

AU8.6

**Presentation to the Audit Committee
on February 16, 2021**

**AUDITOR
GENERAL**

TORONTO

Getting to the Root of the Issues: A Follow-Up to the 2019 Tree Maintenance Services Audit

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Overview

1. How did we get here?
2. How we approached the follow-up
 - What we found
3. Recap and Conclusion
 - Where to from here?

How we got here

Apr 2019

AG Audit Report
“Review of Urban
Forestry -
Ensuring Value
for Money for
Tree Maintenance
Services” (AU2.4)

Jul 2020

PFR/Legal Update and
Legal Advice (IE14.8)

- *Results of PFR’s review*
- *City Council requested the AG to report further to the Audit Committee on this matter*

Oct 2019

PFR Urban Forestry
Status Update on AG
Recs (AU4.14)

- *“...PFR has vigorously undertaken steps to meet the AG's recommendations, improve management oversight...”*

Feb 2021

AG Follow-Up Report
of 2019 Tree
Maintenance Audit

- *Did PFR take swift and significant action?*
- *Are PFR-UF controls effective?*

How we approached the follow-up

- Over 500 hours of observations from July 31 – Sept 25, 2020
 - Field observation provides a more fulsome picture of what is actually happening in the field
- We compared
 1. **physical observations**
with corresponding
 2. **daily logs** prepared by crews
after the daily log had already been signed off by PFR-UF forepersons and approved by supervisors for payment
 3. **vendor and City GPS data** provided by PFR-UF or obtained directly from GPS providers

There is a need to focus on outcomes....

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

Strategic Leadership is needed to:

- A. Prioritize Actions to **Improve Operational Efficiency and Productivity**
 - A. 1. Question Discrepancies in Daily Logs – the GPS is Accurate
 - A. 2. Assess Productivity When Measuring Outcomes
 - A. 3. Reduce Non-Productive Time Waiting for Parked Vehicle Removal and Hydro Hold-Offs
- B. **Apply** the Express **Terms of Contract** in Practice
 - B. 1. Ensure Payments Align with Express Terms of Contract
 - B. 2. Verify Vendors' Compliance with Safety Provisions in the Contract
 - B. 3. Retain Access to Records Even After Contract Expiry
- C. **Leverage High Quality GPS Records** to Support Contract Monitoring
 - C. 1. Use Longitudinal and Latitudinal Data to Pinpoint Locations
 - C. 2. Retain GPS Records to Check Against Daily Logs, Invoices and Payments
 - C. 3. Obtain GPS Routes Travelled Information Required by the Contract
 - C. 4. City Should Consider a City-Wide GPS Solution
- D. **Strengthen Contract Management** and Contract Monitoring Mechanisms
 - D. 1. Design Contracts to Support Expected Outcomes
 - D. 2. Clarify Responsibilities, Accountabilities and Outcomes for Contracted Services
 - D. 3. Understand What's Happening in the Field to Strengthen Contract Monitoring Processes

