted tree maintenance crews. This points to the issues being rooted in PFR's approach to tree maintenance, and not just how PFR-UF manages its contracts.

A. Prioritize Actions to Improve Operational Efficiency and Productivity

City needs to minimize non-productive time

Where the 2019 tree maintenance audit identified a potential productivity loss primarily related to potential discrepancies in crews' reported locations, this follow-up review shows improvement in work location reporting, but highlights the need to address losses from avoidable down time while waiting for parked vehicles to be removed, excessive unreported breaks, and other non-productive or idle time at job sites that are all paid by the City.

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[12] Daily logs are also referred to as Daily Work Activity Reports or "DWAR" throughout this report.

[13] Not all GPS records for Vendor A and B were available via the City's live access to the vendors' systems. PFR-UF staff had to request the vendors to provide such records because PFR-UF did not obtain or retain these records themselves.

Crews actively working on trees for, on average, less than half of the eight-hour standard paid work day

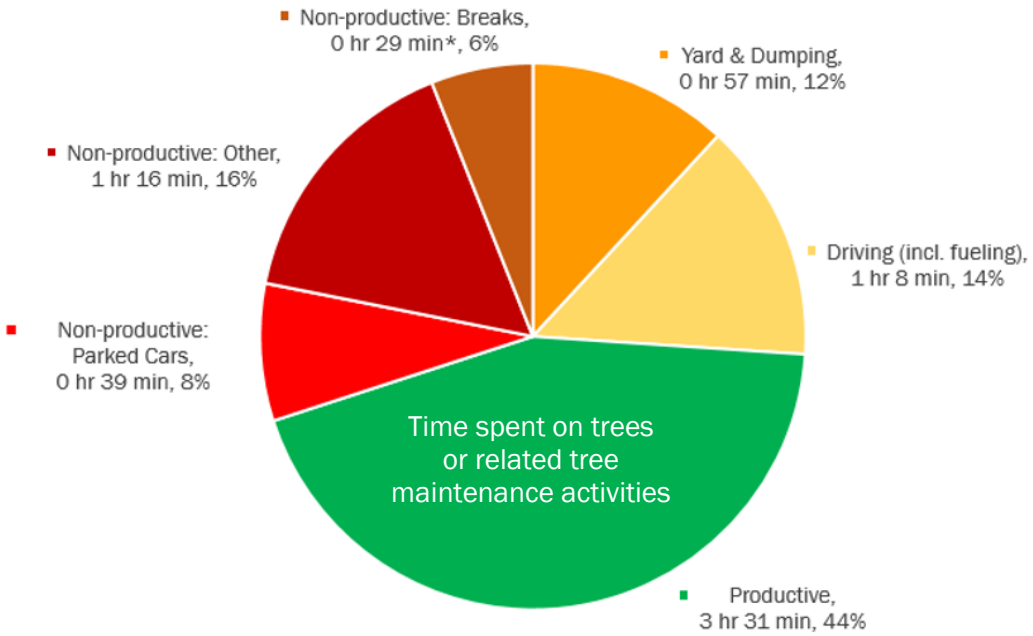
In this follow-up review, as shown in Figure 2, we found that, on average, in a standard eight-hour paid work day, vendor crews were actively working on trees for only 3 hours and 31 minutes (44 per cent of the day). In contrast, as shown in Figure 3, these crews reported on their daily logs, on average, spending 4 hours and 42 minutes (59 per cent of the day) working on trees. Similar results were observed for City crews.

Each crew may have from two up to five crewpersons on a given day, depending on the type of work. For the purposes of quantifying "productive" time actively working on trees, we considered the crew to be productive if at least one of its crewpersons was observed doing something directly related to a tree maintenance activity. For example,

- setting up work site (e.g., putting out pylons, work signs, repositioning the truck, etc.)
- preparing to work (e.g., donning safety equipment, getting out machinery or tools, clearly discussing or inspecting the tree to be serviced, etc.)
- performing tree maintenance activities (e.g., pruning, tree removal, chipping branches, etc.)
- cleaning up the site (e.g., blowing leaves, sweeping, putting away pylons and work signs, etc.)
- other related activities (e.g., speaking with local residents about the tree, brief phone calls, on-site inspections by PFR-UF staff, completing paper work, etc.)

This is not to say that all crewpersons were observed working efficiently or effectively at a given time – as this was sometimes not the case. Daily logs do not separately record the productivity of each individual crewperson on the team.

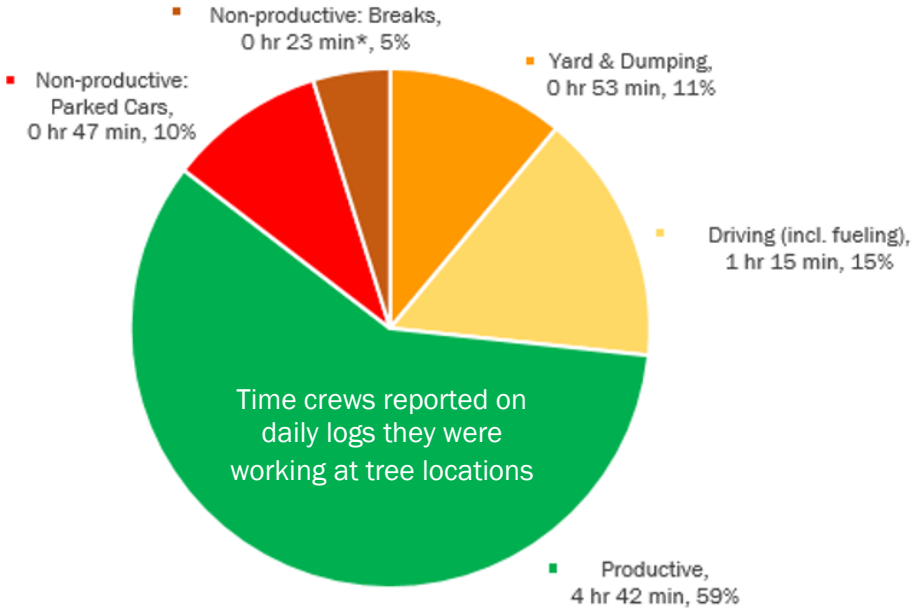
Figure 2: Average Time Spent on Trees by Vendor Crews in a Standard Eight-Hour Paid Work Day, Based on Auditor General's Observations During This Follow Up



*Some crews were observed to have significant down time while waiting for parked vehicles to be removed. Some breaks are included as "Non-productive: Parked Cars" because that is how those crews reported the time on their daily logs (i.e. they reported less than 30 minutes of breaks on their daily logs even though they were physically observed to have taken breaks while waiting for parked cars to be removed).

**All crews were observed to have taken 30 minutes for lunch (unpaid). That time is not included in this chart.

Figure 3: Average Reported Time on Daily Logs for Vendor Crews Observed During the Follow-Up Review, Based on Eight Hours of Paid Working Time a Day



*Some crews observed did not report all their breaks on their daily logs. One crew reported breaks of 45 min in total, which PFR approved and paid in error.

**The half hour lunch reported by crews is unpaid and is not included in this chart.

Downtime due to parked cars, extended and unreported breaks and other idle time, impacts productivity

Crew productivity is affected by:

- down time while crews are waiting for parked cars to be removed or waiting for hydro hold-offs – the amount of down time varies from crew to crew and from day to day. For example, on one day a crew we observed reported over four hours waiting for vehicles to be removed; other crews did not report any down time related to parked cars.

- breaks recorded on daily logs as well as breaks and lunch times that go unreported on daily logs that exceed the allowable limits prescribed by the contract[14].

[14] PFR-UF followed a practice of paying vendors for 30 minutes of break time even though contracts did not provide for any paid breaks. The contract allows for 30 minutes of lunch that is not paid for by the City.

- other non-productive time where crews report parked vehicles obstructing work but no vehicle was actually observed to be blocking trees or idle time at job sites not spent on trees or related tree maintenance activities. This included extended periods of time sitting, standing, chatting or smoking outside or in vehicles or where crewpersons were using their phones for extended periods of time.

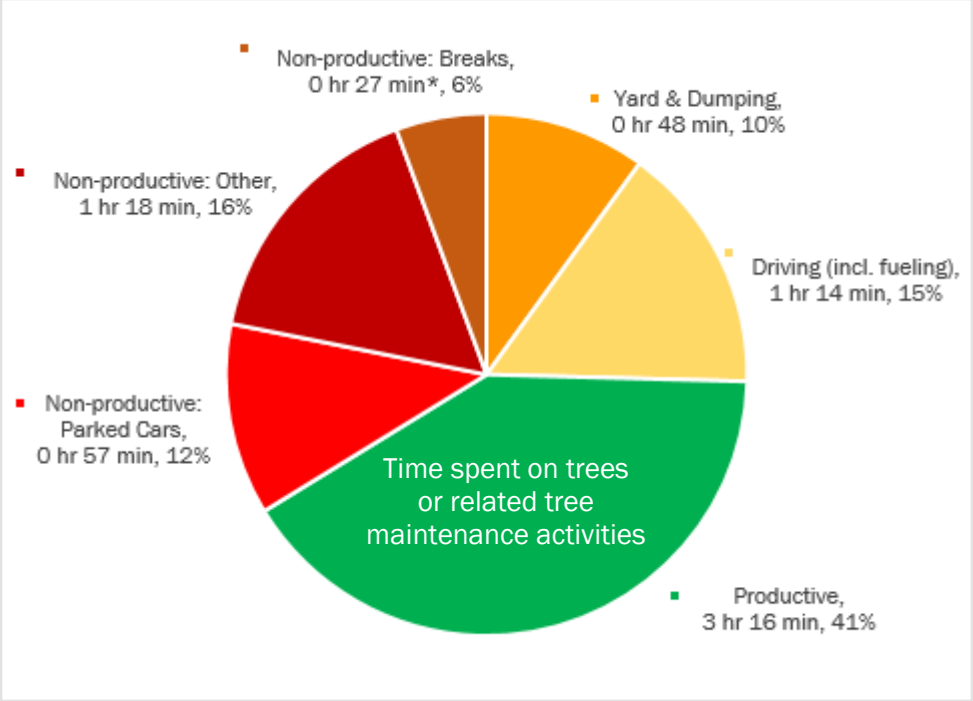
Over a quarter of the day, crews were taking breaks, idle, or otherwise not observed to be productive and actively working on trees

In our physical observations, vendor crews were not productive for about 2 hours and 24 minutes (30 per cent) of the day, on average. For the remaining 2 hours and 5 minutes (26 per cent) of the day, on average, the crews spent their time on supporting activities, not on trees.

As shown in Figure 4, City crews also spent less than half the day actively working on trees. City crews actively worked on trees for slightly less time than contracted crews, on average, and spent more time at the yard.

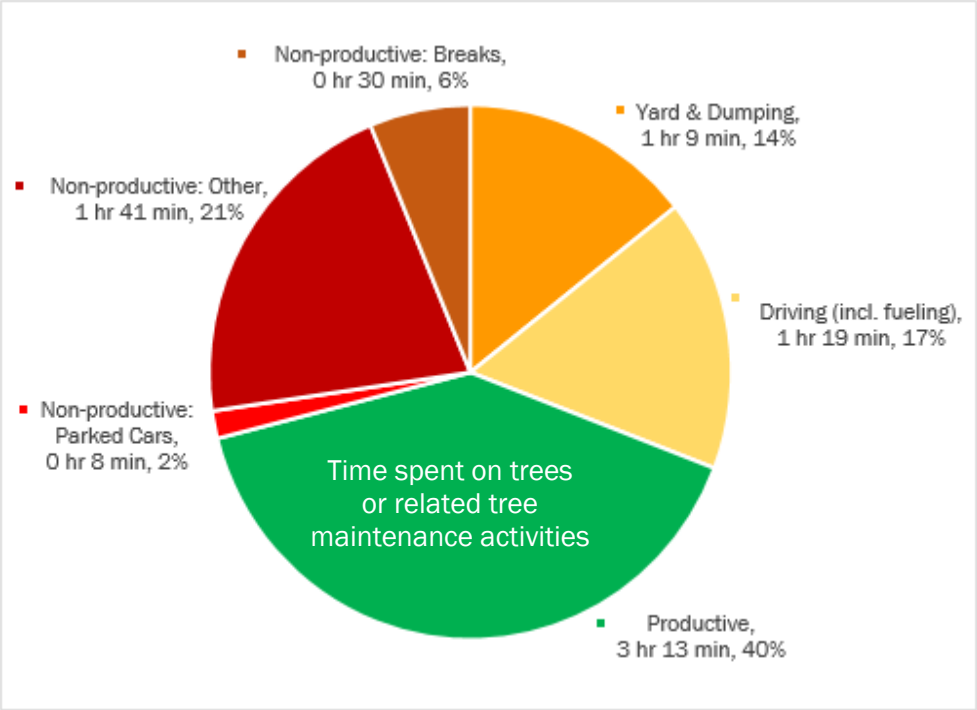
Figure 4: Analysis of Productive Time for Crews Observed During the Period from Jul 31 – Sep 25, 2020

Vendor A

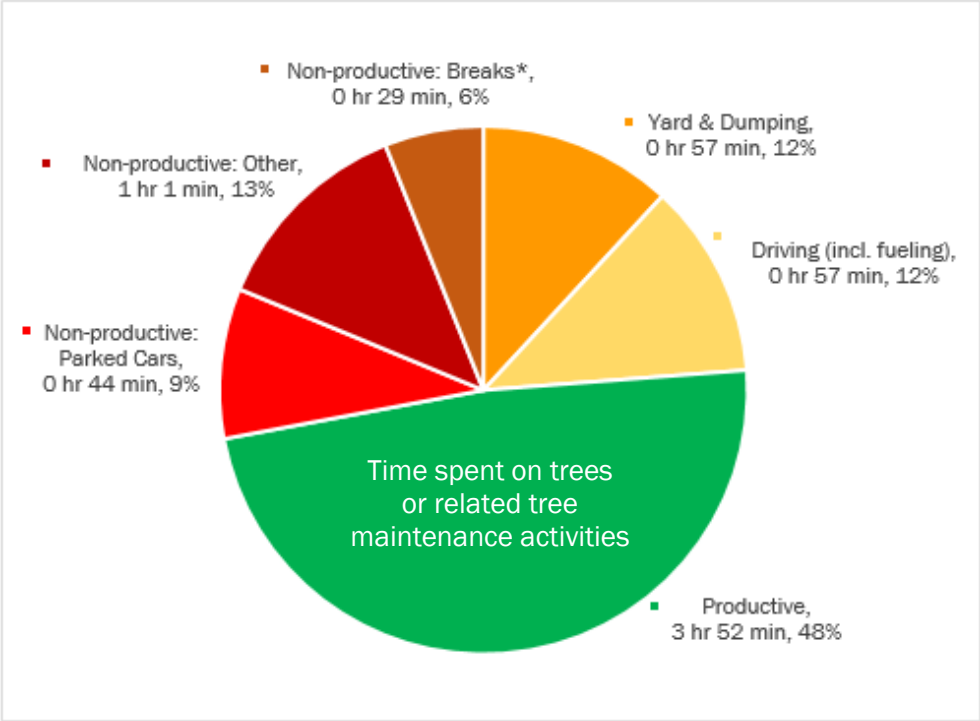


*Some crews were observed to have significant down time while waiting for parked vehicles to be removed. Some breaks are included as "Non-productive: Parked Cars" because that is how those crews reported the time on their daily logs (i.e. they reported less than 30 minutes of breaks on their daily logs even though they were physically observed to have taken breaks while waiting for parked cars to be removed).

Vendor B

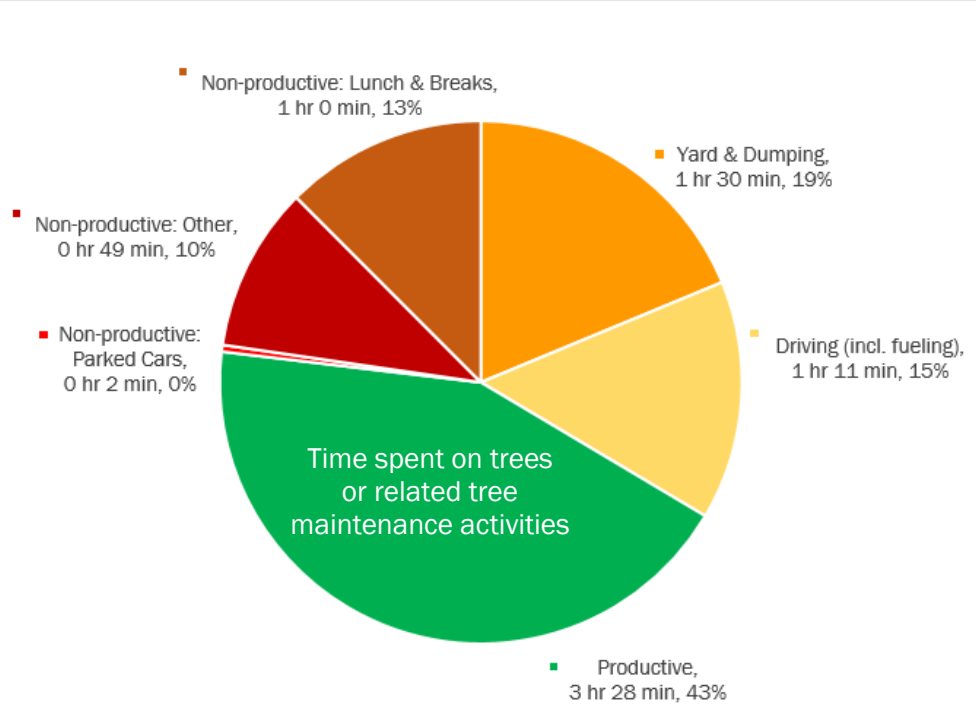


Vendor C



*Some crews were observed to have significant down time while waiting for parked vehicles to be removed. Some breaks are included as "Non-productive: Parked Cars" because that is how those crews reported the time on their daily logs (i.e. they reported less than 30 minutes of breaks on their daily logs even though they were physically observed to have taken breaks while waiting for parked cars to be removed).

City Crews*



*As City employees, City crews are allowed 60 minutes for lunch and breaks within their 8-hour paid work day.

PFR needs to take action to increase overall productivity

The root of this issue is that PFR-UF has not clearly set out expected outcomes for tree maintenance. PFR-UF has not defined expected productivity even though time spent actively working on tree service is a key outcome for tree maintenance paid on an hourly basis. PFR-UF management is accountable for properly planning and monitoring existing and future tree maintenance work so that that better outcomes are efficiently and effectively achieved. This includes maximizing the amount of time City and contracted crews spend working on the trees to complete work with minimal deficiencies.

To increase overall productivity, PFR-UF leadership needs to set the tone and take action to:

1) **Increase crew productivity** (i.e., time actively working on trees at job sites)

2) **Reduce time spent on supporting activities** (i.e., time spent at the yard, disposing of wood at wood chip compounds, driving to/from various locations, etc.)

3) **Minimize non-productive time** (e.g., idle time waiting for parked vehicles to be moved, excessive breaks, other non-productive time not working on trees, etc.)

By improving productivity by 30 minutes a day, the City will gain $1M worth of work on trees each year

If every crew increased the time spent directly working on trees by 30 minutes per eight-hour shift, we estimate that the City would gain over $1 million worth of work on trees each year[15]. It is our view that crews spending at least half the day (i.e., four hours per shift) actively working on trees is a reasonable first target. This section of the report highlights key actions for PFR-UF to improve productivity and value-for-money for tree maintenance services.

A. 1. Question Discrepancies in Daily Logs – the GPS is Accurate

2019 audit noted discrepancies between reported activities in daily logs and vehicle GPS

In our 2019 audit, we reported that in 28 of the 45 sampled contractor crews' logs (62 per cent) we noted discrepancies between the reported activities in the daily logs (DWAR) and the vehicle GPS reports, where GPS showed:

- vehicles did not stop near the tree service locations, and / or
- vehicles went to locations that were not related to the assigned tree service locations, and these locations were not noted in the daily logs

GPS Accuracy

In this follow-up audit, we set out to confirm that GPS could be relied on to show where vehicles are located.

Research shows GPS is accurate

1. Our research on GPS accuracy indicates that GPS devices are accurate within a few metres. For example, literature from the GPS provider for two of PFR-UF's tree maintenance vendors, as well as the City's GPS provider, indicates "GPS coordinates are accurate to approximately 2.5 m in any direction".

GPS providers corroborated research

2. Corroborated our research with interviews with GPS providers. Our discussions with the vendors' GPS providers corroborates that GPS is generally accurate to within three to five metres. One of the GPS vendors is also the vendor of the GPS systems used on City vehicles, including the GPS installed in PFR-UF trucks and GPS installed on winter maintenance equipment. This vendor's staff advised us that, in Toronto, their systems are generally accurate to within one metre. Exhibit 1 provides further information on GPS accuracy.

Physical observations confirmed what GPS is telling us

3. Confirmed that GPS data agreed with physical locations of vehicles we observed over the two-month period of this follow-up review.

[15] Based on 2019 contract rates and crews.

Crews work in close proximity to vehicle location

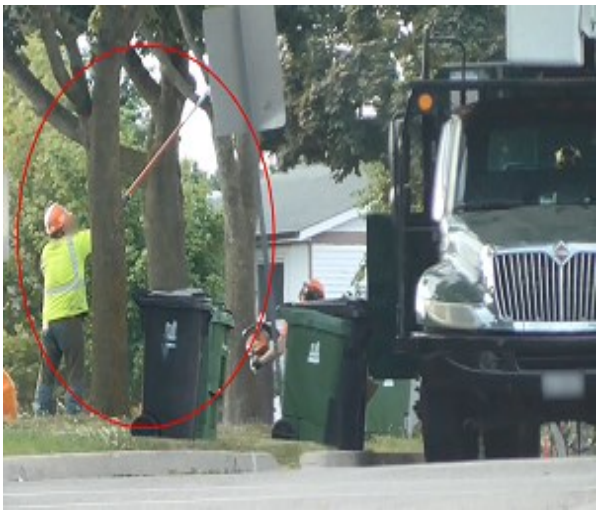
Our physical observations also confirmed that crews usually parked trucks beside the tree or job site they were working on. The vast majority of the crews we observed needed the truck boom and bucket, chipper or other equipment in, or attached, to the truck to be positioned right by where they were working, as shown in Figure 5. Even when crews used more portable equipment such as pole saws or stumping machines, they usually worked in close proximity to the truck, as shown in Figure 6.

Discrepancies between GPS and daily logs should be promptly questioned and explanations documented

Given that our physical observations confirm that crews were located where the GPS shows them to be and that GPS is accurate, in the future, PFR-UF staff should promptly investigate any discrepancies. Whenever GPS locations and times differ from what is reported on daily logs and work orders, PFR-UF staff should properly follow-up and document explanations. It is important for PFR-UF staff to use longitude and latitude coordinates captured by the GPS when identifying and assessing discrepancies, as this provides a more precise location of the truck, particular when completing work at locations with one fixed address covering a large area.

Figure 5: Examples of Boom Truck and Chipper Parked by Tree Being Serviced

Figure 6: Examples of Workers with Portable Tools Working Slightly Away from the Truck



Daily Log (DWAR) Accuracy – Recording of All Stops

Reporting of work locations on daily logs has improved since 2019 audit

In the 2019 audit, we raised concerns about the discrepancies between what the crews were recording on their daily logs compared to the information from the GPS devices. We identified that discrepancies should be questioned.

Since the audit, we have noted that work locations reported on the daily logs more closely reflect stops on the GPS reports. This is good news.

The increased accuracy of work locations recorded in daily logs is likely due to the increased scrutiny from the 2019 audit, together with new procedures PFR-UF put in place to perform weekly GPS reviews[16], and ongoing discussions with the vendors to resolve discrepancies[17].

Recording of all unscheduled stops is still an area for improvement

One area where improvement is still necessary is the recording of stops unrelated to the assigned tree service locations (i.e. unreported breaks) to help account for how crews spend their time.

While the accuracy of crews' daily logs is the vendors' responsibility, PFR-UF staff need to work with vendors to ensure crews are accurately recording special stops and related times on their daily logs. Having all stops properly recorded can help PFR-UF to analyze and identify ways to increase crew productivity going forward.

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[16] FPIR guidelines were updated in July 2019 to include a requirement to review DWAR and GPS reports on a weekly basis. New GPS guidelines were implemented to support the DWAR / GPS review process in May 2019.

[17] IE14.8 Ensuring Value for Money for Tree Maintenance Services - Update and Legal Advice

GPS data shows locations crews frequently stop at that are not accurately reported on daily logs

For example, over the two-month period of our follow-up review, we regularly observed visits to coffee shops, restaurants, or stores to purchase food, beverages, or other items. While some of these visits were recorded properly on daily logs as break or lunch times, we also noted that some City and contracted crews continue to routinely stop at certain locations for food, beverages or other purchases that go unreported on daily logs. These stops often occur during times the crews report as yard, fueling, or driving time. All are activities the City pays for. For example:

- Over a five-day period, a City crew made a stop at the same shopping plaza each morning but reported on their daily log that they were either at the yard, driving or doing a pre-trip inspection in the yard. The stops ranged from four to 31 minutes. The average stop was 12 minutes.

- Each morning over a one week period, one vendor's crew reported on their daily log they were 'driving' to their assigned work locations, when in fact they stopped at the same coffee shop each morning. These stops ranged from 10 to 16 minutes. The average stop was 13 minutes.

- Similarly, another vendor's crew stopped each morning over one week period at a coffee shop before proceeding to their work location. At the time of the stops, the crew reported they were 'driving' or 'fueling.' Each stop ranged from 8 to 22 minutes with the average stop being 13 minutes.

- Another vendor's crew went to the same coffee shop each morning before going to their required work location. For each of these stops in a one week period, the crew reported they were either 'driving' or 'fueling' but instead, were stopped at the coffee shop for five to 15 minutes each morning. The average stop was nine minutes.