A. Prioritize Actions to Improve Operational Efficiency and Productivity

Assess Productivity When Measuring Outcomes

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

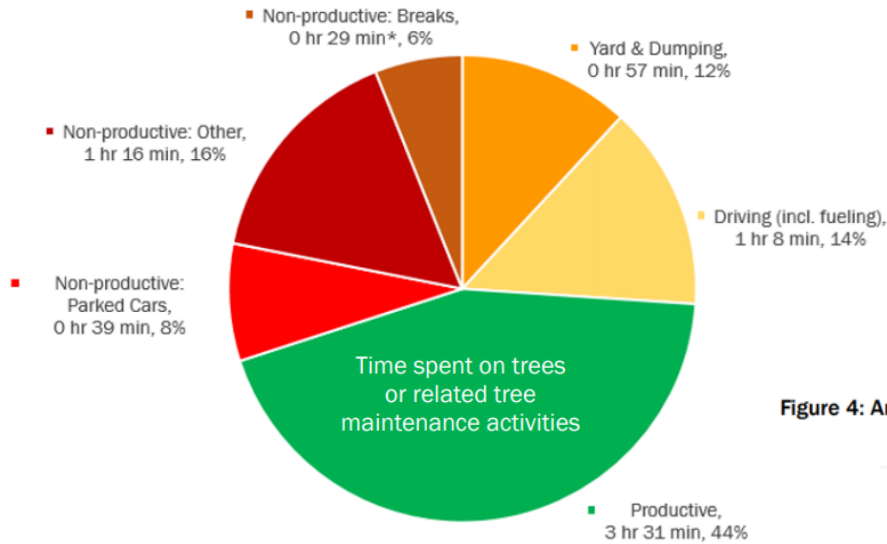


Figure 4: Analysis of Productive Time for Crews Observed During the Period from Jul 31 – Sep 25, 2020

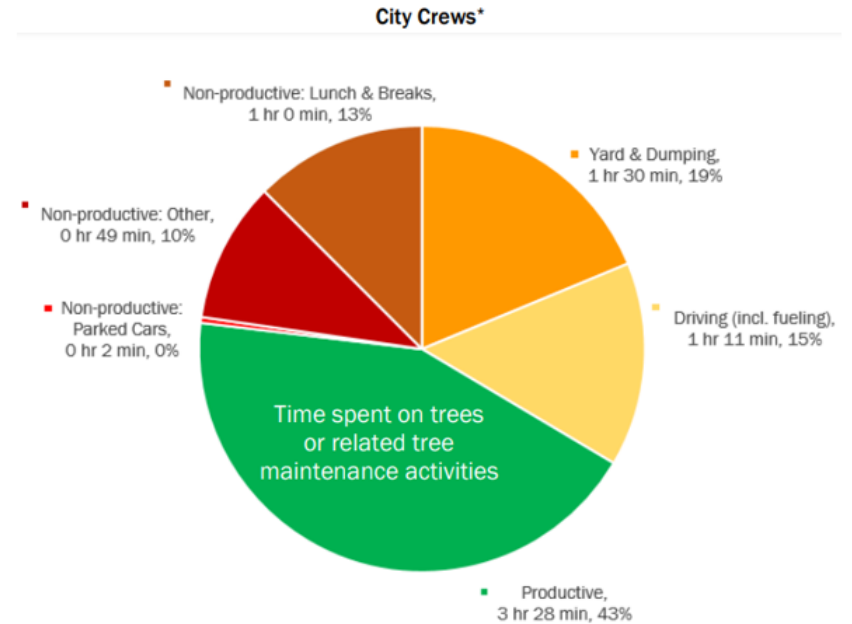
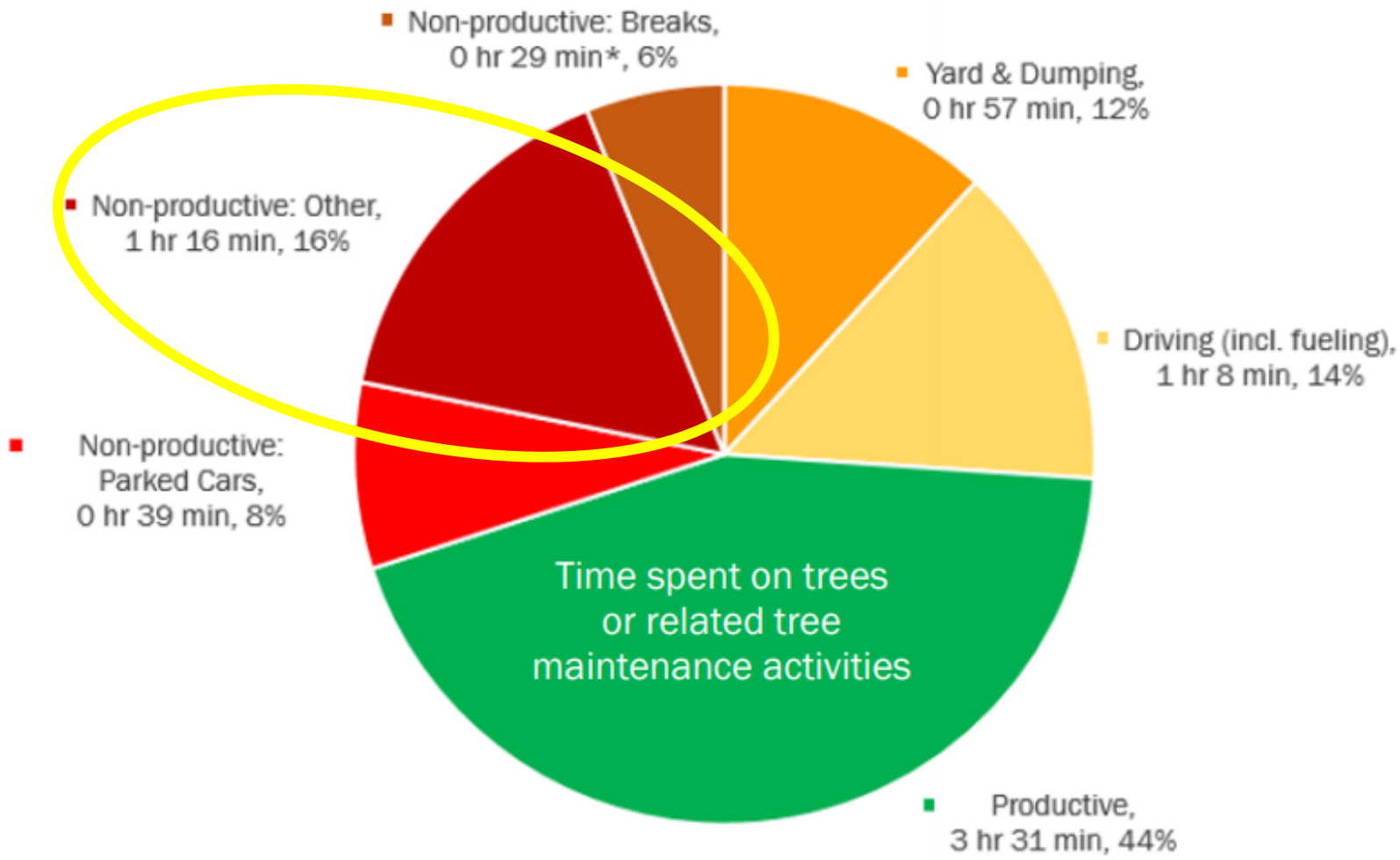


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A.1. GPS is accurate

- Crews work near the trees
- Reported work locations now match the GPS
- Discrepancies between tree location and GPS should be questioned



A.2 Need to assess and improve productivity

Issue 1: Some crews recording that they are working when they are sitting in the truck

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

WORK ACTIVITY: <i>Prgo1</i>	WORK LOCATION - MUNICIPAL ADDRESS AND WORK ORDER # (SR # if WO # is not available)	TIME IN	TIME OUT	POS #	DIA	SPECIES	PRUNE		REMOVE		STUMP	SEED	STORM	M/NFR	Inspection	OTHER	WO Completed (Y/N)	Tow Slip	Storm Recovery	
							PRG01	PRG03	REM01	REM02										REM03
YT		6:30	7:05																	
DR		7:05	7:55																	
		7:55	7:55																	
PC		7:55	8:40																	
		8:40	11:30	40	85	normap	✓													
DR		11:30	11:40																	
		11:40	11:40																	
LV		11:40	12:40																	
		12:40	12:30	30	15	11'6" d	✓													N
		12:30	1:15	40	40	normap	✓													N
		1:15	2:05	75	60	normap	✓													N
DR		2:05	2:40																	
YT		2:40	3:00																	

UF Foreperson / Supervisor: Name (print): _____ Signature _____ Date: _____

Form Date: January 2019
JWAR_FD_1_20090115

The crew got into the truck at around 1pm...



...and stayed there...



...in the truck...for an hour...