Crews frequent one plaza so often that different crews have been captured by Google Maps' Street View on different dates

At one stop location (a plaza), crews frequented the plaza so often that vendor vehicles were even captured by Google Maps' Street View images on multiple occasions.

As observed directly by the Auditor General herself, as part of the 2020 follow-up review

Source: Google Maps' Street View (October 2019)

Source: Google Maps' Street View (September 2018)

Source: Google Maps' Street View (January 2018)

Logs should be checked for accuracy and reviewed for productivity and completeness

PFR-UF has access to the GPS data which they could have used to readily identify the locations crews frequently stop at. These types of stops are an issue known to PFR-UF management and staff who sign-off on the daily logs. PFR-UF should be verifying crews accurately record information (including locations, activities, and times of any stops) on daily logs and be reviewing the logs for productivity and completeness. Where issues are noted, daily logs and invoices should be adjusted in accordance with the contract.

PFR-UF's quality control and GPS reviews did not identifying discrepancies that should be questioned

Also, as part of the regular quality control inspection procedures, PFR-UF staff should be identifying these habitual stops and questioning whether this should be unbillable time, especially if the crew has already reported their breaks and lunch.

In one of the four crews we observed where PFR-UF had performed a quality control inspection and compared the daily log to the GPS report, the GPS shows that the crew stopped for 10 minutes at a plaza commonly frequented by tree maintenance crews (to go to a restaurant). Based on the FPIR records, PFR-UF staff did not identify this as a discrepancy to be questioned even though the crew did not report this stop as a break and had already reported two other break and lunch times on their daily log.

A. 2. Assess Productivity When Measuring Outcomes

Crews are not fully productive

We observed that crews were improving their accuracy when reporting their work locations. However, by watching crews in action when they didn't know they were being observed, we found that while trucks were at the reported locations, crews were not fully productive and actively working on trees as reported.

On average, crews were observed actively working on trees for only 3.5 hours out of an 8-hour standard work day while daily logs indicate they worked on trees for 4.7 hours

In this follow-up review, as previously shown in Figure 2, we found that, on average, in an eight-hour standard work day, vendor crews were actively working on trees for only 3 hours and 31 minutes (44 per cent of the day). In contrast, as previously shown in Figure 3, these crews reported on their daily logs, on average, spending 4 hours and 42 minutes (59 per cent of the day) working on trees.

We observed,

1. Significant idle or non-productive time while on site
2. Unreported break and extended break and lunch times
3. Late starts or early endings to the work day

Examples of what we physically observed in the field are included later in this section of the report.

Productivity concerns were observed across various types of tree maintenance services

We observed productivity concerns across a variety of tree maintenance services PFR-UF oversees, including tree pruning and area street tree maintenance, tree removal (topping, stemming, stumping, and fill and seed), storm cleanup, and other assigned work.

Service delivery output and outcome measures for tree maintenance should consider expected productivity levels

To reinforce increased productivity, PFR-UF needs to set appropriate expectations for the outcomes it wants and PFR-UF needs to measure whether the City and contracted crews are meeting those expectations and delivering value for money. For example, based on productivity levels and operating inefficiencies identified in our 2019 audit and in this follow-up, it is our view that City and contracted crews could have been delivering more tree maintenance within the existing number of crews and budget. Going forward, PFR-UF should be establishing higher expectations for outputs and outcomes on both hourly rate and unit-priced contracts.

Examples of Allegations We Received From Toronto Residents

Torontonians are also concerned about tree maintenance productivity

Crew productivity is not a problem that we alone are observing. Some Toronto residents are so concerned that detailed complaints are being forwarded to the Fraud & Waste Hotline. For example, the Auditor General received the following complaint for investigation in September 2020.

While the location noted by the complainant was not included in our follow-up review, the complaint is consistent with what we were independently observing around the same time for the same and other crews, during our follow-up review:

One complainant alleged quantity of visible work versus apparent idle time was baffling

> *"We and many others on the street have been rather surprised at the recurring presence of the [vendor] vehicle and chipper on the street for extended durations on 3-4 days over the past couple of weeks. The quantity of visible work versus apparent idle time, including staff sitting around on lawns on their cell phones has been rather baffling.*
>
> *If the city was aiming to save money via privatization of services, I would think some detailed observation of such crews would be essential as a recurring strategy to suitably prevent this. When a vehicle arrives circa 7:45/8am, sits for an hr, some cutting occurs, and a branch sits in the chipper for an hr or more before that step (a few minutes) is performed, and the vehicle then lingers another hr or two, returning the next day a few trees down the street to repeat the scenario, it would certainly appear that some rather significant costs are being imposed on the city.*

Auditor General observed similar behaviours to those raised in complaints

> *I assume the next step will be to forward me to urban forestry, as was done with other residents raising similar concerns. It stands to reason that UF should already be on top of such matters. Our intent in flagging this is to raise concerns that our tax dollars do not appear to be being efficiently utilized. This is certainly not the first time we have observed such apparent behaviour by contracted city tree services in the area, and perhaps this warrants some review of city policies and contract terms with such service providers."*

Other examples of similar allegations we have received are included in Exhibit 2. While the Auditor General observed similar behaviours to the concerns raised in these complaints, we did not confirm the validity of specific complaints. This follow-up review, instead, enabled us to independently observe what was happening in the field.

Other examples of allegations received included in Exhibit 2

PFR is also directly receiving complaints. Examples of some of the complaints PFR-UF has tracked are also included in Exhibit 2. When complaints are made subsequent to events occurring, they cannot be validated through physical observation. PFR can conduct physical monitoring of crews to confirm whether similar behaviours are observed which would point to a systemic concern that needs to be addressed.

In some cases, PFR-UF noted that adjustments were made to payments as a result of their review of complaints. However, in most cases, PFR-UF staff did not identify any productivity issues after reviewing complaints. For example, notes captured in the FPIR database instead indicate, *"After reviewing the GPS report, times on DWAR has been verified as correct"* or, *"No deficiencies found during on-site inspection. The amount of work that has been completed prior to inspection is satisfactory."*

PFR-UF did not spend time observing the crew without their knowledge to gauge productivity.

Duty to report suspected wrongdoing to the Auditor General

Complaints or allegations of potential wrongdoing by tree maintenance vendors received directly by PFR staff or management, were not reported to the Auditor General's Office. This is contrary to the *Disclosure of Wrongdoing framework of the Toronto Public Service By-law* adopted by City Council in 2015. Under Chapter 192 of the Toronto Municipal Code, all employees have a duty to report suspected wrongdoing.

Management has a duty to report the results of their investigations of alleged wrongdoing to the Auditor General

Allegations of wrongdoing[18], including allegations of waste / mismanagement of City resources or assets, received by management must be immediately reported to the Auditor General[19]. Management is also required to report the results of their investigations of alleged wrongdoing to the Auditor General.

City Council directed all staff to report allegations of potential wrongdoing by third-party vendors to the Auditor General

These obligations were further reinforced in 2018 in response to the Auditor General's report "*Raising the Alarm: Fraud Investigation of a Vendor Providing Life Safety Inspection Services to the City of Toronto*", when City Council directed:

> *"the City Manager to advise* ***all staff to report any allegations*** *of potential wrongdoing involving City resources,* ***including potential wrongdoing against the City by third-party vendors****, to the Auditor General for further investigation."*

The communication to all staff from the Interim City Manager in response to Council's direction is included in Exhibit 3.

This reporting requirement is necessary to ensure all allegations of fraud and other wrongdoing are independently investigated and to reinforce transparency and accountability. Reporting allegations related to tree maintenance vendors is even more important because the Auditor General had previously raised questions about time charged to the City in her 2019 audit.

PFR-UF management are not fulfilling their duty to report allegations of potential wrongdoing to the Auditor General

Given Council's very clear direction that staff report *potential* wrongdoing by third-party vendors to the Auditor General, it is concerning that PFR-UF management are not reporting allegations of potential wrongdoing (waste).

Complainant alleged vendor crew was stretching out breaks

For example, at the end of January 2020, a local resident submitted a detailed complaint to a Councillor and a PFR-UF Supervisor by email. In the complaint, the local resident provides a timeline of events:

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[18] Chapter 192 of the Toronto Municipal Code defines "wrongdoing" as "*Serious actions that are contrary to the public interest including but not limited to: (1) Fraud; (2) Theft of City assets; (3)* ***Waste: mismanagement of City resources or assets*** *in a willful, intentional or negligent manner that contravenes a City policy or direction by Council; (4) Violations of the City's Conflict of Interest rules set out in Article IV; and (5) Breach of public trust.*"

[19] Allegations of wrongdoing received by City management must be immediately reported to the manager's Division Head or the Deputy City Manager or City Manager. Allegations of wrongdoing received by Division Heads, Deputy City Managers or the City Manager will be immediately reported to the Auditor General.

"...Timeline

- *Around 9am - 9:35am – employees from [vendor] cut tree branches and left rope on the tree*
- *9:40am – 11:30am - both employees seen standing around boardwalk railing area and witness them walking on the waterfront.*
- *11:30am - 11:37am – both employees came back to the base of the tree to cut some branches on the ground.*
- *11:45am – witnessed one employee with yellow vest going back to lake area for a smoke and other person went to their truck – he kept taking his yellow vest off. Then both employees went back to the lake.*
- *12:30pm – both employees began to put branches in the wood chipper and removed the rope from tree.*
- *12:50pm – employees from [vendor] left the park.*

I was surprised that an hour job took this long..."

Toronto resident escalated concerns that productivity issues raised were not being taken seriously

After further email exchanges with the PFR-UF Supervisor, the local resident then escalated concerns regarding productivity of the tree maintenance crew directly to the PFR-UF Director by way of an email in late February 2020.

That same day, the PFR-UF Director forwarded the complaint email to his staff to look into the matter and provide a response. In his email, the PFR-UF Director requested that a full investigation be completed with time logs and GPS reports, as well as a full list of complaints that had been noted.

Further details on this complaint and actions taken by PFR-UF Management are included in Exhibit 2.

PFR-UF staff recognized the complaint was a report of possible fraud and waste

In March 2020, PFR-UF staff responded to the complainant. The response makes the following comment [emphasis added]

"Thank you for your patience while Urban Forestry staff investigated your complaint further. I also want to thank you for your attention to this matter, and for taking the time to provide the evidence collected. ***The City of Toronto takes reports of possible fraud and waste very seriously*** *and financial accountability is a top priority for the City of Toronto.*

PFR-UF management investigated the complaint without advising the Auditor General

PFR-UF confirmed to the complainant that the Manager and Supervisor of Urban Forestry Operations formally reviewed this complaint and provided the complainant with investigation findings.

PFR-UF reported a vendor crew returned to the site to complete more work at no charge

PFR-UF advised the complainant that, after PFR-UF's investigation and site inspection, a vendor crew returned to the site and completed the additional tree maintenance work at no charge to the City.

To ensure independence, the Toronto Public Service By-Law requires management to report allegations and investigation results to the Auditor General even when they conclude there is no wrongdoing based on their own investigation

Based on their response to the complainant, it appears PFR-UF management was aware that the complaint was an allegation of potential wrongdoing (waste) by a third-party vendor. Even though PFR-UF concluded no wrong-doing on the part of the vendor, in accordance with the Toronto Public Service By-Law and City Council's 2018 direction, **PFR-UF managers should have immediately reported the complaint to the General Manager, PFR, and the Auditor General**, especially in light of the 2019 report. Furthermore, PFR-UF management should have provided the results of their investigation to the Auditor General. This did not occur.

Our review of this matter is ongoing

Our review and investigation of this and other related matters is ongoing and may be reported on separately to City Council should the need arise.

Tips for supporting the City's ability to investigate

Exhibit 2 includes some tips for Toronto residents on how to support the City's ability to investigate these types of allegations.

Productivity is a Known Area of Concern

Productivity (including inefficient use of time or excessive idle time) is not a new concern. We raised this as part of our 2019 audit.

Forestry performance inspections are supposed to help identify productivity issues

Efficient use of time is one of the categories PFR-UF tracks as part of its FPIR processes. PFR-UF staff are expected to assess whether there are any issues with efficient use of time as it relates to any activity (e.g., excessive time to prune a tree, driving time, etc.).

For example, the FPIR database notes:

- *"No work had started when I showed up on site. [Vendor] crew was not even set up at the address indicated on the work order."*
- *"At the end of day [vendor crew leader] had unproductive time from 1pm to 3pm."*
- *"[Vendor] crew leader waited at gate till 9am to start work. Should have walked to tree to start processing it while waiting for gate to get opened."*

External consultant also advised PFR management that crews were finishing early and delaying or slowing work instead of beginning another job

An external consultant engaged by PFR to conduct an "Urban Forestry Contract Management Review"[20] also advised PFR management in March 2020 that [emphasis added]:

> *"**There have been instances where the vendor crews finish early** and do not check in at the end of the day for any additional tasks. Rather, **they will delay their activities in order to not begin another job**. This requires more oversight from the Foreperson to ensure the contractors are using time effectively."*

We had similar observations in this follow-up review.

Given known productivity and efficiency concerns, once PFR was made aware of the Consultant's observations, we would have expected PFR to conduct a broader investigation and observations as part of their review of the vendors' work logs and associated GPS records to confirm accuracy of work completed and identify discrepancies and inefficiencies.

Common Productivity Concerns Identified During Physical Observations of Crews

Accurate reporting of activities is key when addressing productivity

Accurate reporting of activities is key when addressing productivity. While we do not expect perfection, it is reasonable to expect that the daily logs reflect the crew's activities (e.g., time spent actively working on trees, specific supporting activities, stops at other locations not related to City work, break and lunch times, and other downtime / idle time). We estimated that every five minutes of leeway afforded daily to every vendor crew equates to about $167,000 annually, based on 2019 contracted rates and crews.

Regardless of whether work is charged on an hourly rate or unit rate basis, PFR-UF needs accurate information to be able to understand and assess productivity of crews and to be able plan and manage the volume of work required to deliver on its service level commitments.

[20] Shortly after the Auditor General's 2019 audit was completed, PFR requested the Internal Audit Division to engage an external consultant on their behalf to conduct a limited-scope review of UF's contract management practices for approximately $60,000. The review focused only on activities carried out during May 3, 2019 to September 30, 2019 and did not include an assessment of the accuracy of GPS tracking information maintained by the vendors. The review did not include any physical monitoring or involve any communication directly with the vendors.

PFR's procedures require staff to review the daily logs to ensure there is efficient use of time

PFR-UF's procedures for daily logs (August 2019) clearly state [emphasis added]:

> *"It is **extremely important that the DWAR is completed accurately** and in real time ... The information documented on the DWAR is also used to reconcile invoices for payment... **The City will review the DWAR to ensure** it is filled out completely and **there is efficient use of time** based on the review of the DWAR and W/O requirements information only."*

A previous version of the procedures (August 2017) provided to us during our 2019 audit states [emphasis added]:

> *"**All DWAR's must be signed off** by the FF1* [Forestry Foreperson] *or Supervisor on the designated line at the bottom of the DWAR **and reviewed for accuracy, productivity and completeness by the end of the next working day**"*

Some crews not actively working for extended periods of time as reported on their daily logs

What we found was that some crews were not accurately reporting their actual time they spent actively working on trees and / or other supporting activities the City pays for. PFR-UF staff had signed off on these daily logs and PFR-UF supervisors had approved the related invoices and the supporting daily logs, which were then paid. Real-time physical observations of crews and GPS data showed trucks could be at the location noted on daily logs for extended periods of time, but crews were not actively working on trees.

Crews reported on daily logs that they were at job sites and provided very specific details about the trees they reported working on (e.g., type, size and location of tree, work order number, time spent on tree, etc.). However, our observations show that many crews were not actively working on trees for at least a portion of the time they reported doing so on their daily log.

PFR-UF staff are not often questioning the reasonability of time charged to complete the work

PFR-UF staff signing off on daily logs and PFR-UF's FPIR processes have not identified the systemic issues regarding productivity that we have found through our extensive observations in the field. They are not often questioning the reasonability of time charged to complete the work at various job sites.

PFR-UF management advised that there is no arboricultural industry benchmark for the time it takes to perform tree maintenance work, and that there are many factors that impact how much time is required.

Fundamental culture shift within PFR-UF is needed

Still, crews are spending, on average, less than half the day actively working on trees. Further, PFR-UF forepersons and supervisors have not identified that time reported on daily logs as working on trees is significantly higher than actual time spent on trees. This indicates to us that a fundamental culture shift within PFR-UF is needed to better understand and plan how much time and work effort is required to complete tree maintenance activities. Otherwise, the City will not be effective in improving how it monitors and manages City and contractor crew performance, prepares scope of work and estimates to use in procurement call documents, and plans and assigns work packages.

a) Significant idle or non-productive time while on site

Many crews with significant idle time

Many crews indicated on their daily log that they were working on trees when we observed idle or non-productive time.

Some crews needed less time than reported to complete work

- Some crews needed less time to complete actual work on trees than reported, as illustrated in Examples 1, 2, and 5 on the following pages. We expected crews to efficiently prepare the work site, complete the work, tidy the work site, and then promptly move on to the next work assignment. Instead, as illustrated in Example 2, we found crews were not always starting work upon arrival or were not efficient with their time when preparing to work or wrap up at the site before moving on. Some crews lingered at the work location after all tasks were complete, as illustrated in Example 3.

Some crews were at reported location but we did not observe work being completed

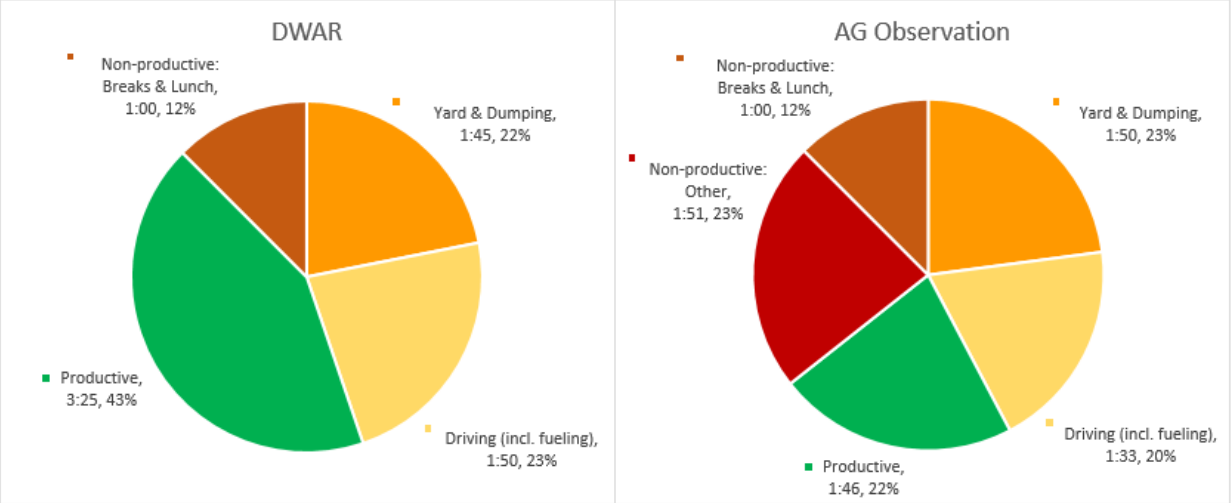
- Several crews were at the location reported on their daily log, but we did not observe reported tree maintenance work being completed at all, as illustrated in Examples 1, 4, and 5.

Example 1: Significant idle time observed while City crew reported working at tree location

Also, on-site and quality control inspections did not properly identify inefficient use of time and a discrepancy from GPS that should have been questioned

A City crew reported working at four tree service locations for less than half the day (3 hr 25 min) in total on their daily log.

Based on our physical observations and GPS data, we estimate crew was actively working on tree maintenance activities less than ¼ of the entire working day (1 hr 46 min) or just over 50% of the time the crew reported working on trees.



*Note: the time spent on each activity in the pie charts is denoted by "hh:mm", which represents time in hour and minutes. For example, on their daily log the crew reported 3 hr and 25 min of productive time; we physically observed the **crew actively working on the trees for 1 hr 46 min**.*

There was about 2 hr 51 min of the day where the crew was not productive. This exceeds reported breaks and lunch by 1 hr 51 min (**idle time**). Non-productive time observed includes:

- idle time at tree service locations where actual work took less time than reported to complete*
- extended break and lunch times exceeding the 60 minutes allowed for the day and while their daily log says they are working on trees
- idle time at an unreported location more than 350m away from the tree reported on the daily log**

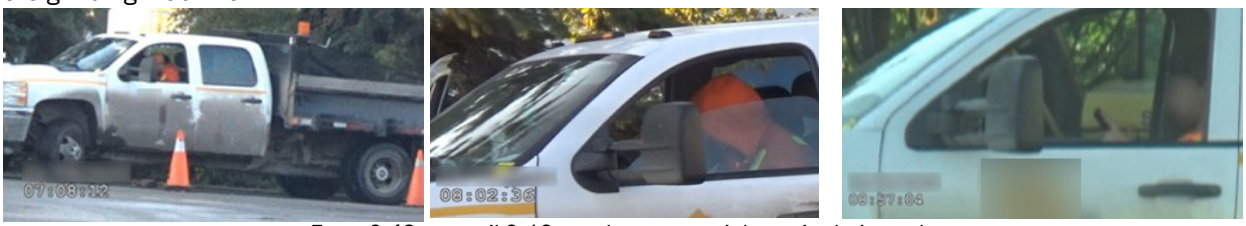
* PFR-UF's **on-site inspection and quality control inspection of the first tree location reported on the crew's daily log was ineffective** – the inspection concluded the reported work reflected an efficient use of time and identified no deficiency. However, we observed that it took the crew 25% less time than they reported to complete the work. Instead, the crew took an unreported break.

The crew reported on their daily log that they had completed removal of a dead tree (topping and stemming) at the last location of the day, in the afternoon. A 350m **discrepancy between the GPS location and reported location** for a tree removal should have been questioned. Our team physically observed the crew sitting in the truck at the GPS location and **did not perform the tree removal work reported on the daily log**.

Example 2: Misreporting time and inefficient use of time preparing to work at the site and wrapping up at the site before moving on

A vendor crew reported on their daily log that they completed stumping and fill and seed at one work location from 07:00 to 11:30, with the first hour spent "searching for stumps".

The crew arrived at the site at 06:48. From the time the crew arrived on site until 09:12, the crew was observed sitting in their trucks much of the time (1 h and 41 min non-productive time). Within the 2 h 24 min time period, there were 43 minutes, where the crew appeared to be checking out the work area and unloading the grinding machine.



From 6:48am until 9:12am, the crew mainly sat in their trucks

Between 09:12 and 11:21 they actively worked on the reported tree maintenance activity for about 1 hr 6 min

The stumps the crew worked on were clearly located beside the truck.

During this time period, they intermittently returned to sit in their trucks (**1 hr 3 min unreported break times**). Once the crew completed stumping and cleaned up the site, we observed them sitting in their trucks for a slightly extended break before moving on (20 min **extended break**).

Crew intermittently returned to sit in the trucks for extended periods of time.
But, they they reported on their daily log that they were working the entire time

In total, the crew was observed actively working for 1 hr 51 min out of the 4 hr 30 min they reported working at this location.

Example 3: Idle time where crew took less time to complete work than reported

A vendor crew reported working on several trees at one tree service location for a total of 5 hr 5 min. Based on our observation, the crew actively worked for 3 hr 3 min.

Multiple times throughout the work day, we observed the crew had significant idle time or took unreported and extended break and lunch times **(about two hours more breaks and non-productive time than reported)**. During these times, the crew was observed sitting in the truck, talking, eating and smoking.

Crew sat in the truck for an hour

For example, in their daily log the crew reported working on their daily log from 13:00 to 14:00. However, during this time we observed the crew sitting in the truck/light-duty vehicle and standing around smoking. The site was already cleaned and the chipper was closed up **(idle time).** No further work on trees was observed after 13:00.

Also, the City paid for all three crew members for the entire eight-hour shift (06:30-15:00). We observed that two crewpersons who came in a light-duty vehicle joined the truck outside a dumping site in the morning at 07:36. The light-duty vehicle left the work location at 13:54 and was not further observed. They were still paid until 15:00.

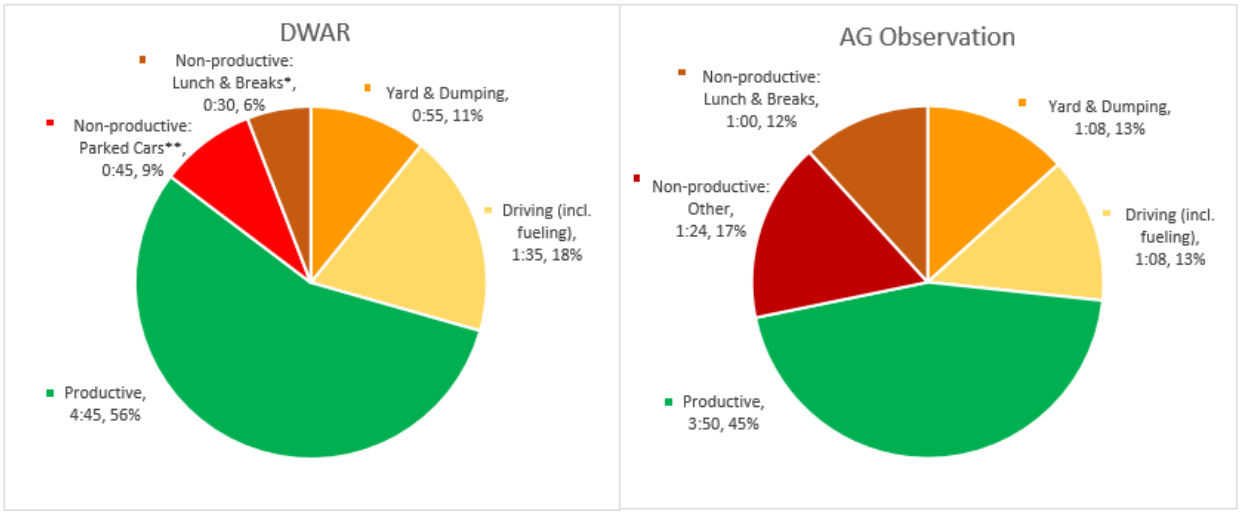
Total reported time actively working on trees compared to productive time observed is summarized as follows:

Activity	Summary based on crew's daily log	AG analysis based on observations and GPS
Yard / dumping	1 hr 05 min	1 hr 17 min
Driving	1 hr 20 min	1 hr 04 min
Productive time	5 hr 05 min	3 hr 03 min
Breaks and non-productive time	0 hr 30 min	2 hr 36 min
Lunch (unpaid)	0 hr 30 min	0 hr 30 min

Example 4: Significant idle time where crew reported work, yet work was not actually observed and idle time where crew took less time to complete work than reported

A vendor crew **reported 5 hr 30 min** at two work locations on their daily log (45 minutes waiting for parked cars to be removed and **4 hr 45 pruning trees**). Based on our physical observations and GPS data, we estimate the **crew was actively pruning the trees for 3 hr 50 min**. For the remainder of the reported work time, we observed the crew taking unreported breaks (the crew did not report that they took any breaks) and a longer lunch than was reported on the daily log.