...recording they worked on 1.5-2ft wide trees

- they returned the next day and did the same thing
- again, recording 1 hour more time working on trees than was observed



Issue 2: Extra unrecorded breaks



Issue 3: Crews are not recording unscheduled stops

Reported this break as driving



Crew was at a gas station with a coffee shop. Truck was not parked at the pump

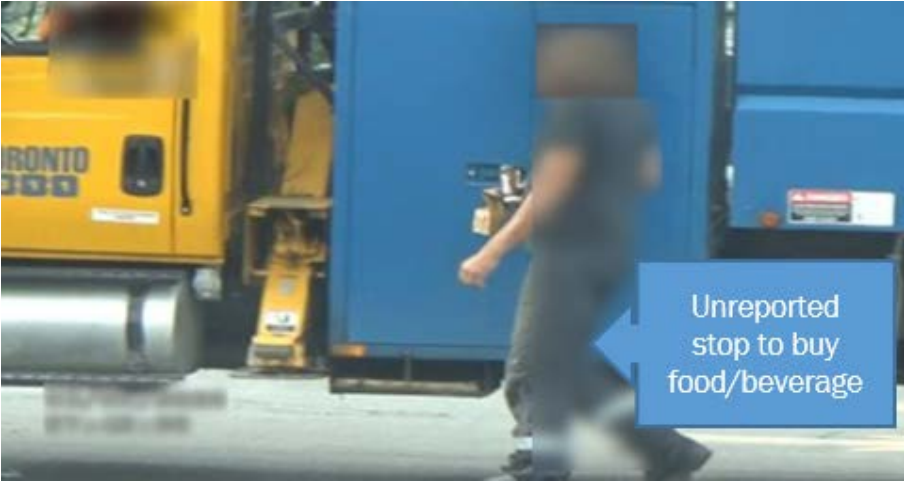


Crew reported this break as driving/fueling



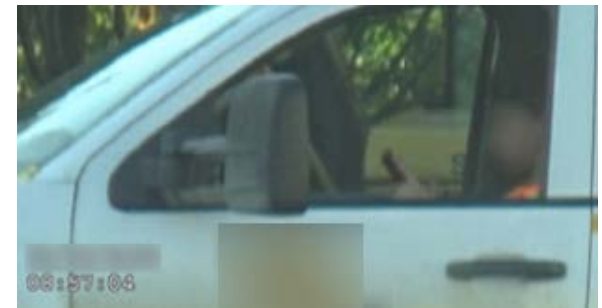
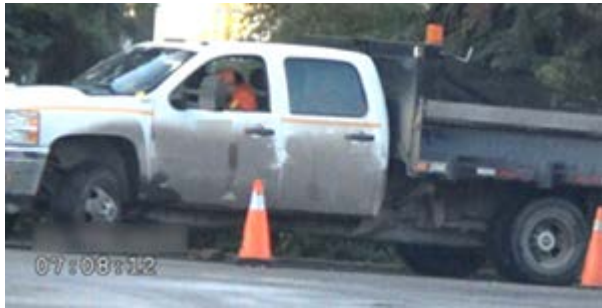
Unreported stops for 45-minute unrecorded break

Crew reported pre-trip inspection at the yard / driving during this time on their daily log



Issue 4: Significant idle or non-productive time

Crew reported working at this location for 4 hr 30 min
but only worked on tree maintenance for 1 hr 51 mins