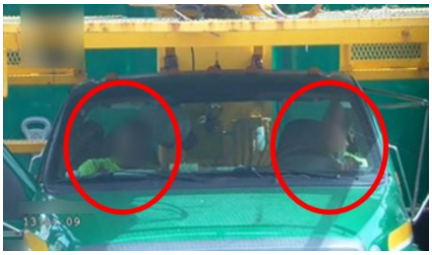
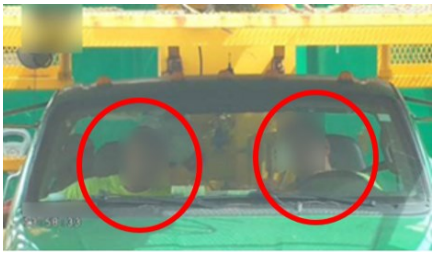
Total non-productive time exceeded the reported 30-minute lunch (unpaid) and 30-minute allowance for breaks (consistent with PFR-UF's practice) by 1 hr 24 min. PFR-UF staff approved the daily log and the related invoice was paid.



*The crew did not report taking any breaks for the day.
**We did not observe any reported parked cars that interfered with the crew's access to the tree.

The following table compares what the crew reported on their daily log to what the Auditor General's team physically observed, which was corroborated by GPS:

Crew's Daily Log	Physical observations corroborated with GPS	
06:30-07:05 yard (35 min)		No observation until crew departed yard
07:05-07:55 driving (50 min)	07:05-07:31	Crew departed yard and stopped at a coffee shop
	07:31-07:39	Crew observed purchasing a beverage (8 min **unreported break**)
	07:39-07:48	Crew continued to Location 1
07:55-08:40 **Location 1** ***Waiting for parked car*** (45 min)	07:48-08:22	Crew observed sitting in the vehicle, drinking coffee and taking a walk. **No parked car was observed**. (**34 min unreported break**). (Our observations about the parked car reported on the crew's daily log is discussed later in the report).
08:40-11:30 Location 1 ***Working on one tree*** (2 hr 50 min)	08:22-11:32	Crew observed setting up, pruning the tree, and cleaning up the site (3hr 10min min productive time) ** PFR-UF staff conducted an on-site inspection (9:02 to 9:35), and concluded no issue and crew had used time efficiently for completed work*
11:30-11:40 drive (10 min)	11:32-11:36	Crew drove to Location 2

	11:36-11:46	Crew observed setting up the site (10 min productive time)
11:40-12:10 lunch (30 min)		
	11:46-12:30	Crew observed walking away, using their phones and eating in a park (44 min **extended lunch** / non-productive time)
12:10-14:05 **Location 2** ***Working on three trees*** *(1 hr 55 min)* *Crew reported on their daily log that they started the third tree but did not complete it*	 *Crew sitting in a park during extended lunch*  *Crew going for a walk during extended lunch*	
	12:30-13:00	Work resumed and was completed at 13:00 (30 min productive time)
	13:00-13:58	Crew was observed sitting in the trucks (**58 min unreported break**)
	 *Crew sitting in the truck at 13:01*  *Crew still in the truck at 13:58*	
		Note*: The crew went back to the same location the next day to complete pruning of the third and fourth trees. The crew reported that they took 3 hr 15 min to complete the work (7:45-11:00). In contrast, we observed the crew was actively working on the trees for only about 2 hours and were otherwise observed using their phones, chatting, and walking away from the tree*
	13:58-14:27	Crew drove back to the yard
14:05-14:40 drive (35 min)		
	14:27-15:00	No observation once crew entered yard
14:40-15:00 yard (20 min)		

Example 5: Idle time where City crew took less time to complete work than reported and crew left tree location earlier than reported

Also, on-site inspection was not effective

A City crew reported tree pruning from 07:35 to 08:05 (30 min), driving five minutes and then working at the next location (from 08:10 to 11:00) on the daily log. We observed the crew was actually at the first work site from 07:40 to 08:23 (43 min) **but only took 15 minutes to complete the work**.

Similarly, for the next two work locations, the crew also took **less time than reported on the daily log to complete the work** and was observed **sitting in the truck more than 20 minutes before departing** to the next work site.

For the last reported work location, the crew reported pruning a 62cm diameter tree inside a park from 12:40 to 14:00 (1 hr 20 min including a 15-minute on-site inspection with PFR-UF Foreperson from 12:50-13:05). However:

- At 12:35 we saw the **crew walking into the park <u>without</u> carrying any tools** or wearing PPE equipment.
- At 12:43 we observed the **crew returning to the truck**.
- At 12:40 until 1:05 the crew's daily log recorded an inspection occurred. Even though **pruning work on the tree had not started** at the time of the reported inspection, the **FPIR on-site inspection record noted that the crew had no deficiencies:**

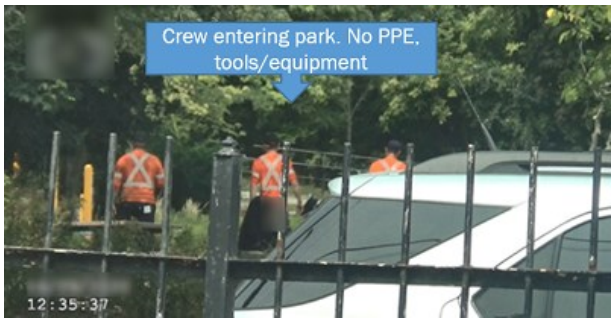
  (i.e., crew's completed work reflects efficient use of time, work order completed to standards, work quality meets proper arboricultural practices, etc.).

  Further, PFR-UF advised

  "that the 62 cm …tree they were working on required climbing and rigging of some limbs."

  [The Foreperson] "was present…inspecting safe work habits, PPE and job set up"

  *"The Crew was gearing up and setting up the site to perform the work that was required, and after the **site visit the crew continued performing work until 14:00**"*



In our view**, the on-site inspection by PFR-UF staff appears to be ineffective**. There was no work underway, no tools used, and no PPE being worn as far as we could see. The crew was observed **in their vehicles until 13:27.**

In addition, **the crew did not stay until 14:00 as noted on their log.** GPS information, videos and observations show that:

- We observed, and the **GPS confirms the crew's departure** from the job site more than **30 minutes earlier than 14:00** (the time the crew reported they finished working on the tree on their daily log). *According to the next day's daily log, the crew reported that they returned to the tree location and completed the work on the tree for 4 hr 35 min.*

- At 13:52 to 14:24 the crew then stopped at a gas station where they took a break before returning to the yard. We did not observe the truck parked at the pump (and the yard the crew starts and ends the day at is a City fuel site). The crew reported only 15 minutes of break (14:00-14:15) at this stop **(32 min extended break)**

Total reported time actively working on trees compared to productive time observed is summarized as follows:

Activity	Summary based on crew's daily log	AG analysis based on observations and GPS
Yard / dumping	0 hr 35 min	0 hr 54 min
Driving	1 hr 25 min	1 hr 19 min
Productive time	5 hr 15 min	3 hr 13 min
Breaks and non-productive time	0 hr 15 min	2 hr 04 min
Lunch	0 hr 30 min	0 hr 30 min

b) Excessive unreported lunch and break times

Crews did not accurately report break times on daily logs

To varying degrees, all crews we observed for full days did not report their activities and breaks accurately on their daily logs, as illustrated in the examples throughout this report. We also observed crews taking more time for lunch and breaks than permitted by the contract, as illustrated in Examples 1, 3, 4, 5, 7, and 8. Extended lunch and breaks went unreported in many crews' daily logs.

Contracted crews can take breaks but the City should not pay other than as specified by contract

To be clear, vendor crews can take as many breaks as their employer allows, but the City is not their employer and should only pay in accordance with the contract and should not pay for excessive time spent on breaks.

Unreported stops for food, drinks or other purchases, as well as other unreported breaks continue to be charged to the City

For example, as previously noted, many crews routinely stop at certain locations for food, beverages, or other purchases. These often went unreported and were not recorded as break times on their logs. These stops are sometimes made during times where the daily logs indicate 'driving' or 'fueling' (these are activities which the City pays for). We observed crews stopping at gas stations that were not parking at the pumps (clearly not a fuel stop) while they went into the store to get coffee or other purchases.

Crews were leaving trucks at the reported work locations and then walking to nearby restaurants but not always reporting the time as a break or lunch

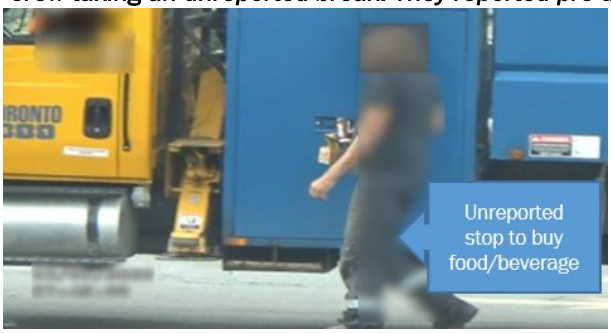
We also observed that some crews were leaving trucks at the reported work locations and then walking to nearby restaurants to pick up food and beverages. They then eat their meals but did not report some or all of this time as their lunch or break times. Daily logs indicated crews were working on location and GPS reports confirmed that the vehicles remained on site and did not move. For example, we observed a vendor crew park their vehicle at the tree service location, walk to a fast food restaurant, then return to the truck to eat their lunch. The crew did not accurately report the full amount of time they took for lunch. Without physical observation of what the crews were actually doing, it would be harder to discover just by reviewing GPS reports that some crews were not reporting the full extent of time taken for lunch and breaks while at tree locations.

Example 6: City crew with unreported breaks and lunch

A City crew reported spending one hour at the yard **(07:00 to 08:00) doing a pre-trip inspection of the aerial device to ensure the hydraulic system was safe to use**. However, the GPS and our physical observations noted the truck left the yard at 07:29.

The crew was then observed making stops to purchase food, drinks, and a newspaper before stopping in the proximity of a park where crewpersons sat in the truck or on a park bench drinking, smoking and reading the newspaper until 08:09.

Crew taking an unreported break. They reported pre-trip inspection / driving during this time on their daily log



The crew did not report any lunch or breaks on their daily log and reported working the entire day. Based on our observation, **the crew had a total of 1 hr 46 min unreported breaks and lunch for the work day which exceeds what they are allowed by 46 minutes**.

Example 7: Actual break times were much longer than reported on daily log

In the morning, a vendor crew reported a 15-minute break on their daily log between 10:00 to 10:15. The crew was observed taking a break from 09:59 to 10:30 **(31 min extended break)**, sitting down with a lunch cooler for part of the time.

Crew taking an extended break

The crew reported a 30-minute lunch from 12:05 to 12:35 which matches what we observed.

In the afternoon, the crew reported taking a 15-minute break in between working from 12:35 to 14:20. While we observed them actively working for a total of 54 min, the remainder of the time the crew was observed sitting in the truck, sitting outside under the tree, taking a smoke break, and / or looking at their phones **(36 min unreported break).**

Over the entire day, total unreported breaks exceeded what was reported on the daily log by 1 hr 9 min.

Crew taking an unreported break

Example 8: Unreported and extended breaks and lunch
Also, quality control inspection did not properly identify inefficient use of time

A vendor crew reported completing pruning of two trees at two work locations on the same street for a **total of six hours on the daily log**. The **crew was observed actively working for only four hours**. The remaining two hours of reported work time the crew was observed taking unreported breaks and extended lunches – they were sitting in or around the truck, walking around, using their phones, and smoking.

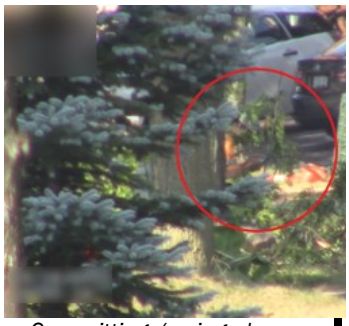
Examples of the crew's unreported and extended break / lunch during reported work time:

- 33 minutes (08:30 to 09:08) of **unreported break** time while the crew reported working on trees. The crew was observed sitting behind the truck, walking around, using their phones

Crew walking around / using phone during an unreported break

- The crew reported a 15-minute break from 10:00 to 10:15 but actually took an **extended break** of **1 hr 2 min** (09:38-10:40). The crew was observed sitting on the curb or in the truck, and using their phones

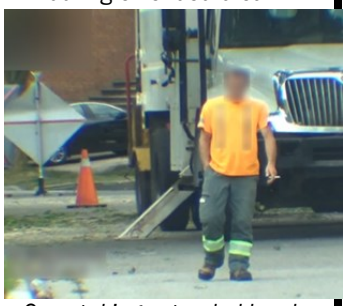
Crew sitting during extended break



Crew sitting / using phone during extended break

- The crew reported a 30-minute lunch (12:00 to 12:30) but actually took a **53-minute extended lunch** (11:28 to 12:21). The crew was observed sitting on the curb with a cooler eating, smoking, sitting in the truck, and using their phones.

Crew taking extended lunch (sitting, using phones)



Crew taking extended lunch (standing around, smoking)

*** Quality control inspection by PFR-UF staff was ineffective.** PFR-UF performed a quality control inspection of this work location. The inspection did not find any deficiency and concluded the crew's completed work reflects efficient use of time even though we observed significant non-productive time that day.

Total reported time actively working on trees compared to productive time observed is summarized as follows:

Activity	Summary based on crew's daily log	AG analysis based on observations and GPS
Yard / dumping	0 hr 35 min	0 hr 40 min
Driving	0 hr 55 min	0 hr 51 min
Productive time	6 hr 00 min	4 hr 02 min
Breaks and non-productive time	0 hr 30 min	2 hr 27 min
Lunch (unpaid)	0 hr 30 min	0 hr 30 min

Given that vendors are paid on the basis of hours worked only, when crews are not accurately reporting breaks or taking extended break and lunch times, the City is paying amounts that are not in accordance with the express terms of the contract.

c) <u>Delayed start of work and early completion of work day</u>

Crews are paid to work eight hours daily

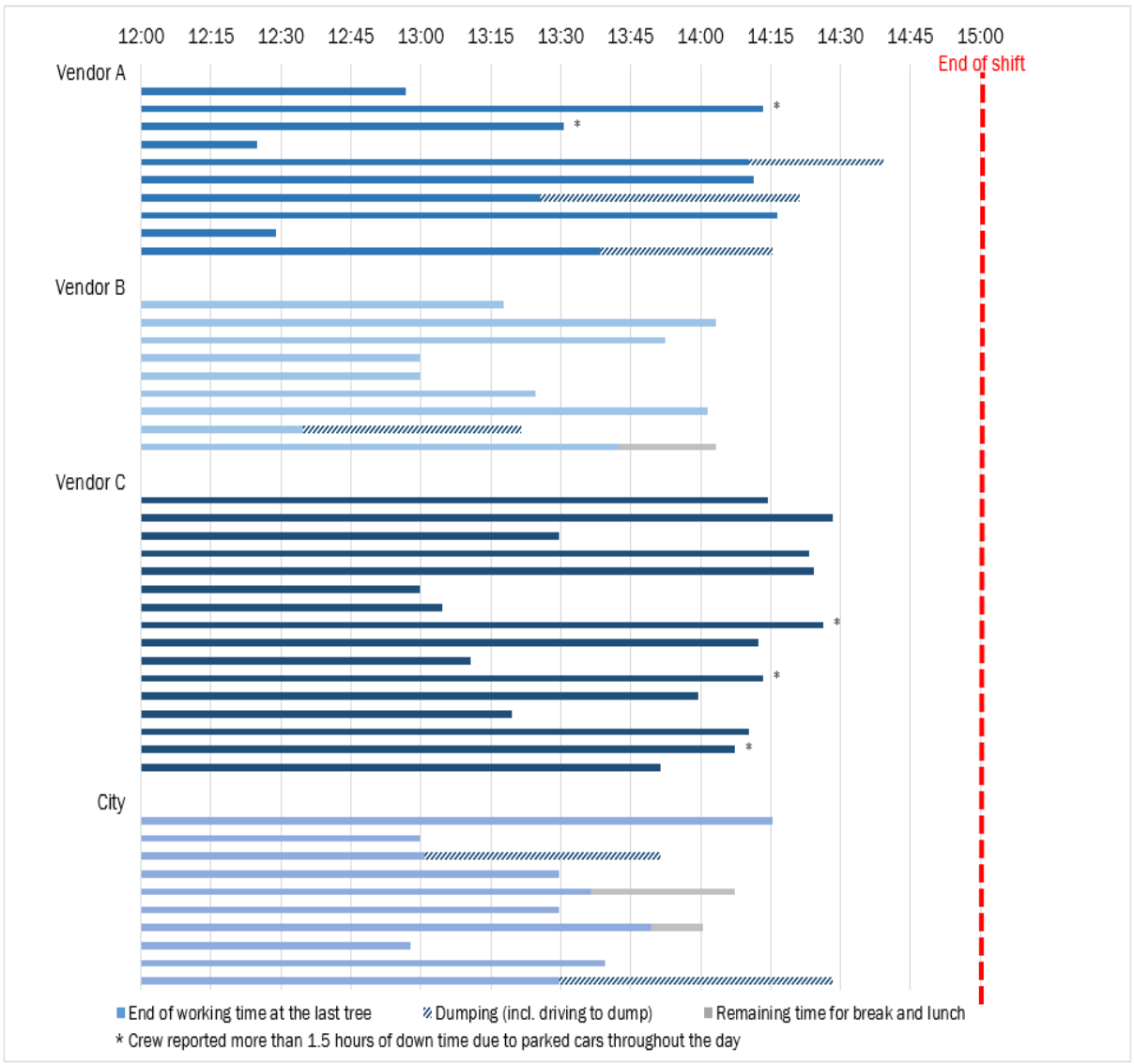
According to the contract, vendors are paid on the basis of hours that crews work. This is typically eight hours daily (meaning 8.5 hours between 06:30 and 15:00 including ½ hour unpaid lunch) unless otherwise noted on their daily log.

Some crews completed work early and did not start next assignment

As shown in Figure 7, we observed that some crews completed the day's work in the early afternoon and then did not continue on to another work assignment. About half of the vendor crews and almost all of the City crews we observed, finished their work on trees at least one hour before the end of their shift (i.e., work completed at 2:00pm or earlier) and nearly 40 per cent finished work on trees at least 1.5 hours before the shift ended.

Some crews reported their breaks and lunches towards the end of the work day and did not work most of the afternoon, even though they also had idle or non-productive time or took other unreported breaks earlier in their shift.

Figure 7: Time of Day Crews Finished Actively Working on Trees



City paid for the full crew even when some crew members were not present at the start or end of shift

We also observed situations where crewpersons were arriving in their personal vehicles or their employer-issued light-duty vehicles[21] at tree service locations after the start of the work day (meaning they were not with the crew when it departed the yard) and / or departing from tree service locations or the yard before the end of the work day. In all cases, the City paid for the full crew complement for a full eight hours worked.

For example, a crewperson was observed departing from the job site about 45 minutes before the end of the shift in a light duty or personal vehicle. The crewperson was then observed driving to and parking underground, in a residential building rather than returning to the yard with the crew. The City paid for the entire crew for the full eight hour shift.

Over 55 per cent of vendor crews we physically observed did not arrive to the first tree location until at least one hour of the shift had passed, with a few of them arriving at the first work site upwards of 1.5 hours after the beginning of their shift.

Late starts and early ends to the work day should not be charged to the City

Late starts and early ends to the work day, whether it is at the yard or at the work site, should not be charged to the City. If crews finish work early and do not proceed with the next work assignment, they should be directed to end the day early and report the short work day accurately on their daily log. This way, the City is not paying for unproductive or idle time because assigned work has been completed and no new work has started.

This is not a new or unknown issue to PFR-UF management.

2019 audit identified closer scrutiny needed in afternoon

Our 2019 audit identified that when vehicles went to locations that were not the assigned tree service locations (e.g., coffee shops, plazas, residential houses, streets with no trees), this usually took place in the afternoon.

External consultant's 2020 report noted vendor crews finish early and do not check in for additional tasks

Also as previously noted, PFR's external consultant reported to management in March 2020 that [emphasis added]:

> *"There have been **instances where the vendor crews finish early and do not check in at the end of the day for any additional tasks**. Rather, they will delay their activities in order to not begin another job. This requires more oversight from the Foreperson to ensure the contractors are using time effectively."*

[21] Our follow-up review was conducted during the COVID-19 pandemic. Some crews may have used vendor supplied light duty vehicles or personal vehicles to support physical distancing.

FPIR database indicates PFR-UF is aware of crews leaving early

The FPIR database contains notes about crews leaving early. For example, one recent note indicated [emphasis added]:

> *"Had a talk with [vendor crew leader] last week regarding yard etiquette and requirements.* ***Advised that no earlier than 240pm should any contractors be returning to [yard].*** *Advised no accessing personal vehicles until 255pm.* ***No leaving earlier than 3pm.*** *These are simple rules. Yesterday at 245pm [vendor crew leader / member] were in their personal vehicles. This is not an effective use of time as our crews are billing till 3pm,* ***could be sharpening saws, equipment maintenance or dumping. Getting ready for next day*** *… Spoke with all contractors again this morning with our general expectations."*

Another note indicated [emphasis added]:

> *"GPS report has the [vendor] crew arriving at [yard] at 1:31 pm. The crew then dumps the truck takes lunch. They then drive another vehicle to [reporting yard] to drop off paper work and then once again return to [yard].* ***This is not a proper use to time having the bucket truck parked at 1:31 pm.*** *There will be no deduction of time for this invoice at this time but if this continues in the future there will be deductions made."*

While these were good observations and reflective of what we saw, it shows that PFR-UF should be addressing these issues and monitoring who is finishing work and/or returning to the yard early. **PFR-UF should be ensuring crews are assigned sufficient work to keep them fully utilized to the end of the shift, and as noted earlier, if crews finish work early and do not proceed with the next work assignment, they should be directed to end the day early and report the shortened work day accurately on their daily log.**

City needs to assess ways to reduce yard time

The productivity impacts of departing late from the yard, finishing early at work sites, and returning early to the yards, all add up. In our current follow-up review, we observed vendor crews spent, on average, over 50 minutes (10 per cent) of the standard eight hour paid work day at the yard. City crews spent, on average, over 80 minutes (17 per cent) of their shift at the yard. PFR-UF should have expedited its actions to address our 2019 audit recommendation that they look for ways to reduce time at City yards, particularly at the beginning and end of each shift.

$1M in productivity savings by reducing yard, dumping, or driving time by 30 minutes daily

We estimate that by implementing measures to reduce yard, dumping, or driving time for every crew by 30 minutes daily (from two hours down to 1.5 hours) on average, the City could gain about $1 million in operational efficiencies or increased productivity each year.

Opportunity to begin reducing yard time and increasing time available to actively work on trees by digitalizing processes

Over the last 18 months since our audit, PFR-UF could have taken steps to begin reducing daily yard time and increasing time available to actively work on trees by distributing work assignments by email and having crew leaders submit daily logs in an electronic format. Yet, PFR was and is still waiting for the roll-out of an Electronic Work Management System (EWMS), which could still be months away. In response to the 2019 audit, management indicated implementation of the new system within Urban Forestry was scheduled to begin in late 2019 with roll-out anticipated for mid-2020. Management is now indicating a preliminary Quarter 4, 2021 / Quarter 1, 2022 target for EWMS implementation for Urban Forestry.

Interim measures to digitalize processes if EWMS is not rolled-out soon

Optional interim measures to digitalize processes would help to increase productivity in the short-term by reducing the time crews spend waiting at the yard to receive and submit paperwork. This may be as simple as emailing work assignments, daily logs and other supporting documents.

Auditor General's staff, for example, were able to create a web-based daily log form in a couple of hours that could be submitted electronically using existing City tools widely available to all divisions. This form (which can be easily accessed on any mobile phone or device) also allows submission of photos or other files at the same time as key daily log information. Designated vendor and City staff can receive an emailed copy of the completed daily log form submitted by crews. The added benefit is data captured electronically can be analyzed to identify trends. For example, crews with high frequency or significant downtime related to parked vehicles that should be further reviewed.

A. 3. Reduce Non-Productive Time Waiting for Parked Vehicle Removal and Hydro Hold-Offs

Productivity losses occur when crews do not work while waiting for parked cars to be moved

City losing over $400,000/year waiting for parked cars to be moved

There continues to be productivity losses where crews report downtime waiting for parked vehicles to be removed in order for tree maintenance services to proceed. For example, for crews reporting to one City yard during the two-month period covered by this follow-up review, out of an estimated 6,200 hours paid by the City, 478 hours (8 per cent) was for unproductive time related to parked cars. We estimate the productivity loss for just two months cost the City over $68,000 ($408,000 annualized). There are eight other forestry yard locations across the City.

Amount paid while no tree work occurred is enough to provide housing allowances to 68 families experiencing housing instability

To put the parked car issue into perspective, at a time when the City is facing fiscal challenges and the need for affordable housing funding is high, over a two-month period, the money paid to vendors[22] while no work is done because of parked cars is enough to provide $500 monthly housing allowances (for two months) to 68 individuals or families who need help in moving towards stable housing.

Certain crew leaders report more parked cars than others

Certain crew leaders reported more occurrences of parked cars than others. For example, over the two-month period of this follow-up, one crew leader, alone reported over 77 occurrences and over 41 hours total of non-productive time related to parked car issues within the 28 working days in this period.

Other crew leaders reported significantly longer durations of parked cars interfering with work than others. For example, another crew leader reported over 39 occurrences for almost 78 hours in non-productive time related to parked car issues during the two-month period of this follow-up. This cost the City approximately $21,000.

PFR should be analyzing why certain crews report parked vehicles at higher frequencies or longer durations than other crews and implement measures to reduce related downtime.

Crews reported parked vehicles preventing work, yet no obstruction was observed

Verify that reported time related to parked car issues is valid

In our 2019 audit, we noted that PFR-UF staff did not verify whether the reported time related to parked vehicles was valid. We suggested steps be built into PFR-UF's monitoring processes, such as requiring crews to provide photos of the parked vehicles at the tree locations with the dates and times, having them call in the licence plates and checking records to confirm the crews had contacted PFR-UF staff and / or parking enforcement to expedite removal.

Parked vehicles purportedly preventing work from proceeding were not always observed

During our current follow-up, we noted some crews reported on their daily logs that they spent significant time waiting for parked cars to be removed. The City pays vendors while their crews are waiting and not working. However, as illustrated in Examples 9, 10, and 11, when we observed these crews in the field, we did not always note the parked vehicles that were reportedly preventing the crews from working efficiently.

[22] For crews operating out of one of the eight City yards.

FPIR database noted similar observations

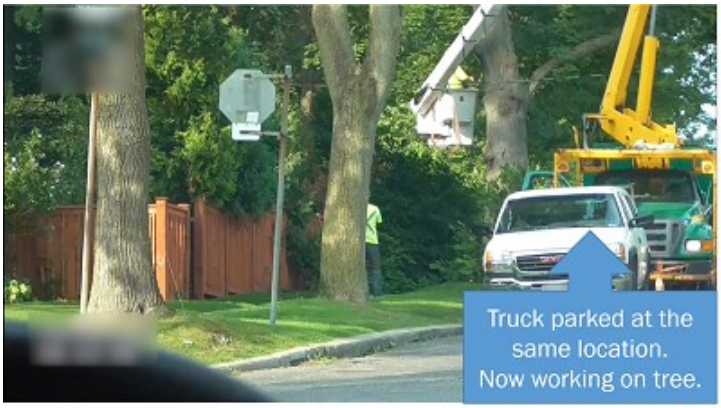
This is not just something we have observed. The FPIR database contained similar observations. For example, one recent note indicated [anonymized]:

> *"*[Vendor] *crew sat on site from 7:40am to 11:30am, "knocking on doors, running plates and waiting for Parking Authority" according to his DWAR. With 3 hours and 50 minutes spent on parked cars at that location, he did not get any vehicles towed, nor did he indicate why the parking authority did not move any vehicles.*
>
> *A total of* ***4 hours and 10 minutes was spent on "Parked Cars"****. 1x 40dbh Birch tree was completed* ***in an 8 hour day, totalling 25 minutes of tree work.***
>
> ***There is no parking on*** [location] ***so why did crew have to spend a half hour knocking on doors****".*

Example 9: Reported parked car preventing work was not observed, may be unreported break

A vendor crew arrived at the job site at 07:49 after stopping at a coffee shop for about 8 minutes after leaving the yard. The crew did not report the stop on their daily log. Upon arrival at the site, the crew was observed sitting in the truck and chatting until 08:22 (33 minutes) after which time the crew started set up work. During this time, the crew reported on their daily log that a parked car blocked them from starting work for 45 minutes (07:55 to 08:40). **We did not observe a parked car.**

The GPS confirms no movement of the vehicle, indicating the crew did not need to move the truck into place after the alleged parked car was removed. The truck was parked at the curb close to the tree at the reported location with no obstructing vehicle. The crew was subsequently observed working in the bucket at the same location.



PFR has no records that indicate the crew called in the licence plate of the parked vehicle or requested parking enforcement to attend the site. No tow tickets were attached to the daily logs. No photos of the parked vehicle were submitted by the crew. PFR staff signed the daily log and the related invoice was paid.

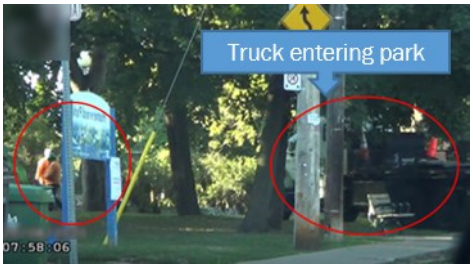
Example 10: Reported parked car preventing work was not observed, may be unreported break

Also, quality control inspection did not properly identify inefficient use of time and GPS review did not identify discrepancy to be questioned

A vendor crew reported on their daily log that there were parked vehicles at every one of the three work locations they went to throughout the day. We physically observed the crew at two of these locations and did not see the reported parked car problems.

<u>Location #1</u>

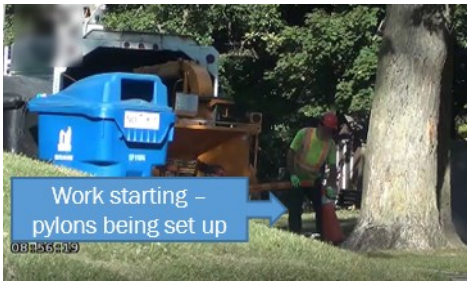
At the first location, the crew reported on their daily log parked cars blocking the entrance to the park in which the tree was located from 07:50 to 08:30 (40 minutes). Then they reported working on removal (topping and stemming) of a 60 cm diameter tree from 08:30 to 10:40 (2 hr 10 min). A total of 2 hr 50 min was reported at this location.



The vehicles in this multi-truck crew arrived at the park at different times (between 07:20 and 07:40). GPS shows one vehicle entered the park and arrived at the longitude and latitude coordinates of the tree inside the park at 07:41, while two other trucks drove in and parked by the tree at 07:58, which matches with our observations. Our team did not note any parked cars blocking the crews from entering the park **(reported parked cars was not observed).**

After all trucks were inside the park, for 55 minutes the crew was observed standing around, chatting, and two of the crew members were observed leaving the park on foot.

No work performed from 08:01-08:56.



Almost an hour later (at 08:56), the crew started to put up signs to secure the work area and work on the tree. Work was completed with pylons packed up, and area cleaned, at 10:13. No further work was observed until they left for the next work site at 10:35.

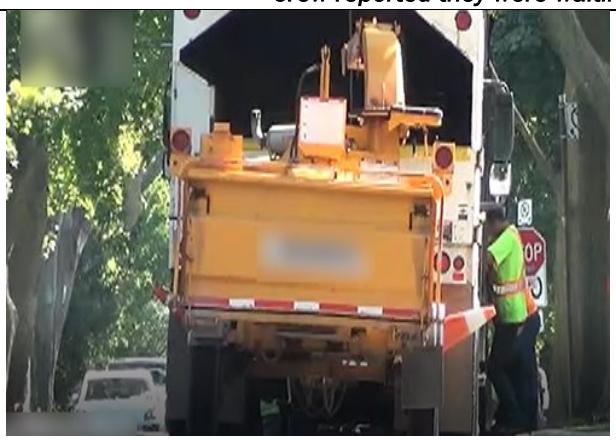
Out of the **2 hr 50 min** time spent at this location, we observed **1 hr 17 min of idle time or unreported breaks**, which includes the time the crew reported a parked car preventing work that was not actually observed**.** The crew reported working on the tree for **2 hr 10 min**, but the **actual productive working time observed was 1 hr 33 min**.

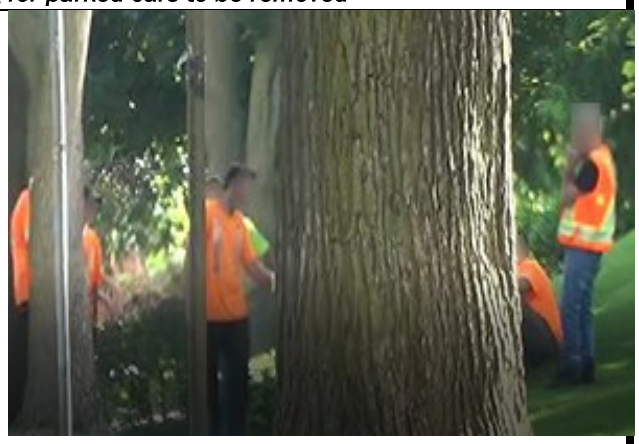
* **Quality control inspection by PFR-UF staff was ineffective.** PFR-UF performed a quality control inspection of this work location. The inspection did not find any deficiencies and concluded that the crew's completed work reflected an efficient use of time even though we observed significant non-productive time.

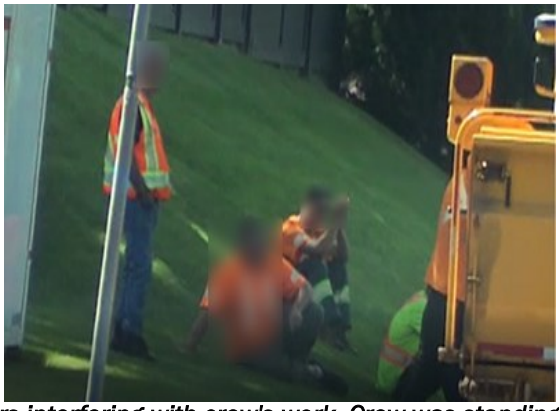
<u>Location #2</u>

At the second location, the crew reported parked cars on their daily log from 10:55 to 11:40 (45 min). Again, contrary to their log notations, **our team did not note any parked cars interfering with the crew's work**. Instead we observed what was, in essence, the crew taking a **38-minute unreported break** (sitting in trucks, standing around and talking to each other, sitting on the lawn and taking a rest, etc.). Once the crew was ready to commence working at 11:34, the crews repositioned their various vehicles – they swapped spots amongst themselves, but did not need any additional space to open up. The GPS longitude and latitude coordinates match with the observations and show the repositioning of the truck only amongst the crew's own vehicles.

Crew reported they were waiting for parked cars to be removed







We did not observe parked cars interfering with crew's work. Crew was standing / sitting around and chatting.

Location #3

Our team's physical observation of the crew was interrupted from 12:25 (for this portion of the day, our analysis assumes the crew's activities are as they were reported on the daily log). We do note that the crew reported on their daily log that they did not perform any work due to another hour waiting for a parked car to move from 13:10 to 14:10. After waiting an hour, the crew reported driving back to the yard and as per GPS, arrived the yard at 14:28. The crew went back to this location about a week later. On that daily log, the crew again reported a parked car (1 hr 45 min) before they worked on a tree removal for 4 hr 10 min.

PFR has **no records** that indicate the crew called in the licence plate of the parked vehicles or requested parking enforcement attend any of the sites. No tow tickets were attached to the daily logs. No photos of the parked vehicles were submitted by the crew. PFR staff approved the daily log and the related invoice was paid.

Total non-productive time for the day including down time due to parked cars exceeded the 60 minutes PFR allows for breaks and lunch (unpaid) by 2 hr 42 min. PFR staff signed the daily log and the related invoice was paid.

* PFR-UF performed a GPS report review as part of its normal quality control inspection on the crew's work on this daily log. However, PFR-UF did not identify any reporting deficiencies or discrepancies to be questioned. The **GPS review by PFR-UF staff was ineffective.** If the GPS report review was conducted effectively, PFR-UF would have identified that, at the first location, the trucks were able to drive into the park during the time that the crew reported parked car blocking entrance to the park. Additionally, through the GPS review, PFR-UF staff could have identified that the crew just swapped positions of their vehicles. At a minimum, the locations and movements of vehicles should have raised questions about the existence of reported parked cars blocking work.

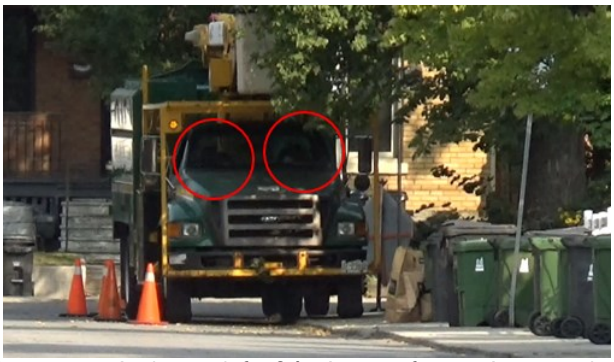
Example 11: Reported parked car preventing work was not observed, may be unreported break

Also, work not completed to standard was only identified as a result of a homeowner complaint

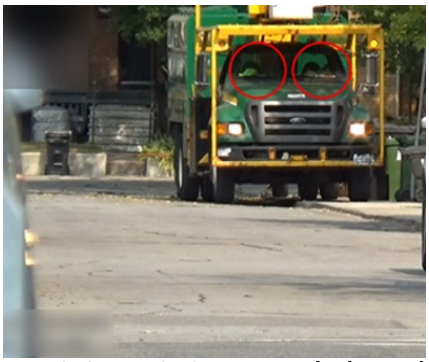
A vendor crew reported completing tree pruning at one work location from 10:15 to 12:00 on their daily log (including **15 minutes to clear parked cars** from 10:15 to 10:30, a 15-minute break from 10:30 to 10:45, and pruning for 1 hr 15 min from 10:45 to 12:00).

However, we **did not note any parked cars** interfering with the crew's work. Instead, what we observed was in essence, an extended break of 34 minutes where, after placing signs and cones around the truck, the crew sat in the truck until 10:49. We then observed the crew complete the work by 11:46 (57 min actively working on the tree). Workers went back to sit in the truck and stayed there through the end of their reported lunch time (11:46 to 12:30).

PFR has **no records** that indicate the crew called in the licence plates of the parked vehicles or requested parking enforcement to attend the site. No tow tickets were attached to the daily logs. No photos of the parked vehicles were submitted by the crew.



The crew sat in the truck for 34 minutes after putting out pylons but reported 15 minutes of parked car issues and 15 minutes of break time. ***The truck was parked next to the tree*** *and there were* ***no parked cars*** *on the side of the street of the tree.*



After completing work, the ***crew sat in the truck*** *from 11:46, 14 minutes before they reported taking lunch.*

Total non-productive time for the day, including down time due to parked cars exceeded the 60 minutes PFR allows for breaks and lunch (unpaid) by 2 hr 07 min.

PFR received a **complaint from a homeowner** two weeks later indicating that the tree was not pruned properly and a service request was then created. By this time, the PFR-UF foreperson had signed the daily log and the PFR-UF supervisor had approved the invoice and supporting daily logs for payment. After receiving the complaint, PFR performed an inspection and **confirmed the deficiency** noting that, "*As per work order instructions, crew did not complete the crown reduction. Low sucker left over sidewalk/walkway*". PFR advises us that the crew returned to the site two months later to rectify the deficiency, free of charge. **In our view, but for the homeowner making a complaint, PFR likely would not have identified the deficiency in the quality of work such that the tree was not pruned adequately to the work order instructions.**

Example 12: Over-reporting time waiting for parked car removal to offset excess break and lunch

Also, quality control inspection did not properly identify inefficient use of time and GPS review did not identify discrepancy to be questioned

A vendor crew reported spending 5 hr 15 min at a work site completing pruning of a tree. Specifically, the crew reported on the daily log that they spent:

- 25 min waiting for parked cars to be removed and 1 hr 30 min waiting for a hydro hold-off*. (Total of **1 hr 55 min waiting time** paid for by the City)
- 2 hr 35 min completing pruning of the tree
- 15 min break and a 30 min lunch (unpaid) in between work

The times and activities reported on the daily log do not accurately reflect the crews activities at this first location.

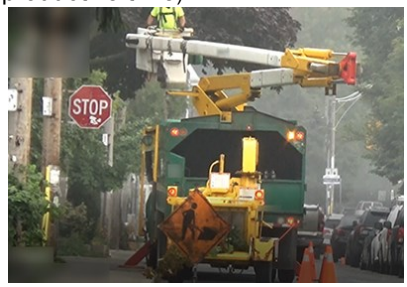
- While we observed the crew actively working for about the same work time as reported, we also observed that **they only needed to wait 57 minutes** before they started working (**nearly one hour less than what they reported** on their daily log).
- Intermittently, the crew then took a total of 1 hr 44 min in **extended and unreported break and lunch times**.

* Though the work order indicates that the assignment is "general pruning primary hydro lines involved", **PFR did not pre-book a hydro hold-off and they have no evidence to support the time the crew need to wait for this hold-off**.

At the second work location, the crew reported completing storm clean up related work for a total of 40 min with a 15 min break in between the work. In contrast, we observed the crew working on the tree for 11 min after which they took an **extended break sitting in the truck for 48 min**.

Total non-productive time for the day exceeded reported 30 minutes for breaks and 30 minutes lunch (unpaid) by 1 hr 46 min. PFR staff approved the daily log and the related invoice was paid.

The following table compares what the crew reported on their daily log to what the Auditor General's team physically observed, which was corroborated by GPS:

Crew's Daily Log	Physical Observations Corroborated with GPS	
06:30-07:00 yard *(30 min)*		No observation until crew departed yard
07:00-07:35 drive *(35 min)*	07:00-07:05	Crew departed yard and arrived at a restaurant in a plaza
	07:05-07:15	Crew observed purchasing food from a restaurant **(10 min unreported break)**
	07:15-07:34	Crew arrived at Location 1
07:35--09:30 **Location 1** ***Parked car & Hydro hold off*** *(1 hr 55 min)*	07:34-08:31	Crew observed setting up pylons and tools, talking on the phone, smoking, and sitting in vehicle **(57 min down time waiting for parked car/ hydro hold off)**
	08:31-09:30	Crew observed setting up and pruning the tree (59 min productive time) 

09:30-09:45 Break *(15 min)*	09:30-10:09	Crew observed pruning the tree and cleaning up work site (39 min productive time)
09:45-12:00 **Location 1** ***Crew reported working on one tree*** *(2 hr 15 min)*	10:09-10:37	Crew observed resting in the truck and smoking **(28 min extended break)**
	10:37-11:30	Work resumed (53 min productive time)
	11:30-12:46	Crew observed sitting in vehicle, and smoking **(1 hr 16 min extended lunch)**  
12:00-12:30 lunch *(30 min)*		
12:30-12:50 **Location 1** ***Crew reported continuing to work on same tree*** *(20 min)*		
12:50-13:05 drive *(15 min)*	12:46-13:00	Crew arriving at Location 2
13:05-13:30 **Location 2** ***Crew reported working on one tree*** *(25 min)*	13:00-13:11	Work underway (11 min productive time)
13:30-13:45 break *(15 min)*	13:11-13:59	Crew observed sitting in vehicle **(48 min extended break)** 
13:45-14:00 **Location 2** ***Crew reported continuing to work on same tree*** *(15 min)*		
14:00-14:30 drive *(30 min)*	13:59-14:26	Crew observed driving back to the yard Making a brief stop on a street before arriving at the yard **(4 min unproductive time)**
14:30-15:00 yard *(30 min)*	14:26-15:00	No observation once crew entered yard

PFR-UF performed a quality control inspection of the crew's work on the tree at the first reported work location. The inspection did not find any deficiencies and concluded the crew's completed work reflected an efficient use of time even though we observed significant non-productive time. **Since the crew used the over-reported parked cars / hydro hold-off time to offset the extended breaks and lunch instead of working less than reported time, the PFR-UF inspection would not be able to identify this deficiency.**

Crews sat waiting for removal of parked vehicles

Waiting for removal of parked cars impacts productivity

Crews are generally provided batches of work to plan the sequencing of work activities and generally do not call in to re-order assigned tasks. During this follow-up review, we observed that when there were vehicles obstructing work sites, some crews sat waiting for several hours for a parked vehicle to be removed. While waiting, the crew often did not do any productive work.

Some crews wait for hours for the car to be moved

Certain crews experience a high frequency of parked vehicles and hours of non-productive time waiting for parking enforcement and towing. Example 13 describes a crew that waited over four hours for parked vehicles to be removed, during which time no work was observed. This crew regularly reports significant down time due to parked vehicles. PFR-UF should be pre-arranging for parking enforcement and tow trucks to attend the job site at the beginning of the day with the crew in order to facilitate timely removal of parked vehicles.

Example 13: Significant downtime waiting for parked vehicles to be removed

Also, on-site inspection was ineffective

A vendor crew reported over four hours waiting for a parking enforcement officer and tow truck to arrive on site to remove parked vehicles. Significant downtime was observed while waiting. The workers were observed standing outside by the trucks, chatting, using cell phones, eating, vaping, and doing push-ups. One crewperson was observed testing out a chain saw for a short time, but **no work on trees was observed from 07:44 until a parking enforcement vehicle and tow truck arrived at 11:47, a total of four hours**.

During this time a PFR-UF staff person arrived to perform an on-site inspection. **The inspector spent 15 minutes at the site but the crew had not started any work yet**. Still, the **FPIR record for the inspection notes that all criteria had been met with no deficiencies *(e.g., efficient use of time for completed work, proper arboricultural practices, no damage observed, and safe use of tools, etc.)* even though the inspector would have observed no work at all**. This raises questions about the reliability of PFR's FPIR data on the quality and efficiency of crews assessed based on on-site inspections.

Some PFR-UF staff have also raised concerns with crew productivity while waiting for removal of parked vehicles

Some PFR-UF staff have also raised concerns with crew productivity while waiting for removal of parked vehicles. For example, just after our April 2019 audit noting parked cars were not being dealt with effectively, in July 2019, one note from in the FPIR database indicated [emphasis added]:

> *"*[Vendor] *crew waited 4.5 hrs. for parking authority then took lunch before proceeding with work. Crew took an excessive amount of time on the tree as determined by the quality control inspection.* ***Crew leader claimed they "took their time because they had no other work****".*

Another more recent note from August 2020 in the FPIR database indicated

> *"Poor time management.* [vendor crew] *Waited 4hr30min for Parking Authority, who did not tow any vehicles as they were able to locate the vehicle owners. All contracted workers are aware that we have access to the licence plate system through our Support Assistant, and he did not attempt to make contact with him. Requesting a 4 hour credit for inefficient use of time."*

PFR-UF does not maintain evidence that crews take appropriate action when parked vehicles reportedly interfere with work

Where we observed significant downtime reported on daily logs during our follow-up review, we asked PFR-UF what actions were taken to prevent or limit the impact of parked cars on crew productivity since our audit. We found:

1. PFR-UF did not send out letters or notices to area residents in advance of the upcoming tree work
2. **PFR-UF did not put out signage** and road-blocking devices ahead of planned tree maintenance work, so that persons parking on the street would be aware that they should not park there
3. PFR-UF was unable to show whether crews communicated with PFR-UF to call in licence plates or obtain information about parked cars, or requested assistance from a parking enforcement officer
4. PFR-UF did not request that crews record licence plates of parked cars on the daily logs when they indicated a parked car was in the way, so that PFR-UF could follow-up to verify
5. PFR-UF did not require photos to be taken by crews to show there was a parked car in the way

PFR-UF needs to expedite addressing parked car issues

In our 2019 audit report, we highlighted that it was important that PFR-UF look for ways to reduce lost productivity related to parked vehicles. For example, we suggested the City and its crews explore sending notices to residents through the mail, posting more prominent warning signs, and using more effective road-blocking devices ahead of planned tree maintenance work. While PFR-UF has given reasons why they have not moved forward with these measures, in the **18 months since our audit they have not implemented solutions to successfully address this well-known problem** that significantly impacts productivity. Meanwhile, the City continues to pay for crews who wait for extended periods of time while no tree work is performed or who indicate they cannot work because of a parked car, when a parked car is not there.

PFR-UF advised that they recently initiated a pilot project using signage to be installed at the front of residences along the planned work zone that clearly defines where not to park and when residents should not park in that location. PFR-UF also advised that they intend to use social media to notify residents of upcoming tree maintenance work. These signs and social media notices were not in use during our follow-up review.

PFR-UF supervisors should ask crews to carry on to the next location and monitor impact to operational efficiency

Given the continued significant downtime and cost associated with parked vehicles, PFR-UF needs to expedite addressing this issue. PFR-UF supervisors should ask crews to provide information to show the parked vehicles (e.g., licence plate, photos of cars blocking work) were obstructing work locations, and this should be part of the next contract. If they wish to be paid for the time waiting for parked vehicles to be moved, they should be required to provide documents supporting that the vehicle is in the way and that appropriate action has been taken to remove the parked vehicles. This allows PFR-UF to verify the reasonableness of down time due to parked cars when approving the daily log and invoice payment.

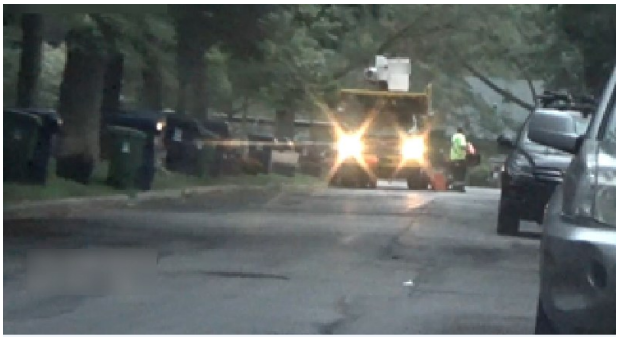
In addition, PFR-UF should ensure there is sufficient work planned so that crews can move on to work at nearby locations or be assigned additional locations if they cannot gain access to the tree because of a parked vehicle. Crews can then return when parking enforcement and towing can be arranged. Examples 14 and 15 illustrate opportunities for crews to continue to work productively even while waiting for cars to be removed. The Auditor General observed this same opportunity while monitoring crews herself during this follow-up. The time crews spend waiting for the removal of parked cars should not be paid if other work exists. PFR-UF should monitor whether there is any improvement to operational efficiency when taking these actions.

Some PFR-UF inspectors have also noted similar observations. One recent FPIR record indicated [anonymized]:

> *"...[vendor] crew were there waiting for a tow. The unfinished tree at [location] was just around the corner from here and was wide open...[inspector] saw the crew there and told them to go finish the tree at [location] rather than sitting waiting for a tow..."*

Example 14: Crew not productive while waiting for parked car to be removed (unreported break)

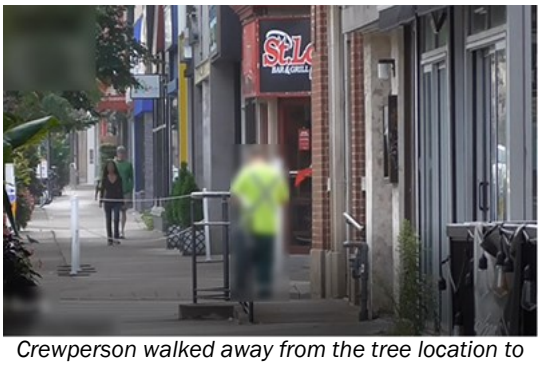
A vendor crew reported 2 hr 15 min (07:10-09:25) waiting for parking enforcement and a tow truck to arrive on site to remove a vehicle that was blocking one of four trees that they had been assigned to prune. The four trees were located at neighbouring work sites on the same street. **Three of the trees were located on the side of the street without parked vehicles**. The truck was parked on this side of the street and we observed that they could use the bucket and work on at least one of the trees.



Truck was parked on the side of the street where there were three trees the crew pruned later in the day. That side of the street (left hand side in the photo) was clear of parked vehicles. The crew could have proceeded with work on trees on that side of the street.

Crew used the bucket very briefly to look at a tree on the side of the street that was clear of cars. The crew then proceeded to take a 2hr 6min unreported break while reporting on their daily log that there were parked cars blocking work.

Instead of proceeding with work on the three trees that were not blocked by cars, the crew was observed sitting in truck, chatting, walking around, going to get food / drink, eating, drinking, and talking on their phones until 09:25 **(2 hr 6 min unreported break)**.



Crewperson walked away from the tree location to get food/drink during unreported break

Crew sat in the truck from 13:24-13:58

In addition, we observed other breaks and extended lunch times that the crew took while reporting that they were working. For example, the crew reported one hour of work on the last tree (13:15-14:15) but that they did not complete pruning work. Yet, we observed the crew sitting in the truck and not working for 34 minutes (13:24-13:58) **(unreported break).**

We also noted that the next day, the crew reported on the daily log that they went back to this last tree and spent 30 min to complete the work after again **waiting 1 hr 25 min for parked cars** to be removed**. The tree was located on the side of the street where cars do not park**. The daily log indicates the crew was again assigned work at neighbouring work sites on both sides of the same street.

Example 15: Crew not productive while waiting for parked car to be removed (unreported break)

A vendor crew worked at three tree locations that were on the same street within a 500m walking distance. The **crew reported 2 hr 35 min waiting for parked vehicles to be removed** (07:55 to 10:30) at Location 1 on the daily log. Our observation confirmed the reported parked car issue. However, while waiting, we observed that the crew **did not proceed to Location 3 (nearby) to see if they could begin work there**. Instead, we observed the crew only placed cones around the truck, then **walked to a nearby coffee shop at 07:40 and returned to their truck at 08:03, taking an unreported break**. The crew was then observed talking and walking in the area before repositioning the truck around 10:20.

Unreported break – crew walked to nearby coffee shop

At 10:30 the tow truck came and removed the parked car and the crew began setup and work.

The crew worked on the tree at Location 3 after lunch and did not have any parked cars blocking the tree at that time.

Waiting for hydro hold-offs delay the start of work

Waiting for hydro hold offs impacts productivity

Although occurring with less frequency than parked vehicles, we noted crews experience lower productivity when they have to wait for hydro hold-offs (restricting electricity going through power lines in proximity to the work site) before commencing work.

During this follow-up, the crews we observed that reported waiting for a hydro hold-off also reported waiting for removal of parked cars at the same time. **The combined down time from reported parked cars and hydro hold-offs ranged from nearly two hours up to more than four hours.** Similar to the parked car issue, PFR did not obtain evidence to support the amount of down time reported. Where work orders indicated that a hold-off was needed, there was not always evidence that PFR-UF staff pre-arranged the hold-off in advance to reduce the time crews would need to wait when they arrived at the job site.

Recommendations:

1. **City Council request the General Manager, Parks, Forestry and Recreation Division, to periodically perform discreet physical observation of tree maintenance vendors for multiple whole days to ascertain the accuracy and reliability of reported work completed and paid for based on an hourly rate.**

2. City Council request the General Manager, Parks, Forestry and Recreation Division, to improve City and contracted tree maintenance crew productivity, outputs and outcomes by planning, assigning, and monitoring work to:

   a. maximize the amount of time spent actively working on tree maintenance activities (i.e. pruning, removal, stumping, fill and seed, etc.)

   b. reduce the time spent on supporting activities (i.e. time spent at the yard, dumping, driving, etc.)

   c. minimize non-productive time (e.g., time waiting for parked vehicles to be moved, idle time, unreported breaks, etc.).

   To support effective analysis and monitoring of productivity, Forestry Forepersons or Supervisors must verify crews accurately record information (including locations, activities, and times) on their daily logs and review the logs for productivity and completeness on a sample basis. The sample should include at least one daily log per crew within every two-week period. Where issues are noted on a selected daily log, additional logs should be reviewed and where necessary, daily logs and invoices should be adjusted in accordance with the contract.

3. City Council request the General Manager, Parks, Forestry and Recreation Division, to:

   a. track all tree maintenance complaints to provide indicators of where contractor performance needs closer monitoring

   b. include complaints in contract management and contractor performance evaluations, with a special emphasis on recurring issues

   c. remind staff of their obligation to report any allegations of potential wrongdoing involving City resources, including potential wrongdoing against the City by third-party vendors, to the Auditor General for further investigation.

4. City Council request the General Manager, Parks, Forestry and Recreation Division, to ensure Forestry Performance Inspection records accurately reflect the actual scope of the inspection or review performed and note any inspection criteria that staff are unable to assess based on work activities observed at the time of inspection.

5. City Council request the General Manager, Parks, Forestry and Recreation Division, to:

   a. obtain precise route information (in accordance with contracts), which includes specific geo-location (latitude and longitude) at frequent (minute-by-minute) intervals and not just fixed addresses associated with tree locations

   b. investigate any discrepancy between reported geo-location and GPS geo-location exceeding an acceptable threshold no greater than 25 metres. Any challenge to the GPS accuracy should be supported by GPS service providers' direct confirmation to the City that the data recorded by their GPS device is faulty. Explanations and supporting evidence for discrepancies should be properly documented

   c. request crews to submit geo-tagged photos of each tree, showing the tree before and after work has been completed. Urban Forestry staff should review these photos when signing off on crews' daily logs

   d. update Urban Forestry tree maintenance records with current geo-tagged photos of trees submitted by tree maintenance crews.

6. City Council request the General Manager, Parks, Forestry and Recreation Division, to improve crew management at the operations yards to reduce daily yard time and increase efficiency on tree maintenance work. Urban Forestry management should monitor whether there is any improvement to operational efficiency when taking this action.

7. City Council request the General Manager, Parks, Forestry and Recreation Division, to:

   a. analyze why certain crews report parked vehicles at higher frequency or longer duration than other crews and implement measures to reduce related downtime

   b. request crews submit geo-tagged photos of the location of parked vehicles obstructing work at the time these obstructions occur. Urban Forestry forepersons should reconcile reported parked car time to the submitted evidence of the obstruction when they review and sign off on daily logs

   c. expedite how it will minimize downtime related to parked vehicles obstructing work from proceeding, temporarily directing, until this issue can be properly addressed, tree maintenance crews to carry on to the next tree location if they cannot gain access and then return when parking enforcement and towing can be arranged. Urban Forestry management should monitor whether there is any improvement to operational efficiency when taking this action.

8. City Council request the General Manager, Parks, Forestry and Recreation Division, to:

   a. ensure Urban Forestry or vendor staff are pre-arranging all required hydro hold-offs, wherever possible, to minimize down time spent waiting for a hold-off. The time of pre-scheduled hold-off, time when hold-off was actually received and any time waiting should be clearly noted on daily logs

   b. ensure any need for an emergency hold-off is reported to the Urban Forestry foreperson and is noted on their daily log. The time when request for hold-off was called in, time when hold-off was actually received and any time waiting should be clearly noted on daily logs.

B. Apply the Express Terms of Contract in Practice

PFR-UF is not applying the express terms of contract

As with other City contracts we have audited, applying the express terms of the contract is an area all divisions need to pay attention to when administering contracts.

Key areas for PFR-UF to pay attention to when administering the tree maintenance contracts include:

1. Paid breaks
2. Safe work practices
3. Record retention, access to records, and right to audit

B. 1. Ensure Payments Align with Express Terms of Contract

PFR followed a practice of regularly paying for breaks even though contracts did not provide for any paid breaks

The 2017, 2018, and 2019 tree maintenance contracts indicate that crews working a standard eight-hour paid shift receive a ½ hour unpaid lunch break. This is the basis upon which the contract is procured and firms submitted bids.

These express terms of the contracts do not entitle vendors to be paid by the City for any breaks even though PFR-UF has historically followed a practice of regularly paying vendors for 30 minutes of break time. Given that the express terms of contract do not include paid breaks, this means within a 06:30 to 15:00 shift, any unproductive time other than the ½ hour unpaid lunch set out in the contract should not be paid for by the City.

Contract with the vendors are different than employment contracts with City staff performing similar work

How the City manages and compensates its own employees is different than how it pays its vendors whose crews perform similar work. Although the City provides and pays its own employees for breaks, the City does not have the same obligation to vendors.

For work performed by vendor crews, it is important to pay the vendors in accordance with the express terms of contract. Even if the vendors' obligations to their employees included paid breaks and/or lunch that is between the vendors and their own employees. It is not a cost that needs to be borne by the City based on the current contract terms.

City paid an estimated $1M to vendors a year for breaks, even though paid breaks are not provided for in the express terms of the contract

By paying for 30 minutes of break time[23] per day for each vendor crew, we estimate that the City paid unnecessary costs of approximately $1 million a year, based on 2019 contract rates and crews. Given this practice has been in place for at least several years, we estimate that the City has paid at least $3 million between 2017 and 2019 towards break times that are outside of the express terms of the contract.

Call document should make clear any implied terms that incumbent vendors are aware of

What we have seen happen here, as well as on other audits like our recent audit of winter maintenance contracts, is that City staff are paying what they think or assume they should pay rather than following the express terms of call documents (e.g., request for proposals, request for quotations, etc.) and contracts. If such terms were implied because past practice was to pay for breaks, it should be made clear in all call documents and contracts.

Call documents and the ensuing contracts should be open and transparent to ensure all prospective bidders interested in doing business with the City are aware of any implied terms and can factor such terms into their bid response.

New procurement call now includes paid breaks

We did note that the new procurement call for the 2021 contract year has expanded the definition of work hours to include two 15-minute paid breaks.

Recommendation:

9. City Council request the General Manager, Parks, Forestry and Recreation Division, to ensure that payment for services is consistent with the express terms of the contract.

B. 2. Verify Vendors' Compliance with Safety Provisions in the Contract

Work practices observed raise a safety concern

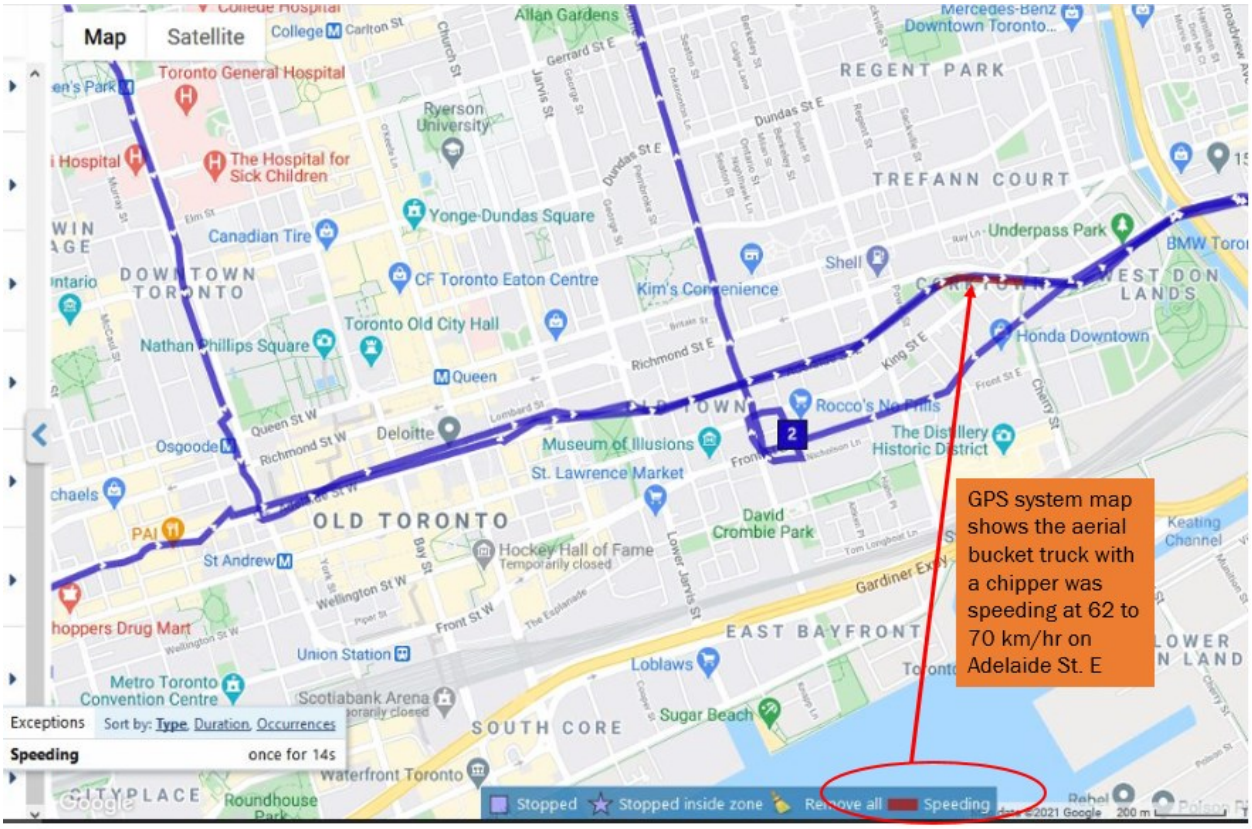
Tree maintenance crews under contract to the City were sometimes observed exhibiting work practices that raise a concern for safety. In some cases, crews were sometimes observed, potentially:

- not wearing the proper safety equipment to operate machinery
- not operating the equipment in a safe manner
- not complying with the *Highway Traffic Act*

[23] During our follow-up review, we observed that even if crews were not recording any break times on their daily logs, they were still taking at least 30 minutes in breaks or were otherwise idle or non-productive at work sites.

On a few occasions, the surveillance teams had to stop following contracted crews because they considered it unsafe to continue. For example, when a crew was observed running a red light or driving the wrong direction on a one-way street. We do note that the GPS systems used by the vendors have the capability to support monitoring of safe driving (e.g. speeding). An illustrative example is included in Figure 8.

Figure 8: Example of a Vendor's GPS System Map Showing Where the Crew's Truck Was Speeding



Contract requires vendors to comply with safety provisions at their own expense

The contract requires vendors to comply (at their own expense) with applicable provincial legislation including (but not limited to) the Occupational Health & Safety Act, Arborist Industry – Safe Work Practices, and the Highway Traffic Act.

For example, the contract requires that:

> *"The Vendor acknowledges its conversance with and responsibility under all Safety Regulations applicable to the type of work to be performed and agrees to ensure complete compliance with all regulations and provisions contained in or issued under the Occupational Health & Safety Act, Arborist Industry – Safe Work Practices, Infrastructure Health and Safety Association (Formerly EUSA) Rule Book, the Highway Traffic Act, and any other applicable regulations, and any amendments to the foregoing acts and regulations and any new applicable act or regulation enacted from time to time."*

City should verify vendors comply with contract requirements

It costs money for firms to train and supervise their employees to ensure they comply with these requirements. To maintain a level playing field, the City should verify that vendors comply with the contract requirements. Otherwise it is unfair to those who invest the cost to ensure compliance while others do not. PFR-UF should remind vendors of their responsibility to train and monitor the safety of their own staff.

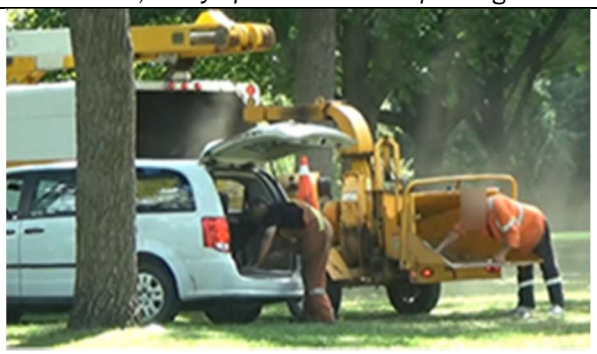
Existing on-site inspections by PFR-UF staff are insufficient

PFR-UF's approach to on-site inspections does not appear to be effectively identifying contract non-compliance in practice. During this follow-up review, we observed crews operating machinery and performing work in a manner that does not always appear to align with expected safe work practices. Examples are included in Table 1 below.

The frequency with which we observed these potentially unsafe work practices compared to the very low rates identifed in PFR's FPIR database raises a question as to the effectiveness of on-site inspections. In many cases, where PFR-UF staff showed up at the job site during our observations, crews were not yet actively working and PFR-UF inspection staff often only remained at the site for a brief period of time. Yet, FPIR records show the PFR-UF staff concluded appropriate personal protective equipment was being worn, proper traffic controls were in place, and there was safe use of tools.

This is not sufficient to be able to monitor compliance with contract requirements for safe work practices. The on-site inspections provided minimal opportunity for PFR-UF staff to effectively observe whether crews were consistently following safe work practices and complying with the related contract requirements.

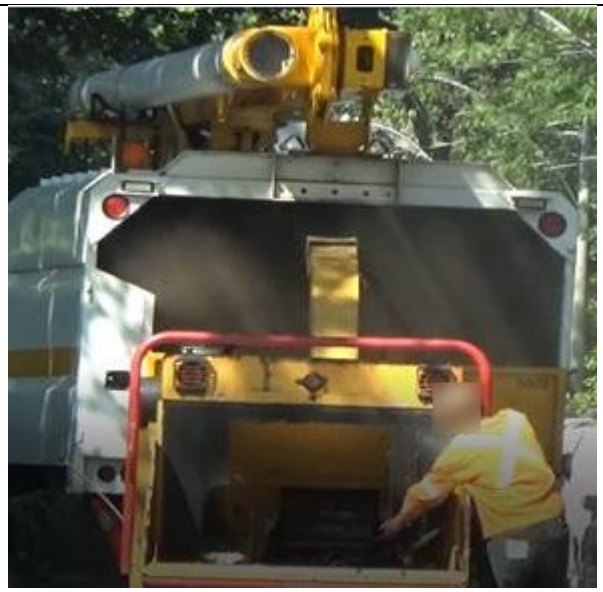
Table 1: Examples of Potential Unsafe Work Practices

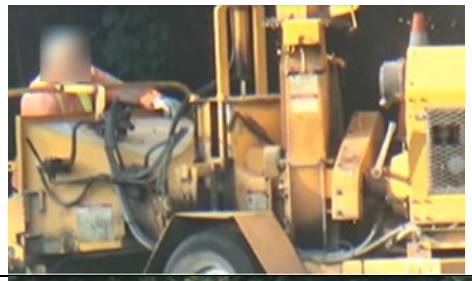
Description	Examples of what we observed
Crewperson is **not wearing appropriate personal protective equipment.** Proper equipment to protect feet, legs, hands, face, and head should include gloves, safety glasses, hard hats, and hearing protection.	 *No hard hat while operating bucket*  *No hard hat, no eye protection while pruning tree*
Crewperson is **not wearing appropriate personal protective equipment** (including eye and ear protection and hard hats). Crewperson is **operating a chipper wearing loose clothing or gauntlet-style gloves. These items can catch in the equipment's moving parts risking injury**. Crewperson is **leaning directly into the infeed chute of the chipper while it is in operation**. Arborist Safe Work Practices for brush chipper operation says: *Operators shall wear appropriate Personal Protective Equipment* *Do not wear jewelry or clothing that could become entangled in brush or moving parts* *Never place any body parts in the in-feed chute for any reason while the machine is operating* https://www.wsps.ca/WSPS/media/Site/Resources/Downloads/arborist_manual_3rd_edition_final2.pdf	

The US Department of Labour issued a bulletin on the hazards of wood chippers indicating wood chippers can be dangerous for operators and others working nearby. When workers feed tree limbs and branches into chippers they are at risk of getting caught in the machine and being pulled into the fast-turning chipper knives. The bulletin specifically discusses:

> *"The Denver, Colorado OSHA Area Office investigated a fatal accident in which a chipper operator was killed when he was pulled into the chipper.*
>
> *At the time of the accident, the operator was feeding branches into the chipper. The operator usually stood to the side of the chipper feed table in order to have easy access to the feed control bar. However, the investigation indicated that, in this incident, the operator was standing directly in front of the infeed chute. Further, the leather gloves that the operator was wearing to protect his hands from cuts and scrapes had cuffs. While the operator stood in front of the infeed chute, it is possible that a tree branch snagged the cuff of his glove and pulled him into the chipper. He was killed instantly upon contact with the rotating chipper knives."*

https://www.osha.gov/dts/shib/shib041608.html





Not maintaining a safe distance from overhead power lines. The boom operator is **talking on the phone while navigating between the overhead wires**.

The provincial Ministry of Labour, Training and Skills Development notes

> *"Workers risk serious, life-changing injuries and possible death if they come in contact with energized conductors or equipment.*
>
> ***It takes very little electrical current to kill a worker. Less than one amp of electricity can cause a worker to stop breathing.*** *Contact with a live 15-amp circuit (equivalent to a standard household 125-volt circuit) can result in death, according to the Infrastructure Health and Safety Association.*
>
> *At Ontario workplaces, one in five critical injuries and one in 18 non-critical injuries involving electricity results in death, according to the Electrical Safety Authority."*

https://www.labour.gov.on.ca/english/hs/sawo/pubs/fs_electrical.php

There may be a general safety issue when crewpersons are **doing other things** (e.g. smoking or using a phone) while operating equipment such as a boom, as the **crewperson may become distracted**. Also, having one hand occupied means the crewperson is only using one hand to operate the boom, well above the ground, and is not using the other hand for support/stability.	

During this follow-up review, we generally did not see the same extent of questionable practices for City crews as for contracted crews.

Recommendation:

10. City Council request the General Manager, Parks, Forestry and Recreation Division, to:

a. verify that vendors fulfill their contractual responsibilities for ensuring complete compliance with all regulations and provisions contained in or issued under the Occupational Health & Safety Act, Arborist Industry – Safe Work Practices, Infrastructure Health and Safety Association (Formerly EUSA) Rule Book, the Highway Traffic Act, and any other applicable regulations, and any amendments to the foregoing acts and regulations and any new applicable act or regulation enacted from time to time

b. ensure non-compliance is properly documented as part of vendor contract performance management processes

c. pursue measures up to and including contract termination for repeated non-compliance with safety provisions of tree maintenance contracts.

B. 3. Retain Access to Records Even After Contract Expiry

No record retention or right to audit clause prior to 2019 contract

PFR-UF did not incorporate key record retention and right to audit terms into their contracts. Specifically, record retention and access to supporting financial and related records were not included for 2017 and 2018 contract years.

PFR-UF could not obtain GPS records to compare daily logs to the GPS for 2017 and 2018

The City was unable to go back and obtain GPS records from vendors for 2017 and 2018 to compare GPS data to the daily logs for those years to identify discrepancies. After each contract ended, the vendor was no longer under any obligation to provide historical GPS records.

Record retention and right to audit clauses were added to standard RFQ terms in February 2018

For a number of years at the City, the standard business terms and conditions for request for proposals (RFPs) have included a right to audit clause. However, this was only added as a standard term in the corporate request for quotations (RFQ) template in February 2018.

Consequently, up until the issuance of the 2019 contract (RFQ 3701-18-0327), there was no explicit requirement for vendors retain records in support of invoices. RFQ 3701-18-0327 was the first time tree maintenance contracts specified that "*All Global Positioning Report records must be retained and available for the duration of the contract"* and a "Right to Audit" clause was included, giving the City access to all financial and related records during the term of the contract and for a period of 20 years following completion of the agreement.

PFR's ability to retroactively review payments and identify problematic daily logs for prior periods is limited by contract deficiencies

The lack of proper record retention and right to audit clauses limited PFR's ability to effectively perform retroactive reviews to identify problematic daily logs for the years covered by our 2019 audit (2017 and 2018).

Given that PFR has addressed record retention issues as part of their 2019 contract and the City has now included standard terms in RFQ call documents for the City's right to audit vendor records, we have not included a new audit recommendation. However, we reiterate that all City divisions, agencies, and corporations must ensure their contracts have appropriate terms and conditions to support effective management and enforcement of contracts, including access to records supporting amounts charged by vendors for an appropriate period of time following the end of the contract term.

C. Leverage High Quality GPS Records to Support Contract Monitoring

C. 1. Use Longitudinal and Latitudinal Data to Pinpoint Locations

PFR-UF obtained greater access to GPS information from Vendors A and B after the 2019 audit

For Vendors A and B, in mid-2019 after our audit, PFR-UF obtained real-time access to the vendors' GPS systems to download GPS reports. These reports show stop locations (fixed address locations) and the duration of the stops.

PFR-UF staff should leverage geo-coordinate information when reviewing GPS data to identify discrepancies

Longitude and latitude coordinates are particularly helpful when a fixed address resolved from those coordinates spans a large area (e.g., a park), and PFR-UF staff want to know the precise location of the vehicle (an example is included in Figure 11). During our follow-up review we noted that PFR-UF staff were not aware that they had access to this information (an example is included in Figure 10), instead relying on fixed address locations (an example is included in Figure 9). Longitude and latitude coordinates should be leveraged when PFR-UF reviews reported stop locations and durations per daily logs, against stop locations and durations per GPS reports.

Figure 9: Example of GPS information used by PFR showing only the fixed address (in this case, of a park)

Start Date	Driving Duration	Stop Date	Distance	Stop Duration	Location	Idling Duration	Maximum Speed
Aug 20, 2020 6:47:30 AM	0:32	Aug 20, 2020 7:20:17 AM	11	0:35	37 Humewood Dr, York, ON M6	0:00	59
Aug 20, 2020 7:55:50 AM	0:02	Aug 20, 2020 7:57:51 AM	0	2:36	Humewood Park, 37 Humewood	1:26	8
Aug 20, 2020 10:33:54 AM	0:13	Aug 20, 2020 10:47:23 AM	3	0:45	201 Ardmore Rd, Toronto, ON	0:00	52
Aug 20, 2020 11:32:59 AM	0:01	Aug 20, 2020 11:34:29 AM	0	1:18	201 Ardmore Rd, Toronto, ON	0:34	12
Aug 20, 2020 12:52:54 PM	0:14	Aug 20, 2020 1:07:25 PM	3	0:58	128 Hillsdale Ave W, Toronto,	0:00	48
Aug 20, 2020 2:06:12 PM	0:27	Aug 20, 2020 2:34:09 PM	13	15:59	30 Booth Ave, Toronto, ON M4	0:07	79

Figure 10: Example of available GPS data, including longitude and latitude coordinates showing precise location of the vehicle (in this case the tree location within the park)

TripDetailStartDateTime	TripDetailDrivingDuration	TripDetailStopDateTime	TripDetailDistance	TripDetailStopDuration	TripDetailLatitude	TripDetailLongitude	TripDetailLocation	TripDetailIdlingDuration	TripDetailMaximumSpeed
20/08/2020 6:47:30 AM	0:32	20/08/2020 7:20:17 AM	10.7044916	0:35	43.68342972	-79.42686462	37 Humewood Dr, York, ON M6C 2W3, Canada	0:00	59
20/08/2020 7:55:50 AM	0:02	20/08/2020 7:57:51 AM	0.1073442	2:36	43.68386459	-79.42614746	Humewood Park, 37 Humewood Dr, York, ON M6C	1:26	8
20/08/2020 10:33:54 AM	0:13	20/08/2020 10:47:23 AM	2.53204083	0:45	43.69402695	-79.42090607	201 Ardmore Rd, Toronto, ON M5P 3G2, Canada	0:00	52
20/08/2020 11:32:59 AM	0:01	20/08/2020 11:34:29 AM	0.17079195	1:18	43.69400406	-79.42110443	201 Ardmore Rd, Toronto, ON M5P 3G2, Canada	0:34	12
20/08/2020 12:52:54 PM	0:14	20/08/2020 1:07:25 PM	3.43385577	0:58	43.70224762	-79.40364838	128 Hillsdale Ave W, Toronto, ON M5P 1G7, Canada	0:00	48
20/08/2020 2:06:12 PM	0:27	20/08/2020 2:34:09 PM	13.1250257	15:59	43.65488815	-79.34343719	30 Booth Ave, Toronto, ON M4M 2M2, Canada	0:07	79

Figure 11: Tree Service Location based on GPS Coordinates

Source: Google Earth

C. 2. Retain GPS Records to Check Against Daily Logs, Invoices and Payments

PFR does not obtain and retain all GPS information supporting invoices

Although PFR-UF has live access to Vendor A and Vendor B's GPS systems and generates its own reports on an ad-hoc basis, it does not obtain and retain all relevant GPS data. PFR-UF relies heavily on its ongoing access to Vendor A and Vendor B's systems. Were the City to lose that access (live access is not a requirement of the current contract), PFR-UF would not have some of the GPS records it needs to support past payments.

PFR did not have GPS records for crews no longer assigned to City work

For example, in conducting this follow-up review, PFR-UF did not have access to the GPS data for certain crews we observed who subsequently were no longer assigned to work on the City contract. PFR-UF had to request the vendors to provide this data.

The City should ensure it obtains and retains all GPS information it is entitled to under contract, before paying invoices.

C. 3. Obtain GPS Routes Travelled Information Required by the Contract

Contract requires vendors to provide GPS routes travelled information

Vendors are required by contract to provide [emphasis added]:

> *"... a Global Positioning Report as and when requested within 5 (five) business days. Global Positioning and/or Automatic Vehicle Location reports shall identify all vehicles working for the City, routes travelled, stop locations (addresses) and the duration of the stops. All Global Positioning Report records must be retained and available for the duration of the contract."*

Routes cannot be reconstructed without detailed GPS data

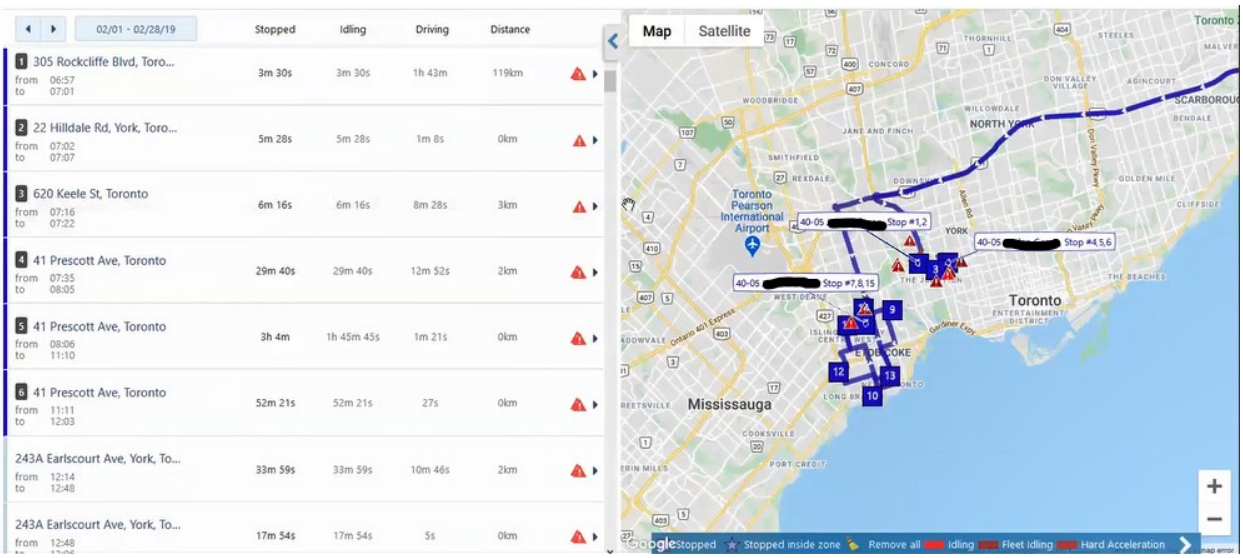
A vehicle's routes and stops cannot be effectively reconstructed using Google Maps based on start / stop locations alone. Detailed routes travelled data is needed. Routes travelled information helps to pinpoint where the crew is travelling and working, and helps to identify whether crews are taking a less efficient route to their destination in order to, for example, make an unreported stop for food or beverages. Routes travelled data can also flag unreported idling time on their way to a work location. In the event of a momentary GPS interruption, the location of the vehicle can be determined based on the route being travelled.

PFR should obtain and retain routes travelled information as provided for in the contract

All three vendors' GPS systems have the capability to provide detailed routes travelled information, meaning longitude and latitude coordinates captured by the GPS device at frequent intervals (e.g., minute-by-minute or more frequent). Vendors are required by contract to provide it. PFR should be accessing this information and strengthening contract provisions in this regard (if it does not adopt a requirement for vendors to use the City's own system). Accessing and analyzing this information would enable more effective oversight of tree maintenance crews.

Upon obtaining real-time access to Vendor A and B's GPS systems in mid-2019, PFR-UF gained the capability to see where crews were in real-time and to generate maps showing crew routes (an illustrative example of route map is include in Figure 12).

Figure 12: Example of Maps Available via Live Access to Vendor A and Vendor B's GPS System



Vendor C does not provide GPS routes travelled information

PFR-UF does not have live access to Vendor C's GPS system to view vehicle locations and routes travelled in real time. Vendor C is not required to provide the City with live access because the City did not incorporate this as a requirement in the contract. Still, Vendor C is obligated under the contract to provide reports containing routes travelled information.

Vendor C provides less detailed GPS information than was provided for our 2019 audit

After our 2019 audit, Vendor C began providing PFR-UF with weekly GPS reports. These reports do not include 'routes travelled' information or longitude and latitude coordinates. While PFR-UF was aware that Vendor C provided more detailed information for the 2019 audit (from which rough maps of routes travelled could be constructed), we do not know why, after the audit, PFR-UF was willing to accept much less detailed GPS information and less information than required by contract.

Vender C no longer provides vehicle locations on a minute-by-minute basis and Power Take Off information

In particular, Figure 13 shows that at the time of the audit, Vendor C was providing information on the location (address) of the vehicle on a minute-by-minute basis and whether the Power Take Off (PTO)[24] was on / off. Figure 14 shows an example of a route map that could be constructed based on this data.

[24] Power Take Off is an indicator of power for when the engine is potentially used to run the hydraulics for outriggers / booms).

Figure 13: GPS information provided <u>during</u> 2019 audit

Date and Time	POI	Street	City	Ignition	PTO
2018-03-23 2:02:26 PM		15 Glen Elm Ave	Toronto	ON	Off
2018-03-23 2:03:26 PM		46 Alvin Ave	Toronto	ON	Off
2018-03-23 2:04:26 PM		9 Alvin Ave	Toronto	ON	
2018-03-23 2:05:26 PM		St Clair Ave E	Toronto	ON	
2018-03-23 2:06:26 PM		240 St Clair Ave E	Toronto	ON	
2018-03-23 2:07:26 PM		255 Mt Pleasant Rd	Toronto	ON	
2018-03-23 2:08:26 PM		181 Mt Pleasant Rd	Toronto	ON	

Minute -by- minute location data

"Power Take Off" indicator of boom / hydraulics usage

Figure 14: Example of Map Constructed from GPS Data Provided During 2019 Audit

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.

Vendor C GPS information shows locations when there is a change in state

In contrast, Figure 15 shows that Vendor C is no longer providing minute-by-minute information. The report only shows when there is a change in state (e.g., change from ignition on / off, stopped, moving, idling[25], etc.). For example, the route taken to traverse from 142 Taysham Cres. to 95 Taysham Cres., or at what time the idling vehicle moved from 28 Taysham Cres. to 134 Taysham Cres. Also, no PTO information is provided – none of the vendors provide PTO information and there is no requirement to do so under the contract.

Figure 15: GPS information provided after 2019 audit

Activity	From Time	Start Location	To Time	End Location	Duration
Stopped	Aug 4, 2020 12:11:53 PM	142 Taysham Cres Toronto ON	Aug 4, 2020 12:39:28 PM	142 Taysham Cres Toronto ON	28 min
Ignition On	Aug 4, 2020 12:39:28 PM	142 Taysham Cres Toronto ON	Aug 4, 2020 12:39:28 PM	142 Taysham Cres Toronto ON	
Idle	Aug 4, 2020 12:39:28 PM	142 Taysham Cres Toronto ON	Aug 4, 2020 12:46:28 PM	95 Taysham Cres Toronto ON	7 min
Moving	Aug 4, 2020 12:46:28 PM	95 Taysham Cres Toronto ON	Aug 4, 2020 12:47:28 PM	89 Taysham Cres Toronto ON	1 min
Idle	Aug 4, 2020 12:47:28 PM	89 Taysham Cres Toronto ON	Aug 4, 2020 12:50:28 PM	52 Taysham Cres Toronto ON	3 min
Moving	Aug 4, 2020 12:50:28 PM	52 Taysham Cres Toronto ON	Aug 4, 2020 12:51:28 PM	28 Taysham Cres Toronto ON	1 min
Idle	Aug 4, 2020 12:51:28 PM	28 Taysham Cres Toronto ON	Aug 4, 2020 1:22:28 PM	134 Taysham Cres Toronto ON	31 min
Moving	Aug 4, 2020 1:22:28 PM	134 Taysham Cres Toronto ON	Aug 4, 2020 1:23:28 PM	131 Taysham Cres Toronto ON	1 min

C. 4. City Should Consider a City-Wide GPS Solution

Standardized City-wide requirements for GPS data may enable better, more consistent oversight, monitoring, and management of contractor performance

While various City divisions have requirements for GPS to be installed in contracted service providers' vehicles, the requirements included in contract documents are not consistent. For example, where tree maintenance contracts require,

> *"... a Global Positioning Report as and when requested within 5 (five) business days. Global Positioning and/or Automatic Vehicle Location reports shall identify all vehicles working for the City, routes travelled, stop locations (addresses) and the duration of the stops. All Global Positioning Report records must be retained and available for the duration of the contract."*

winter maintenance contracts are more detailed and include requirements to,

> *"Allow viewing of the equipment in motion leaving tracks or 'breadcrumbs' as it travels with arrow indicators for direction and showing all operations as they occur including exact street locations via Web page browser*
>
> *The system shall provide vehicle information such as sensor for plow up or plow down, date, time started, time completed, total kilometers travelled, ...*

[25] Idling information provided to PFR-UF by Vendor C is also problematic because it indicates the vehicle is travelling a distance, even while 'idling'.

... Archived data ... shall include the following historical information, a) Vehicle number and type, b) Vehicle speed, direction and location (location to include street name and address), c) Time and distance ..., d) Stop time data."

City-wide approach gives the City control of the data

Given the common theme in recent audits of obtaining and leveraging GPS data to support contract management and monitoring, the City should consider having a City-wide approach that includes procuring GPS and requiring vendors to install the City's GPS in their vehicles similar to the approach used for winter maintenance.

City-wide solution allows vendors to bid on contracts without having to purchase a GPS system

This approach will allow the City to control the data so that it may be used to plan, manage and monitor both City and vendor crews. Recognizing that a contract requirement for complex GPS systems may be cost-prohibitive for smaller vendors wanting to compete for City business, a City-wide solution allows those vendors to bid on the contract without having their own GPS solutions.

Some of the current requirements and specifications from the City's GPS / telematics solution that would be relevant for tree maintenance contracts are included in Exhibit 1.

Recommendations:

11. City Council request the General Manager, Parks, Forestry and Recreation Division, to:

a. obtain GPS routes travelled information that includes actual location coordinates (longitude and latitude) that are routinely captured by vendors' GPS systems every minute (or more frequent) and whenever there is a vehicle change (start, stop, change in direction, power take off on/off, etc.)

b. retain all GPS records needed to support invoiced amounts in accordance with the City's record retention policy.

12. **City Council request the General Manager, Fleet Services Division, in consultation with the Chief Technology Officer, and management of Parks, Forestry and Recreation and of other client divisions, to:**

    a. **explore an enterprise-wide procurement of a telematics solution that can be leveraged into vehicles of outsourced service providers to support contract management and monitoring**

    b. **establish guidelines for how to leverage or integrate GPS data to support contract management and monitoring, including data analytics.**

D. Strengthen Contract Management and Contract Monitoring Mechanisms

D. 1. Design Contracts to Support Expected Outcomes

New procurement changes the way the City pays for tree maintenance services

In March 2020, the City put out a negotiated request for proposals for the supply and delivery of arboricultural services. The new procurement modifies the City's approach for tree maintenance services. The approach for some work will change so that the City is charged at unit rates per work package.

However, PFR will still approach a portion of the work the same way it currently does, with work being paid for on an hourly rate per crew basis. PFR will still need to separately address outcomes and productivity of the City's own tree maintenance crews.

To improve outcomes City should address how it will measure performance

Regardless of the method of establishing the price for tree maintenance services, to improve outcomes PFR-UF needs to make sure that:

- procurement call documents and ensuing contracts clearly lay out the demonstrable outcomes for outsourced services in a way that the City can measure whether they are being achieved by vendors
- the City implements effective processes to monitor and measure vendor performance and achievement of required outcomes

The need for PFR to lay out clear outcomes and monitor and measure performance apply to City tree maintenance crews as well.

PFR still has more to do to support better outcomes and value for money for tree maintenance services

Based on our review of the call documents together with findings from the original audit as well as this current follow up review, PFR-UF still has more to do to ensure expected outcomes in terms of quality (in accordance with specifications / accepted arboricultural practices), quantity to be delivered within contracted cost, and productivity / efficiency.

It remains to be seen how PFR will improve its processes in order to effectively oversee tree maintenance services and monitor outcomes expected under the future blended approach to paying for contracted tree maintenance services.

City should embed expected outcomes and measures in contracts

- City should embed expected outcomes and how it will measure those outcomes directly into call documents and contracts. For example, the City should consider defining
    - criteria or benchmark for PFR-UF assessing that hourly rate or unit rate work has been completed efficiently (e.g. expected volume of trees serviced based on complexity, timeliness of completion of the expected volume of work)
    - expected productivity levels for hourly rate work (e.g., proportion of hours actively working on trees vs. supporting activities vs. unproductive time which should not be paid)
    - how PFR will confirm hourly rate work and unit rate work packages have been delivered in accordance with specifications (e.g. geo-tagged before and after photos, comparison of GPS to daily logs, physical inspection, etc.)

City should define actions and remedies if required outcomes are not met

- City should define the actions and remedies if vendors do not meet the required outcomes, including such remedies as liquidated damages or contract termination.

Compare outcomes of City and contracted crews

Where the City is leveraging both City crews and contracted crews to do similar work, they should both be measured in a way that performance outcomes can be compared. This information can then inform how to optimally balance work allocation between in-house and outsourced services. The City should consider including terms that allow for awarding more or less work packages or hourly rate work based on relative performance compared to other City and contracted crews.

Recommendations:

13. City Council request the General Manager, Parks, Forestry and Recreation Division, to:

    a. define expected outcomes for tree maintenance service delivery and include related performance measures directly within the contracts

    b. specify actions and remedies for not meeting performance outcomes in the contracts

    c. consider contract terms that allow the City to base assignment of tree maintenance work packages or hourly rate work based on how crews perform relative to other crews.

14. City Council request the General Manager, Parks, Forestry and Recreation Division, to compare performance measures and outcomes achieved by City and contracted tree maintenance crews and use this information to determine the appropriate type and volume of work to allocate to City crews and outsourced service providers.

D. 2. Clarify Responsibilities, Accountabilities and Outcomes for Contracted Services

Being clear on responsibilities when outsourcing work

Outsourced contracts are undertaken to transfer the cost of managing crews and to help address workloads. Contracting out work does not mean 'out of sight, out of mind'. Responsibilities shift to vendors but the City is still accountable for outcomes achieved. City staff need to enforce the contract and ensure that it is receiving value for money for contracted services.

Vendors are responsible for completing work and supervising their crews

When work is outsourced, vendors are responsible for supervising their own crews, reporting and billing accurately and complying with the contract.

Management is accountable for outcomes

City management is accountable for ensuring that the vendor complies with the contract, delivers what they are contracted to do, and that the program as a whole achieves outcomes.

For example, tree maintenance vendors are responsible for submitting accurate daily logs and billing accurately. The contract should be clear on these responsibilities and the consequences of recurring inaccuracies. PFR remains accountable for making sure it has effective contract management mechanisms in place to detect inaccurate reporting and prevent overpayments.

A questioning mindset

Holding vendors accountable requires a questioning mindset by staff, combined with a full understanding of what is actually happening in the field and the technical judgement and the willingness to ask the right questions. For example, when the crews are reporting down time due to parked cars, PFR-UF needs to consider how it will obtain evidence to verify that the reported obstruction and extent of down time is accurate.

PFR-UF then needs to work with vendors to improve outcomes and, where necessary and appropriate, challenge the crews on expected and actual contract performance. For example, to reduce down time due to parked cars, the City can give direction on arranging to have space blocked off to parking in advance of planned work, pre-arrange towing or parking enforcement to minimize waiting time, and plan work so that crews can proceed to the next tree location if a parked car is in the way. If down time persists even after City has enabled solutions, the City should be questioning vendors on what they are doing to improve outcomes.

Trust but verify - reviewing records and properly investigating exceptions

When vendors provide explanations or justifications for discrepancies or exceptions, it is important that staff do not just take their word for it. Staff must trust but verify by obtaining reliable and persuasive supporting documentation or other evidence to corroborate what the vendor has said.

For example, when residents call and email detailed complaints about crews not productively working, PFR-UF staff should show up unannounced and / or discreetly observe crews for extended periods when they aren't expecting to be observed.

Another example would be when crews report parked cars interfering with work. PFR-UF staff should require and verify that crews have called it in, that licence plate searches are logged by PFR-UF staff, and photos provided to help assess whether the reported down time for parked cars is reasonable.

Recommendation:

15. City Council request the General Manager, Parks, Forestry and Recreation Division ensure contracts make clear the roles and responsibilities of City staff and the vendor for resolving problems that impact performance outcomes including crew productivity.

D. 3. Understand What's Happening in the Field to Strengthen Contract Monitoring Processes

Limits to how much can be uncovered by looking at documentation and records

Analyzing data and records and the results of periodic visits can help to identify risks and red flags, but physical observation of crews is critical to understanding daily routines, productivity loss and generally what is happening in the field.

Directly observing people and processes can provide a better sense of what the data is telling you

As we have shown through this follow-up review, from time to time, directly observing people and processes for full days with no advance notice enriches the information provided by documents and records. In fact, after just one day watching a few vehicles for the entire day, the Auditor General noticed significant productivity issues which need to be addressed.

Identified discrepancies between daily logs compared to GPS records may indicate there is a problem with what is being reported by crews in their logs, or may indicate there may be problems with GPS devices. Physical observation for extended periods of time confirms the reliability of GPS devices. Physical observation also validates whether what is being recorded in work logs is accurate, complete, and true. In essence, GPS indicates there is a problem, physical observation explains what is actually happening.

Through our follow-up review, we have also noted the persuasiveness of findings comes from gathering and comparing GPS records, daily logs, work orders / service requests, physical observation logs and videos / photos, where feasible.

Ongoing physical observation can help expose trends

Ongoing physical observation across a period of time can also help to understand whether there is an underlying trend of ongoing concern, or if discrepancies are isolated or rare exceptions. For example, observing the same person or crew over a period of time may indicate that problems identified in one record in a sample will likely be prevalent or recurring across similar records over a longer period of time.

To facilitate discreet physical observation and support monitoring, the City should request vendors to have unique vehicle identifiers more prominently displayed. As noted in Exhibit 2, having the vehicle readily identifiable is key to the City being able to investigate should local residents make a complaint about service.

We recognize that it is neither practical nor cost-effective to follow every vendor crew, and it is the vendor’s responsibility to manage and supervise their crews daily and to bill accurately.

Making a representative selection of records to review and crews to physically observe

Using statistical sampling to make a representative selection of records to review for discrepancies, supported by physically observing crews in the field, provides a reliable method to understand what is happening on a regular basis so that issues may be addressed. It also helps to verify whether contractors are complying with contracts and to quantify the impact if they are not. Additional considerations for statistical sampling are included in Exhibit 4.

At the root of the issue is that the City needs to improve how it monitors contract outcomes

In addition to physical monitoring, the City also needs to implement effective day-to-day management and monitoring of contracted service providers throughout the term of the contract and tracking of results against key outcomes.

Additional key controls to monitor can include:

- Effective on-site spot checks or inspections at times when work is actively underway and after it has been completed to inspect the quantity and quality of work being performed
- Supervisory review of daily activity logs for reasonableness, accuracy, and completeness. This should include review of supporting evidence such as GPS records, photos, call-in logs, inspection records, complaint files, etc.
- Questioning discrepancies and corroborating explanations received to reliable evidence
- Documenting and communicating any performance concerns and the expected response
- Retaining all relevant records.

Effectively designing and implementing controls shows that the City is appropriately overseeing, monitoring, and managing the contracted services

Effectively designing and implementing these controls in practice, shows that the City is appropriately overseeing, monitoring, and managing the contracted services. For example, in overseeing tree maintenance services, PFR management is accountable for ensuring

- PFR-UF staff review and confirm work is completed properly before signing the crews' paperwork. Geo-tagged photos of trees before and after work has been completed may be useful where forepersons cannot get out to conduct on-site inspections at all locations.
- PFR-UF staff promptly address any discrepancies and deficiencies with vendors so that all parties have a clear recollection of the day's activities.

- PFR-UF staff confirm that any necessary re-work is done at no cost to the City.
- PFR-UF staff document and ensure the vendor has reflected in their paperwork any direction to complete unscheduled work at additional job sites.

Given our observations in this follow-up review, we recommend the following to ensure the City has implemented appropriate contract management and monitoring mechanisms on all outsourced contracts:

Effective invoice verification is key

1. **Verify work prior to making payments** – including ensuring the vendor has the responsibility to bill correctly and confirming timely review of work the vendor has reported as completed against supporting evidence, followed by timely and immediate action to resolve discrepancies.

   Since our 2019 audit the accuracy of location reporting on crew work logs had improved to match better with GPS data; however, observations from our follow-up review described in Section A of this report, suggest that invoice verification processes still need to be strengthened.

Ensuring proper records are obtained, reviewed, and retained is key

2. **Know what records you need to retain in support of contract payments** – making sure the City has the documentation it needs now, should it need to quantify and recover funds for subsequently identified contract performance concerns in the future.

   Our 2019 audit, together with the current observations in Section B of this report, suggest that this is an area that PFR-UF needs to better address.

Improving outcomes by understanding and addressing what's happening in the field

3. **Understand what's actually happening in the field** before determining how best to pursue contract remedies, for example by:

   - **Adopting of reliable, valid, and robust sampling methodology** when reviewing documents and records for discrepancies.
   - **Directly observing people and processes** in the field to get a better sense of what the data is telling you
   - **Properly investigating exceptions** - corroborating explanations / justifications obtained from vendors.

Accountability mechanisms for contract management

Given our observations in this follow-up review and on other contracts we have reviewed, we recommend the City put in place additional supports and greater accountability City-wide for effective monitoring and management of significant outsourced contracts. This includes a structured approach to documenting contracting risks and controls, divisional management certifying or signing-off that key contract management controls have been appropriately designed and implemented in practice, and a robust independent compliance review process.

Recommendations:

16. City Council request the General Manager, Parks, Forestry and Recreation Division, to require tree maintenance vendors' vehicles to clearly indicate in large font text, easily readable at a distance, identifying:

a. the vehicle is on contract to the City of Toronto

b. a unique vehicle identification number

c. an appropriate contact phone number for the City of Toronto in case of complaints

17. City Council request the Controller to implement additional supports and greater accountability City-wide for effective monitoring and management of significant outsourced contracts, which may include:

a. well-defined control objectives for which divisions are expected to have designed and implemented key controls to reinforce effective oversight, monitoring, and management of outsourced services in accordance with the express terms of contract.

b. a structured approach to documenting contracting risks and controls with divisional management certifying or signing-off that key contract management controls have been appropriately designed and implemented in practice.

c. independent compliance review process to verify the key contract monitoring and contract management controls divisions have put into place are operating effectively, including extensive physical observation of contracted service providers from time to time.

Conclusion

The General Manager, PFR, reported in October 2019 that:

> *"**Parks, Forestry and Recreation (PFR) has vigorously undertaken steps to meet the AG's recommendations, improve management oversight**, explore options associated with contractual agreements with vendors and, in collaboration with the City Solicitor, pursue legal action if needed to recover any losses."*[26]

It is our view that in the 18 months since our audit, more action should have been taken by PFR to improve productivity and to support value for money for tree maintenance services, increasing the amount of time crews actually spent maintaining trees and reducing non-productive time.

PFR needs a better understanding of what is happening in the field, better data on the amount of time being spent on trees, and to be held accountable for improved outcomes resulting from actions taken.

In the follow-up review, we have seen that both City and contracted tree maintenance crews are, on average, spending less than half the day actively working on trees. By expediting actions to reduce time on supporting activities and minimizing unproductive time each day by an average of 30 minutes for every crew, we estimate City would produce around $1 million more work on trees annually, based on 2019 contracted rates and crews. One hour of increased productivity by all crews would yield an estimated $2 million worth of additional work directly on trees.

This means that PFR-UF management has further work to do to improve oversight, monitoring and supervision of its tree maintenance crews. Strategic leadership is key to moving the City towards achieving better outcomes.

The report highlights some key lessons learned for the City to increase productivity and value for money for tree maintenance services.

The 17 recommendations in this report help strengthen PFR (and, more generally, City) contract management mechanisms, addresses availability and quality of data and records, and suggests additional considerations for outsourced contracts.

[26] http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2019.AU4.14

Scope and Methodology for Follow-Up Review

Why we performed this review

In August 2020, we commenced a limited-scope follow-up review of certain aspects of tree maintenance services contracts to assess PFR's progress towards addressing issues and recommendations identified in our April 2019 audit report, "Review of Urban Forestry - Ensuring Value for Money for Tree Maintenance Services".

The intent of this review was to provide further observations and recommendations on Urban Forestry contract management mechanisms, availability of data and additional considerations for any outsourced contracts in response to City Council's July 28, 2020 request for the Auditor General to report further on this matter to Audit Committee.

Scope and Methodology

As part of our follow-up, and to confirm whether the results of PFR's own review of tree maintenance contracts made sense, our staff and surveillance specialists engaged by our Office observed vendor and City tree maintenance crews from July 31 to September 25, 2020.

For this follow-up, our teams observed City and contracted crews for over 500 hours spread across 36 business days:

City staff	10 full days
Vendor A	10 full days
Vendor B	11 full days
Vendor C	17 full days
	48 full days*

**plus 15 part days spread across City and contracted crews*

In general[27], crews were observed from the time they exited a City yard until their return to the City yard at the end of the work day. Crew movements and observations were documented in observation logs and video footage was captured where feasible.

[27] In some cases, physical observations were halted where the team could not continue to safely follow the crews. In some cases, teams were tasked with observing specific locations frequented by vendor crews rather than following a crew for the whole day.

To limit the potential that City and contracted staff would change their normal practices if they were aware follow-up work was underway, our observations were conducted without advising or obtaining information from City staff. We did not have access to a full population listing of all crews and vehicles under contract to the City, routes and work assignments because the City still uses a largely paper-based record keeping system. Additionally, as noted in this report, the truck markings were, in cases, not adequate to identify vehicles from a distance. Thus, for the purposes of this follow-up review, we had no choice but to randomly pick trucks to follow as they exited the yards for a non-statistical sample.

We compared observation logs, video footage, daily logs, and GPS data

We then compared:

1. Information from physical observation logs and video footage

2. Crew-reported work locations, work activities, and times recorded in Daily Work Activity Reports (referred to as "DWAR" or daily logs throughout this report) that had been approved by PFR-UF forepersons and supervisor for payment

3. GPS reports downloaded via PFR-UF's live access to Vendor A and B GPS systems[28] or as supplied to PFR-UF by Vendor C. Some GPS data was independently obtained by the Auditor General in order to corroborate or obtain more detailed GPS information than was provided through PFR-UF.

Our analysis represents our reasonable estimations of time (allowing for minor variances in clocks/watches) and activities based on real-time physical observations and available records and data.

Limitations

The focus of this review was to confirm that PFR was taking swift and significant action to implement recommendations from our 2019 audit. It was not an investigation of contractors or City staff. Our focus was on PFR management's role in improving how the Division oversees, plans, manages and monitors tree maintenance to achieve better outcomes. Therefore, our follow-up did not entail questioning City and contracted crews executing the work.

[28] Not all GPS records for Vendor A and B were available via the City's live access to the Vendors systems. UF staff had to request the vendors to provide such records because UF did not obtain or retain these records themselves.

This follow-up review is not considered a performance audit in accordance with GAGAS

This report presents the results of our limited scope follow-up review and does not constitute a performance audit conducted in accordance with Generally Accepted Government Auditing Standards (GAGAS). However, we believe we have performed sufficient work in satisfaction that the evidence obtained provides a reasonable basis for our findings and conclusions.

Exhibit 1: Information on GPS Accuracy

How Accurate is GPS Anyways?

GPS.gov, the official U.S. government website for information about GPS notes that *"**GPS-enabled smartphones are typically accurate to within a 4.9 m (16 ft.) radius** under open sky (view source at ION.org). However, their accuracy worsens near buildings, bridges, and trees. **High-end users boost GPS accuracy with dual-frequency receivers and/or augmentation systems. These can enable real-time positioning within a few centimeters**, and long-term measurements at the millimeter level."*[29]

GPS providers reported accuracy within a few meters

The vendors use GPS platforms where the GPS providers reported accuracy of within a few meters.

In reviewing GPS information, the City should not assume and accept that GPS is inaccurate up to any distance greater than a few metres with regular frequency. While interference may impact whether data can be transmitted so that a fixed address can be resolved in real time, the device will continue to track the geolocation (longitude and latitude coordinates) – meaning that the device will still capture the location of the vehicle and the fixed address will be resolved when a connection is re-established. There will only be a very small percentage of instances where a signal is blocked to the extent that the GPS device doesn't have a record at all.

Physical surveillance confirms accuracy of GPS

The physical surveillance we conducted during this follow-up confirms the locations of vehicles match GPS records. (i.e. the trucks were located where the GPS says they were)

The GPS provider for Vendor A, Vendor B, and the City indicated to us that their ping rate is *within 3 feet*

In an interview with the GPS provider for the City, who also happens to be the GPS provider for Vendor A and B, the GPS provider's staff indicated to us that their ping rate is *within 3 feet* (1 metre) accuracy. They noted that if their client were regularly getting significant inaccuracies[30], this is something they should be advising the GPS provider of, in order to look into the incident to get to the root cause of why they say the GPS is inaccurate.

The GPS provider's staff further advised us that where we observe a GPS signal bouncing around, on a more than occasional basis, this may indicate a problem with the device or that the device has been tampered with in an effort to block or jam the signal.

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[29] https://www.gps.gov/systems/gps/performance/accuracy/

[30] We used a distance of 25 metres (70 feet discrepancy) as the basis for our discussion.

Vendor C's GPS provider advised that "9.8 out of 10 times" their devices are very accurate within about 3 meters

We also spoke to the GPS provider for Vendor C. who indicated that "9.8 out of 10 times" their devices are very accurate within about 3 meters. Similar to the City's GPS vendor, the GPS provider for Vendor C indicated that, in Toronto, there are only a few areas, like Bay Street, with tall buildings where the signal may be lost for about 10-50 seconds. If there is a blip, they have 'the black box flight recorder' (a device that records all relevant flight data in the event of an aviation incident / accident), to say what happened if the signal was blocked or weak so that a diagnostic can occur.

We recognize that GPS can at certain times be temporarily interrupted for a brief moment – this is why it is key to obtain data for routes travelled based on longitude and latitude coordinates recorded at frequent intervals by the GPS device.

City's Technical Specifications and Requirements for GPS on its on Fleet

The City's 2016 request for proposal for a telematics solution for the municipal vehicle fleet included (amongst other requirements), the following business and functional requirements:

- The equipment can operate in temperatures ranging from -25°C to +50°C and operating humidity up to 95%
- The antenna is suitable for all equipment mounting (e.g., permanent or magnetic mount) and a suitable tamper proof cable in varying lengths is provided.
- The overall solution is capable of tracking, storing and reporting the movements and actions of a fleet of various vehicle types in real-time. Collection of data includes all GPS, sensor and engine data required by the City and being collected by the telematics unit.
- Data transmission rate is configurable. **Some vehicles will require real-time reporting (every 1, 5, 10, 30 seconds, 1 minute)** while others will require less frequent updates (3 minutes, 5 minutes) or on-demand (i.e., for trailers, generators, air compressors, etc.).
- Solution should have the ability to report on event changes and distance or a combination thereof.
- Event reporting includes **turn by turn reporting** (i.e. 15 degree change in directional heading causes GPS data to be sent and this allows ramps and other infrastructure to be covered).
- **Positional accuracy is within industry standard (i.e., less than 2.5 meters.)**
- The GPS receiver is able to track coarse acquisition code and link one frequency on at least 16 parallel continuous tracking channels with an update rate to be once per second.

- Time to first fix is 25 seconds or less for a cold start and warm start and 1 second for a hot start for reacquisition after losing GPS signal.
- The solution has a dead reckoning option or other means of aiding GPS information when GPS coverage is poor or unavailable in cases such as a vehicle indoors or underground.
- Each vehicle in the solution and on the map can be given a unique identifier as determined by the City (e.g., unit number).
- Vehicle remote configuration is performed via secure configuration management software, which is capable of remotely accessing and reconfiguring telematics unit parameters such as:
    - Distance and time reporting intervals
    - Destination for data communications
    - Sensor status changes and expansion of devices.
- Firmware has reporting capability on degrees (bearings): meaning the reporting frequency can be every 100 meters, 5 seconds, and 15 degrees of bearing change. This provides coverage for areas such as on and off ramps and short street segments.
- Store and forward capability: the solution is able to store at a minimum 1,000 records of GPS and telematics data when the cellular signal is weak or lost and sent when the cellular connection is regained.
- The solution allows **viewing of a vehicle in motion leaving tracks or "breadcrumbs" as it travels** with arrow indicators for direction and showing all operations (GPS & sensor services data) as they occur including exact street location.
- The solution allows users to view the above mentioned data for their entire fleet or select specific vehicles for a login session using a filter tool.
- The solution is able to use **warning indicators** that activate when the vehicle is not in motion for a set time period.
- The solution is able to provide **real time exception reporting** capabilities to immediately send customizable exception parameters via an email.
- In addition to live data, the solution is able to download data to pre-determined WIFI areas set up by the City (e.g., fuel sites).
- The solution has a screen refresh rate of no greater than 10 seconds.
- The solution is able to provide each data packet from the telematics unit and at a minimum contain all GPS data, telematics data captured from the vehicle, and sensor data.

- Telematics: The solution is able integrate through OBDII and/or CANBUS with discrete sensors such as, but is not limited to:
    - Water on / off
    - Box up / down
    - PTO Sensors (capturing PTO time)
    - Mechanical lift on / off
- The information from the vehicle / equipment to the database includes the following real-time as well as recorded historical information:
    - Vehicle speed, direction and location
    - Ignition key on or off
    - Engine idling vs. running time comparisons
    - Time and distance by each monitored sensor
    - Stop time data

Exhibit 2: Tips for Reporting Allegations and Additional Examples of Complaints Received Regarding Tree Maintenance Crews

In this Exhibit we provide some helpful tips for Toronto residents regarding how to support the City's ability to investigate allegations about tree maintenance crews. In addition, we highlight other examples of allegations the Auditor General and/or the Fraud and Waste Hotline has received regarding the productivity of tree maintenance crews. This Exhibit also highlights some allegations received directly by Urban Forestry staff.

Section A.2 of this report also discusses concerns regarding the productivity of tree maintenance crews further.

Tips for Toronto Residents Making Complaints About Tree Maintenance Services:

General public can report concerns with productivity of tree maintenance crews to the Fraud & Waste Hotline	At any time, the general public, City staff and anyone doing business with the City can report suspected fraud, waste, or wrongdoing involving City resources through the Fraud & Waste Hotline Program by: • Calling the Fraud & Waste Hotline at 416-397-7867 – answered 24/7 • Filling out and submitting complaints via a secure online form • Emailing complaints to AuditorGeneral@toronto.ca • Writing a physical letter[31] and mailing it to: Auditor General's Office, Fraud & Waste Hotline, 55 John St., 9th floor, Toronto, ON M5V 3C6
Vehicle identifier is a key piece of information	Key information needed to follow up on a complaint about tree maintenance crews not working efficiently or effectively include: • Vehicle identifier or licence plate • Dates and times • Location of vehicles / address of work site
Tree maintenance crews should display vehicle identifiers and contract information prominently	Currently, vendor vehicles are required to display a sign indicating the vehicle is under contract to the City of Toronto. However, vehicle identifiers are small and not easy to see at a distance. In contrast, as show below, for winter maintenance contracted vendors, all vehicles are numbered and the vehicle identifier is displayed prominently on the front, back and sides of the vehicle so there is little chance it can be missed.

[31] During the COVID-19 pandemic, our ability to retrieve physical letters is limited

Additional examples of allegations about productivity of tree maintenance crews

While the Auditor General observed similar behaviours to the concerns raised in these complaints, we did not confirm the validity of specific complaints. When complaints are made subsequent to events occurring, they cannot be validated through physical observation. However, PFR can conduct physical monitoring of the crew to confirm whether similar behaviours are observed which would point to a systemic concern that needs to be addressed.

1) Examples of complaints to the Auditor General's Office

Complaint 1:

"Last week I watched city contracted tree trimmers [vendor] *groom the Maple trees located on the boulevards of the street I have lived on for over 50 years. Each team (and there were two, one for each side of the street) consisted of a large open back truck with a cherry picker towing a wood chipper and two workers. The Maple trees on my street are fairly small and obviously carry no leaves at this time of the year. On average* ***each tree required approximately 15 minutes to be snipped, raked and to chip the few twigs that were trimmed.*** *Once they were finished with each tree (and the trees are only planted at every other house) the workers returned to their truck which was constantly running and* ***waited 45-50 minutes per tree before moving their vehicle up to the next house****. In an 8 hour period the crew trimmed 5 trees including the one pictured here"* [complaint received Dec. 2019]

Complaint 2:

*"Yesterday … we had some heavy wind gusts between 3 and 7pm resulting in major damage to park tree limbs … These branches were hanging precarious on another tree and low over the walkway … Photos below of the left over jagged breaks that were not properly done … I phoned 311 and provided a report last evening … this morning a private owned truck marked [vendor], "on contract to the city of Toronto" came around and **after a long time of inaction (drinking coffee, smoking cigarettes and just hanging around inside the cab of the truck on their phones)** I approached them and showed them the damaged branches … they eventually got around to removing the limbs and hauling them away. However they did not saw off the damaged limbs "*

Complaint 3:

" … noticed a tree trimming truck parked over the sidewalk for a little while, and there was not much activity otherwise"

2) Examples of complaints received directly by Urban Forestry staff:

311 does not track efficiency complaints related to tree maintenance crews	Although 311 does track service requests for tree maintenance, 311 does not track efficiency complaints received about tree maintenance crews on site but not performing work as would be expected. Instead 311 will escalate the call directly to PFR-UF. 311 may provide the caller information to allow them contact PFR-UF staff directly or direct the caller to the online complaints process.
PFR-UF is tracking some complaints	PFR-UF is tracking some complaints received in their FPIR database. However, there is no means for us to verify the completeness or accuracy of complaint tracking. Examples of complaints tracked include: • In June 2019, a home owner complained about work not being completed – vendor crew on site for 6 hours, only 1 hour work complete. An adjustment was made to billable time.

- In October 2019, a home owner complained about work not done – vendor crew had billed the City for 2 hours and 25 minutes to prune a tree. Upon inspection it was identified that there were large sections of deadwood and no evidence of any pruning being done. An adjustment was made to billable time.

- In July 2020, another tree maintenance crew identified work reported by a vendor crew as completed several weeks earlier had not been in fact been completed. An adjustment was made to billable time.

- Various complaints about vendor crew productivity – including the complaints in Section A.2. In all cases, Forestry staff noted no deficiencies and no adjustment to billings were made.

Complainant alleged vendor crew was stretching out breaks

At the end of January 2020, a local resident submitted the following detailed complaint to a Councillor and a PFR-UF Supervisor by email:

> *"Around 9am I heard chainsaw just outside my unit and noticed workers cutting down some branches. I was able to create a timeline as my balcony window has full view of the tree where I am sitting near my desk.*
>
> *Timeline*
> - *Around 9am - 9:35am – employees from [vendor] cut tree branches and left rope on the tree*
> - *9:40am – 11:30am - both employees seen standing around boardwalk railing area and witness them walking on the waterfront.*
> - *11:30am - 11:37am – both employees came back to the base of the tree to cut some branches on the ground.*
> - *11:45am – witnessed one employee with yellow vest going back to lake area for a smoke and other person went to their truck – he kept taking his yellow vest off. Then both employees went back to the lake.*
> - *12:30pm – both employees began to put branches in the wood chipper and removed the rope from tree.*
> - *12:50pm – employees from [vendor] left the park.*
>
> *I was surprised that an hour job took this long. As you can see in the first photo 5 branches were removed and all of it was completed around 9:35am. The workers didn't put the cut branches in the wood chipper until 12:30pm. The second photo shows a branch is still coming on to building property near our building. The whole reason for the call is to remove all branches coming towards our building.*

When I spoke to complaints department at the Forestry West location, I was told by [staff] *that* [vendor] *"received a lot of complaints". What is really frustrating is that I witnessed workers from* [vendor] *stretching out breaks and the Forestry Department is putting their trust in* [vendor] *after receiving a lot of complaints."*

In a subsequent reply to the local resident, the PFR-UF Supervisor indicated that

"After my review and in consultation with [vendor] *Supervisor's and crew, the time taken to complete the tree was consistent with the work that was done…"*

The local resident, in turn replied

"I am confused as to how you reviewed this matter and came to this conclusion. I have pictures and another witness to back up my timeline. According to my timeline they worked a total of an hour the whole time they were here. After working for 35 minutes, they took a break for almost two hours, 9:40am - 11:30am. They took another 45 minutes from 11:45am to 12:30pm before they started working again…Here is the timeline again…"

Toronto resident escalated concerns that productivity issues raised were not being taken seriously

After further email exchanges with the PFR-UF Supervisor, the local resident then escalated concerns regarding productivity of the tree maintenance crew directly to the PFR-UF Director by way of an email in late February 2020. In the email to the PFR-UF Director, the complainant indicates:

"I am writing this email regarding [vendor] *hired by the city. I've already written to* [PFR-UF Supervisor] *and gave him a timeline about how* [vendor] *crew took long breaks when they came out … to do a tree trimming job. When I called your complaints department I was told that* [vendor] *received a lot of complaints.*

… it's clear that my complaint and timeline is not being taken seriously … It seems on my end that no one took the time to investigate this issue. All that was done was [PFR-UF Supervisor] *talked to the crew and the two men denied they took long breaks … My complaint was not the only one on record as confirmed by your office…I would like to know what your office is doing to remedy this issue and what is being done to hold companies like [vendor] accountable."*

The complainant submitted a photo indicating it was taken when the crew took a long break at the waterfront.

Figure 16: Photo Submitted by a Toronto Resident

The complainant also submitted a second photo indicating it was when one employee took another long break in the truck. The second photo has not been included in this report because it clearly identifies the vendor.

That same day, the PFR-UF Director forwarded the complaint email to his staff to look into the matter and provide a response. In his email, the PFR-UF Director requested that a full investigation be completed with time logs and GPS reports, as well as a full list of complaints that had been noted.

PFR-UF staff recognized the complaint was a report of possible fraud and waste

In March 2020, PFR-UF staff responded to the complainant. The response makes the following comment [emphasis added]

> *"Thank you for your patience while Urban Forestry staff investigated your complaint further. I also want to thank you for your attention to this matter, and for taking the time to provide the evidence collected.* ***The City of Toronto takes reports of possible fraud and waste very seriously*** *and financial accountability is a top priority for the City of Toronto.*

PFR-UF management reviewed and investigated the complaint without advising the Auditor General

PFR-UF confirmed to the complainant that the Manager and Supervisor of Urban Forestry Operations formally reviewed this complaint and provided the complainant with investigation findings. The findings indicate [emphasis added]

> *"... Based on the required work at this location the time spent on the tree work is reasonable ....*

PFR-UF reported that a deficiency in the crew's performance was noted after an additional site inspection was completed

... An additional site inspection was completed by the Urban Forestry Operations Area Supervisor on February 5th, 2020, where ***a deficiency in the crew's performance was noted****. Following the site visit, Urban Forestry staff requested* [vendor] *staff to have a crew return to the site to complete additional tree maintenance work that was not completed during the first visit.*

At this time Urban Forestry staff also investigated and followed up with the [vendor] *Supervisor, addressing your complaint regarding productivity. The* [vendor] *Supervisor conducted a full investigation with the crew leader and confirmed the work completed and the time of day these activities took place.*

PFR-UF reported a vendor crew returned to the site to complete more work at no charge

PFR-UF advised the complainant that, after PFR-UF's investigation and site inspection, a vendor crew returned to the site and completed the additional tree maintenance work at no charge to the City.

Our review of this matter is ongoing

Our review and investigation of this and other related matters is ongoing and may be reported on separately to City Council should the need arise.

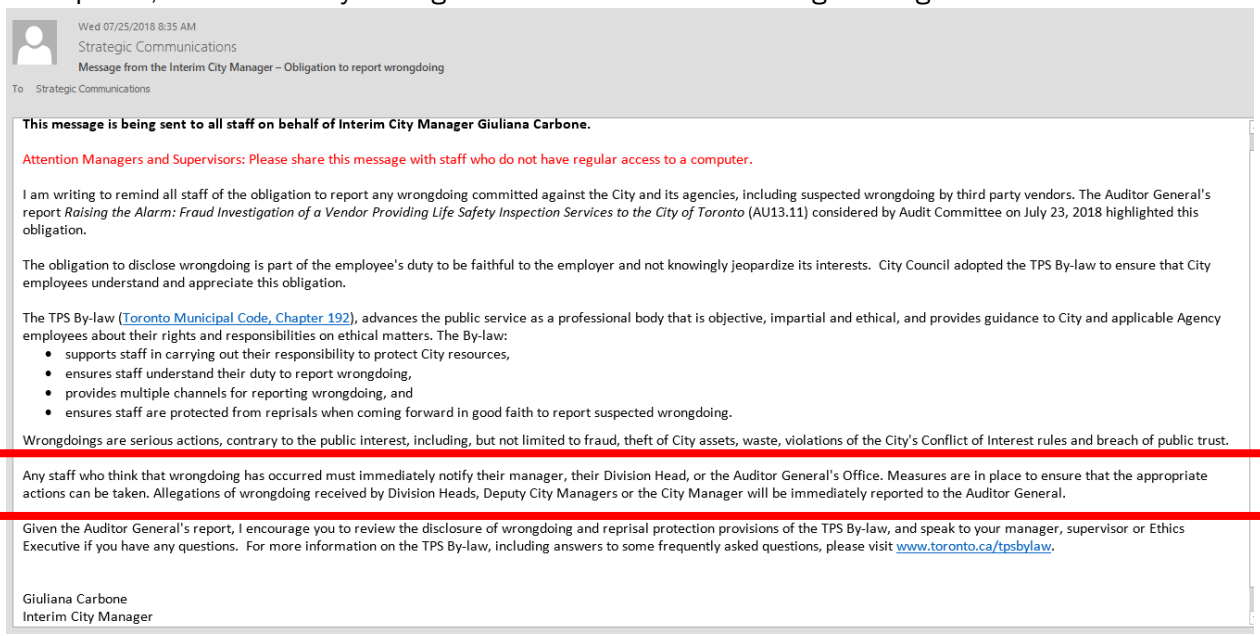
Exhibit 3: Communication to All Staff Regarding Their Duty to Report Potential Wrongdoing by Third-Party Vendors to the Auditor General

At its meeting on July 23, 2018, City Council adopted the following:

> *"16. City Council direct the City Manager to advise* ***all staff to report any allegations of*** *potential wrongdoing involving City resources, including* ***potential wrongdoing against the City by third-party vendors, to the Auditor General*** *for further investigation.*
>
> *17. City Council direct the City Manager to report to Council with advice about an obligation, in addition to those under the City of Toronto Act and the Toronto Public Service By-law, requiring City employees to report to the Auditor General allegations of wrongdoing by third parties."*

http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2018.AU13.11

In response, the Interim City Manager communicated the following message to all staff:



Wed 07/25/2018 8:35 AM
Strategic Communications
Message from the Interim City Manager – Obligation to report wrongdoing
To Strategic Communications

This message is being sent to all staff on behalf of Interim City Manager Giuliana Carbone.

Attention Managers and Supervisors: Please share this message with staff who do not have regular access to a computer.

I am writing to remind all staff of the obligation to report any wrongdoing committed against the City and its agencies, including suspected wrongdoing by third party vendors. The Auditor General's report *Raising the Alarm: Fraud Investigation of a Vendor Providing Life Safety Inspection Services to the City of Toronto* (AU13.11) considered by Audit Committee on July 23, 2018 highlighted this obligation.

The obligation to disclose wrongdoing is part of the employee's duty to be faithful to the employer and not knowingly jeopardize its interests. City Council adopted the TPS By-law to ensure that City employees understand and appreciate this obligation.

The TPS By-law (Toronto Municipal Code, Chapter 192), advances the public service as a professional body that is objective, impartial and ethical, and provides guidance to City and applicable Agency employees about their rights and responsibilities on ethical matters. The By-law:

- supports staff in carrying out their responsibility to protect City resources,
- ensures staff understand their duty to report wrongdoing,
- provides multiple channels for reporting wrongdoing, and
- ensures staff are protected from reprisals when coming forward in good faith to report suspected wrongdoing.

Wrongdoings are serious actions, contrary to the public interest, including, but not limited to fraud, theft of City assets, waste, violations of the City's Conflict of Interest rules and breach of public trust.

Any staff who think that wrongdoing has occurred must immediately notify their manager, their Division Head, or the Auditor General's Office. Measures are in place to ensure that the appropriate actions can be taken. Allegations of wrongdoing received by Division Heads, Deputy City Managers or the City Manager will be immediately reported to the Auditor General.

Given the Auditor General's report, I encourage you to review the disclosure of wrongdoing and reprisal protection provisions of the TPS By-law, and speak to your manager, supervisor or Ethics Executive if you have any questions. For more information on the TPS By-law, including answers to some frequently asked questions, please visit www.toronto.ca/tpsbylaw.

Giuliana Carbone
Interim City Manager

Exhibit 4: Statistical Sampling

Adopting a reliable, valid, and robust sampling methodology to develop estimates

Statistical sampling is not a unique methodology. It is commonly used for financial audits and is a well-established and widely-accepted practice.

For example, statistical sampling methods have also long been used to develop estimates of inappropriate billing in financial auditing situations. A properly designed and executed statistical sample, supported by appropriately gathered evidence can provide reliable estimates of the total amount of inappropriate billing or overpayments in a set or "population" of financial records.

Key components for using statistical sampling

Key components of a reliable, valid, and robust statistical sampling model are:

1. Definition of sampling population
2. Choice of sampling method
3. Sample size estimation
4. Selection of the records for the sample
5. Review of sampled records
6. Extrapolation
7. Confidence level and confidence intervals

We provided further information on these key components to the City's Internal Audit Division to consider should any City division, agency, or corporation seek their advice on drawing a statistical sample to assess the nature and extent of issues in operations, including under outsourced contracts.

Appendix 1: Management's Response to the Auditor General's Report Entitled: "Getting to the Root of the Issues: A Follow-Up to the 2019 Tree Maintenance Services Audit"

Recommendation 1: City Council request the General Manager, Parks, Forestry and Recreation Division, to periodically perform discreet physical observation of tree maintenance vendors for multiple whole days to ascertain the accuracy and reliability of reported work completed and paid for based on an hourly rate.

Management Response: ☒ Agree ☐ Disagree
Comments/Action Plan/Time Frame: Agree There is value in the information provided through physical observation. Urban Forestry (UF) will immediately explore how to scope the work, secure budget and develop a pilot under $50K DPO and a future RFQ to resource this type of work. Timing: Subject to securing an appropriate service provider and available funding; long term funding will be addressed in future budget submissions. Initial pilot Q4, 2021; expansion Q4, 2022, subject to budget approval.

Recommendation 2: City Council request the General Manager, Parks, Forestry and Recreation Division, to improve City and contracted tree maintenance crew productivity, outputs and outcomes by planning, assigning, and monitoring work to:

a. **maximize the amount of time spent actively working on tree maintenance activities (i.e. pruning, removal, stumping, fill and seed, etc.)**

b. **reduce the time spent on supporting activities (i.e. time spent at the yard, dumping, driving, etc.)**

c. **minimize non-productive time (e.g., time waiting for parked vehicles to be moved, idle time, unreported breaks, etc.)**

To support effective analysis and monitoring of productivity, Forestry Forepersons or Supervisors must verify crews accurately record information (including locations, activities, and times) on their daily logs and review the logs for productivity and completeness on a sample basis. The sample should include at least one daily log per crew within every two-week period. Where issues are noted on a selected daily log, additional logs should be reviewed and where necessary, daily logs and invoices should be adjusted in accordance with the contract.

Management Response: ☒ **Agree** ☐ **Disagree**

Comments/Action Plan/Time Frame:

Agree

a) UF will improve several processes, practices and procedures to maximize efficiency at work locations including, communications on crew expectations, parked car, hydro hold-off and daily log completion procedures, and on-site inspections.

Timing: procedures updated and circulated by Q2, 2021.

b) UF will enhance its organization of work and increase the number of work packages assigned to crews to reduce frequency of contact for work distribution and expedite daily work direction (to reduce yard time).

Timing: Q3, 2021

Further, as part of the Industrial Yard Strategy, plans are in place to open a wood chip compound at Murray Road Yard which is anticipated to be available for UF use by the end of 2022 (to minimize drive time).

Timing: Q1, 2023, subject to budget approval.

c) UF will continue to implement and expand its pilot project for expediting the temporary re-location of parked cars. UF will enhance the parked car call log to track all calls from crews pertaining to parked cars and improve how it is used to inform quality control and DWAR/GPS reviews. UF will explore additional opportunities to reduce wait times. UF has developed hydro hold-off procedures and has an updated draft of daily log guidelines which will be distributed immediately. Further, UF will communicate crew expectations regarding daily log procedures with regard to break time reporting.

Timing: communications and procedures updated and distributed Q2, 2021; monitoring pilot project to inform effective next steps Q4, 2021.

Two additional longer-term initiatives that will address the issue of time spent on supporting activities in yards includes (i) the transition to unit rate pricing contracts and (ii) the launch of the City's electronic work management system.

Timing: (i) pending award of 2021 Arboricultural Services Contract; (ii) In partnership with Divisions the high level Roadmap has been developed and includes a preliminary Q4, 2021/Q1, 2022 target for EWMS implementation for Urban Forestry.

UF will support effective analysis and monitoring of productivity as noted in the recommendation. This represents an increase in the sample size that is currently reviewed as part of Quality Control reviews, and as such requires additional staffing to support.

Timing: staffing resources pending 2022 Operating Budget approval; Q4, 2022

*UF will undertake a review to determine the cumulative impacts of all recommendations related to crew management and oversight, and develop and implement an effective plan to improve operational efficiency.

The implementation of Recommendations 1, 5, 6, 7, 8 and 11 will also contribute to the implementation of this Recommendation.

Recommendation 3: City Council request the General Manager, Parks, Forestry and Recreation Division, to:

a. **track all tree maintenance complaints to provide indicators of where contractor performance needs closer monitoring**

b. **include complaints in contract management and contractor performance evaluations, with a special emphasis on recurring issues**

c. **remind staff of their obligation to report any allegations of potential wrongdoing involving City resources, including potential wrongdoing against the City by third-party vendors, to the Auditor General for further investigation.**

Management Response: ☒ **Agree** ☐ **Disagree**

Comments/Action Plan/Time Frame:

Agree

a) UF Operations currently tracks complaints through its Forestry Performance Inspection Reports (FPIR) database, and UF will expand this to ensure that all complaints received from all other sources are included, ensuring centralized complaints tracking.

Timing: Initial process change Q2, 2021; implemented Q4, 2021.

b) UF will centralize all complaints into the FPIR database to ensure tracking of recurring issues is easily captured to support performance evaluations.

Timing: Initial process change Q2, 2021; implemented Q4, 2021.

c) Staff will be reminded of obligations to report allegations of wrongdoing.

Timing : Q1, 2021

Recommendation 4: City Council request the General Manager, Parks, Forestry and Recreation Division, to ensure Forestry Performance Inspection records accurately reflect the actual scope of the inspection or review performed and note any inspection criteria that staff are unable to assess based on work activities observed at the time of inspection.

Management Response: ☒ Agree ☐ Disagree
Comments/Action Plan/Time Frame: **Agree** Urban Forestry will update the Forestry Performance Inspection Report (FPIR) procedures to accurately reflect the actual scope of the inspection or review performed and note any inspection criteria that staff are unable to assess based on work activities observed at the time of inspection. Timing: improvements to procedure Q2, 2021; implemented Q4, 2021.

Recommendation 5: City Council request the General Manager, Parks, Forestry and Recreation Division, to:

a. **obtain precise route information (in accordance with contracts), which includes specific geo-location (latitude and longitude) at frequent (minute-by-minute) intervals and not just fixed addresses associated with tree locations**

b. **investigate any discrepancy between reported geo-location and GPS geo-location exceeding an acceptable threshold no greater than 25 metres. Any challenge to the GPS accuracy should be supported by GPS service providers' direct confirmation to the City that the data recorded by their GPS device is faulty. Explanations and supporting evidence for discrepancies should be properly documented**

c. **request crews to submit geo-tagged photos of each tree, showing the tree before and after work has been completed. Urban Forestry staff should review these photos when signing off on crews' daily logs**

d. **update Urban Forestry tree maintenance records with current geo-tagged photos of trees submitted by tree maintenance crews.**

Management Response: ☒ Agree ☐ Disagree
Comments/Action Plan/Time Frame: **Agree** a) UF currently obtains precise route information from vendors (in accordance with contracts), and where latitude/longitude and minute by minute intervals are not available, it will be requested. This issue will be rectified through the award of the 2021 Arboricultural Services Contract, which requires vendors to provide live GPS access which enables these features. Longitude and latitude and/or minute by minute interval GPS reports will be referenced only where there is an anomaly with the DWAR and GPS report. A mapping review will be included as part of the quality control inspection process. Timing: pending award of 2021 Arboricultural Services Contract. b) UF currently reviews a sample of DWAR and GPS when we conduct the quality control

inspections (2 per week per region for vendors and 1 per week per region for City crews). As per Recommendation 2, UF will increase the sample size of DWARs/GPS reports that are reviewed as requested. Discrepancies greater than 25 meters will be investigated. UF will properly document supporting evidence in a central database.

Timing: staffing resources pending 2022 Operating Budget approval; Q4, 2022

c) UF will immediately inventory City and vendor crews to determine if equipment is available to take and send "geo-tagged" photos. Alternatively, the capability of taking "regular" photos exists and submission of these will be requested. UF will also evaluate if the photos effectively document the work in order to improve daily reviews. The "geo-tagged" photos capability has been included in the 2021 nRFP.

Timing: pending award of 2021 Arboricultural Services Contract; staffing resources pending 2021 and 2022 Operating Budget approval; Q4, 2022

d) UF will consult Technology Services on photo storage size capacities of TMMS and the internal network drives.

Timing:Q2, 2021

*UF will undertake a review to determine the cumulative impacts of all recommendations related to crew management and oversight, and develop and implement an effective plan to improve operational efficiency.

The implementation of Recommendations 1, 2, 6, 7, 8 and 11 will also contribute to the implementation of this Recommendation.

Recommendation 6: City Council request the General Manager, Parks, Forestry and Recreation Division, to improve crew management at the operations yards to reduce daily yard time and increase efficiency on tree maintenance work. Urban Forestry management should monitor whether there is any improvement to operational efficiency when taking this action.

Management Response: ☒ **Agree** ☐ **Disagree**

Comments/Action Plan/Time Frame:

Agree

UF will enhance its organization of work and increase the number of work packages assigned to crews to reduce frequency of contact for work distribution and expedite daily work direction (to reduce yard time). UF will improve several processes, practices and procedures to maximize efficiency at work locations including, communications on crew expectations, parked car, hydro hold-off and daily log completion procedures. Operational efficiency will be monitored on an annual basis following implementation of the improvements noted above.

Timing: Q3, 2021; Monitoring of improvements to operational efficiency to begin Q4, 2022, in conjunction with the launch of EWMS

Two additional longer-term initiatives that will address the issue of time spent on supporting activities in yards includes (i) the transition to unit rate pricing contracts and (ii) the launch of the City's electronic work management system.

Timing: (i) pending award of 2021 Arboricultural Services Contract; (ii) In partnership with Divisions the high level Roadmap has been developed and includes a preliminary Q4, 2021/Q1, 2022 target for EWMS implementation for Urban Forestry.

*UF will undertake a review to determine the cumulative impacts of all recommendations related to crew management and oversight, and develop and implement an effective plan to improve operational efficiency.

The implementation of Recommendations 1, 2, 5, 7, 8 and 11 will also contribute to the implementation of this Recommendation.

Recommendation 7: City Council request the General Manager, Parks, Forestry and Recreation Division, to:

a. **analyze why certain crews report parked vehicles at higher frequency or longer duration than other crews and implement measures to reduce related downtime**

b. **request crews submit geo-tagged photos of the location of parked vehicles obstructing work at the time these obstructions occur. Urban Forestry forepersons should reconcile reported parked car time to the submitted evidence of the obstruction when they review and sign off on daily logs**

c. **expedite how it will minimize downtime related to parked vehicles obstructing work from proceeding, temporarily directing, until this issue can be properly addressed, tree maintenance crews to carry on to the next tree location if they cannot gain access and then return when parking enforcement and towing can be arranged. Urban Forestry management should monitor whether there is any improvement to operational efficiency when taking this action.**

Management Response: ☒ **Agree** ☐ **Disagree**

Comments/Action Plan/Time Frame:

Agree

This recommendation builds on Recommendation 5 of the 2019 Audit. While the 2019 recommendation focused on improving the efficiency of moving parked cars, this recommendation adds the need for crews to prove that they spent time trying to move cars. The following updates will address both.

a) UF currently has some data to support the analyzing of crews whose license plate call-ins are being tracked. UF will enhance the parked car call log to track all calls from crews pertaining to parked cars and improve how it is used to inform trends by crews. UF will monitor and adjust the tracking over a period of time to get the information required to support the proof that time was legitimately being spent trying to move cars. Once we have an analysis based on crew leader, this

will further inform potential action and continued next steps.

Timing: Q4, 2021.

b) UF will inventory City and vendor crews to determine if equipment is available to take and send "geo-tagged" photos. Alternatively, the capability of taking "regular" photos exists and submission of these will be requested. UF will also undertake an analysis to determine the effectiveness of the photos as documentation for verifying work. The "geo-tagged" photos capability has been included in the 2021 nRFP.

Timing: pending award of 2021 Arboricultural Services Contract; staffing resources pending 2021 and 2022 Operating Budget approval; Q4, 2022

c) The Towing Procedure document will be updated to include criteria to assist crew leaders in making decisions about efficient vehicle moving. UF will monitor improvements.

Timing: procedure updates Q2, 2021; staffing resources pending 2021 and 2022 Operating Budget approval; Q4, 2022

*UF will undertake a review to determine the cumulative impacts of all recommendations related to crew management and oversight, and develop and implement an effective plan to improve operational efficiency.

The implementation of Recommendations 1, 2, 5, 6, 8 and 11 will also contribute to the implementation of this Recommendation.

Recommendation 8: City Council request the General Manager, Parks, Forestry and Recreation Division, to:

a. **ensure Urban Forestry or vendor staff are pre-arranging all required hydro hold-offs, wherever possible, to minimize down time spent waiting for a hold-off. The time of pre-scheduled hold-off, time when hold-off was actually received and any time waiting should be clearly noted on daily logs**

b. **ensure any need for an emergency hold-off is reported to the Urban Forestry foreperson and is noted on their daily log. The time when request for hold-off was called in, time when hold-off was actually received and any time waiting should be clearly noted on daily logs.**

Management Response: ☒ **Agree** ☐ **Disagree**

Comments/Action Plan/Time Frame:

Agree

Pre-booking is done by City staff for all City and Vendor crews. Toronto Hydro has guidelines that the City is expected to follow on how and when hold offs can be booked and the process under which a hold off will be provided. UF convened a working group to deal with issues of downtime related to hold-offs, to explore issues noted above with the goal of minimizing downtime associated with hold-offs. UF has developed hydro hold-off procedures and has an updated draft of our daily log guidelines which will be distributed.

Timing: procedure distribution Q2, 2021.

*UF will undertake a review to determine the cumulative impacts of all recommendations related to crew management and oversight, and develop and implement an effective plan to improve operational efficiency.

The implementation of Recommendations 1, 2, 5, 6, 7 and 11 will also contribute to the implementation of this Recommendation.

Recommendation 9: City Council request the General Manager, Parks, Forestry and Recreation Division, to ensure that payment for services is consistent with the express terms of the contract.

Management Response: ☒ Agree ☐ Disagree
Comments/Action Plan/Time Frame: **Agree** UF is currently consulting with Legal Services on this issue. It is also noted that this issue has been rectified in the 2021 nRFP. Timing: pending award of 2021 Arboricultural Services Contract.

Recommendation 10: City Council request the General Manager, Parks, Forestry and Recreation Division, to:

a. **verify that vendors fulfill their contractual responsibilities for ensuring complete compliance with all regulations and provisions contained in or issued under the Occupational Health & Safety Act, Arborist Industry – Safe Work Practices, Infrastructure Health and Safety Association (Formerly EUSA) Rule Book, the Highway Traffic Act, and any other applicable regulations, and any amendments to the foregoing acts and regulations and any new applicable act or regulation enacted from time to time**

b. **ensure non-compliance is properly documented as part of vendor contract performance management processes**

c. **pursue measures up to and including contract termination for repeated non-compliance with safety provisions of tree maintenance contracts.**

Management Response: ☒ **Agree** ☐ **Disagree**
Comments/Action Plan/Time Frame: **Agree** a & b) UF, together with PMMD, will continue to ensure that all relevant legislation is included in all procurement documents. UF will ensure non-compliance, that we are aware of, is properly documented as part of vendor contract performance management processes. The City may become aware of issues through conducting on-site inspections or complaints received, and we will act on them accordingly. Timing: ongoing. c) UF will pursue measures up to and including contract termination for repeated *and/or severe* non-compliance with safety provisions of tree maintenance contracts. Timing: ongoing.

Recommendation 11: City Council request the General Manager, Parks, Forestry and Recreation Division, to:

a. **obtain GPS routes travelled information that includes actual location coordinates (longitude and latitude) that are routinely captured by vendors' GPS systems every minute (or more frequent) and whenever there is a vehicle change (start, stop, change in direction, power take off on/off, etc)**

b. **retain all GPS records needed to support invoiced amounts in accordance with the City's record retention policy.**

Management Response: ☒ **Agree** ☐ **Disagree**
Comments/Action Plan/Time Frame: **Agree** a) UF currently obtains precise route information from vendors (in accordance with contracts), and where latitude/longitude at frequent (minute by minute) intervals is not available, it will be requested. This issue will be rectified through the award of the 2021 Arboricultural Services Contract, which requires vendors to provide live GPS access which enables these features. Longitude and latitude and/or minute by minute interval GPS reports will be referenced only where there is an anomaly with the DWAR and GPS report. A mapping review will be included as part of the quality control inspection process. Timing: pending award of 2021 Arboricultural Services Contract. b) Moving forward, UF will retain all GPS records. Timing: Q1, 2021

*UF will undertake a review to determine the cumulative impacts of all recommendations related to crew management and oversight, and develop and implement an effective plan to improve operational efficiency.

The implementation of Recommendations 1, 2, 5, 6, 7, and 8 will also contribute to the implementation of this Recommendation.

Recommendation 12: City Council request the General Manager, Fleet Services Division, in consultation with the Chief Technology Officer, and management of Parks, Forestry and Recreation and of other client divisions, to:

a. **explore an enterprise-wide procurement of a telematics solution that can be leveraged into vehicles of outsourced service providers to support contract management and monitoring**

b. **establish guidelines for how to leverage or integrate GPS data to support contract management and monitoring, including data analytics.**

Management Response: ☒ **Agree** ☐ **Disagree**

Comments/Action Plan/Time Frame:

Fleet Services (FS) has a contract in place to support City-wide procurement of a telematics solution that can be integrated into vehicles of outsourced service providers to improve contract management, data analytics, decision making, monitoring and service delivery.

Timing: FS will report back on this in Q4, 2021 to the General Government and Licensing Committee.

Recommendation 13: City Council request the General Manager, Parks, Forestry and Recreation Division, to:

a. **define expected outcomes for tree maintenance service delivery and include related performance measures directly within the contracts**

b. **specify actions and remedies for not meeting performance outcomes in the contracts**

c. **consider contract terms that allow the City to base assignment of tree maintenance work packages or hourly rate work based on how crews perform relative to other crews.**

Management Response: ☒ Agree ☐ Disagree
Comments/Action Plan/Time Frame: **Agree** a & b) Information regarding expected outcomes is included in the current contract such as: meeting or exceeding recognized industry standards and City pruning guidelines and standards. These expectations have been enhanced through the 2021 nRFP for hourly rates and includes minimum productivity requirements for unit rate contracts. Further, UF will use future data obtained through EWMS to monitor trends and define expected outcomes and related performance measures to inform future contract development. Timing: subject to the launch of EWMS (in partnership with Divisions the high level Roadmap has been developed and includes a preliminary Q4, 2021/Q1, 2022 target for EWMS implementation for Urban Forestry), and pending award of 2021 Arboricultural Services Contract. c) UF will explore with PMMD whether contract terms based on performance is feasible. UF anticipates discussions with Labour Relations and CUPE Local 416 will need to take place with respect to the implementation of this recommendation. Timing: subject to consultation with partnering divisions.

Recommendation 14: City Council request the General Manager, Parks, Forestry and Recreation Division, to compare performance measures and outcomes achieved by City and contracted tree maintenance crews and use this information to determine the appropriate type and volume of work to allocate to City crews and outsourced service providers.

Management Response: ☒ Agree ☐ Disagree
Comments/Action Plan/Time Frame: **Agree** UF will use data available and future data obtained through EWMS to monitor all crews and use it to inform future decisions on work allocation between City staff and outsourced contracts. UF anticipates discussions with PMMD, Labour Relations and CUPE Local 416 will need to take place with respect to the implementation of this recommendation. Timing: subject to the launch of EWMS (in partnership with Divisions the high level Roadmap has been developed and includes a preliminary Q4, 2021/Q1, 2022 target for EWMS implementation for Urban Forestry); subject to consultation with partnering divisions and organizations; staffing resources subject to future Operating Budget approval.

Recommendation 15: City Council request the General Manager, Parks, Forestry and Recreation Division ensure contracts make clear the roles and responsibilities of City staff and the vendor for resolving problems that impact performance outcomes including crew productivity.

Management Response: ☒ Agree ☐ Disagree
Comments/Action Plan/Time Frame: **Agree** All future tree maintenance contracts will include this language. Timing: pending award of 2021 Arboricultural Services Contract and ongoing.

Recommendation 16: City Council request the General Manager, Parks, Forestry and Recreation Division, to require tree maintenance vendors' vehicles to clearly indicate in large font text, easily readable at a distance, identifying:

a. **the vehicle is on contract to the City of Toronto**

b. **a unique vehicle identification number**

c. **an appropriate contact phone number for the City of Toronto in case of complaints.**

Management Response: ☒ Agree ☐ Disagree
Comments/Action Plan/Time Frame: **Agree** UF currently has magnets with the words "Under Contract to City of Toronto Urban Forestry" and provides them to the vendors who are required to affix to trucks as per contractual obligations. Vendors and City vehicles already have a unique vehicle identification number located on the truck. UF will design and produce new signs that will include the addition of the "311" City standard phone number. Timing: pending award of 2021 Arboricultural Services Contract.

Recommendation 17: City Council request the Controller to implement additional supports and greater accountability City-wide for effective monitoring and management of significant outsourced contracts, which may include:

a. **well-defined control objectives for which divisions are expected to have designed and implemented key controls to reinforce effective oversight, monitoring, and management of outsourced services in accordance with the express terms of contract**

b. **a structured approach to documenting contracting risks and controls with divisional management certifying or signing-off that key contract management controls have been appropriately designed and implemented in practice**

c. **independent compliance review process to verify the key contract monitoring and contract management controls divisions have put into place are operating effectively, including extensive physical observation of contracted service providers from time to time.**

Management Response: ☒ **Agree** ☐ **Disagree**
Comments/Action Plan/Time Frame: Agree. The Controller, as part of addressing recommendation 10 from AU3.16 *Audit of Interface Invoice Payments - Improving Contract Management and Payment Processes to create a Contract Management Centre of Excellence Unit*, will incorporate these additional supports to assist Divisions in monitoring and managing contracts. The control objectives, documentation and monitoring processes identified by the AG will also be incorporated in the enterprise wide internal control framework currently under development by the Controller. Timing: Q4, 2022.

AUDITOR GENERAL TORONTO