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



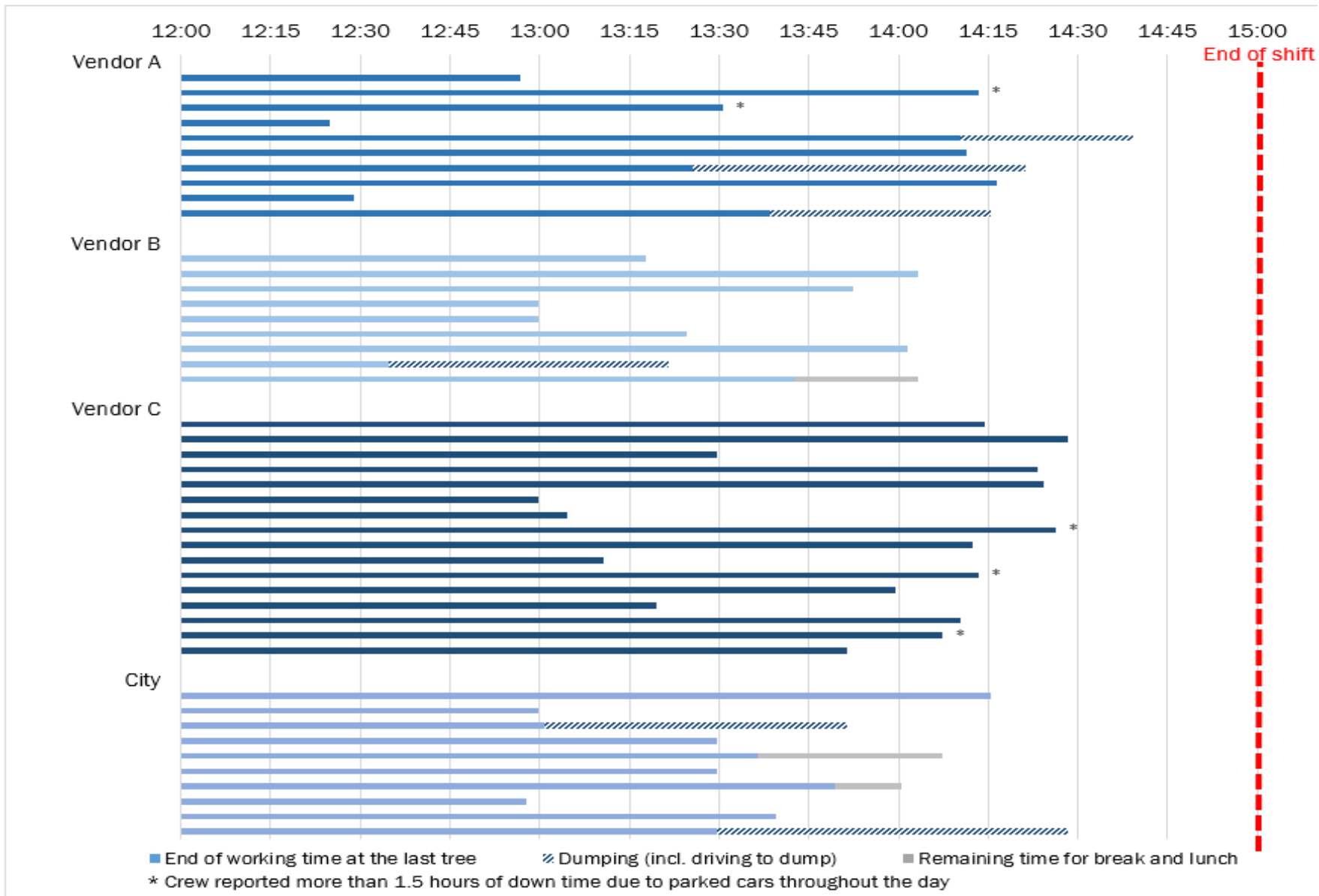
The stumps the crew worked on were clearly located near the truck



Crew intermittently returned to sit in the trucks for extended periods of time

Issue 5: Late starts or early endings to the work day

- Figure 7



Policies require staff to **assess productivity** when **reviewing daily log** and measuring outcomes

“It is extremely important that the DWAR is completed accurately...”

“...The City will review the DWAR to ensure it is filled out completely and there is efficient use of time...”

(PFR-UF's 2019 procedures)

*“All DWAR's must be signed off ... and **reviewed for accuracy, productivity and completeness** by the end of the next working day”*

(PFR-UF's 2017 procedures)

Complaints about productivity

- Local residents with similar observations are submitting complaints
- Toronto Public Service By-Law requires:

§ 192-36. Allegations received by City management.

A. 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 if the Division Head is implicated in the allegation.

B. Allegations of wrongdoing received by Division Heads, Deputy City Managers or the City Manager will be immediately reported to the Auditor General.

§ 192-34. Responsibilities of Managers.

A. Managers are responsible to:

...

(2) Undertake investigations of alleged wrongdoing seriously and appropriately;

(3) Report the results of investigations of alleged wrongdoing to the Auditor General;

...

- City Council directed

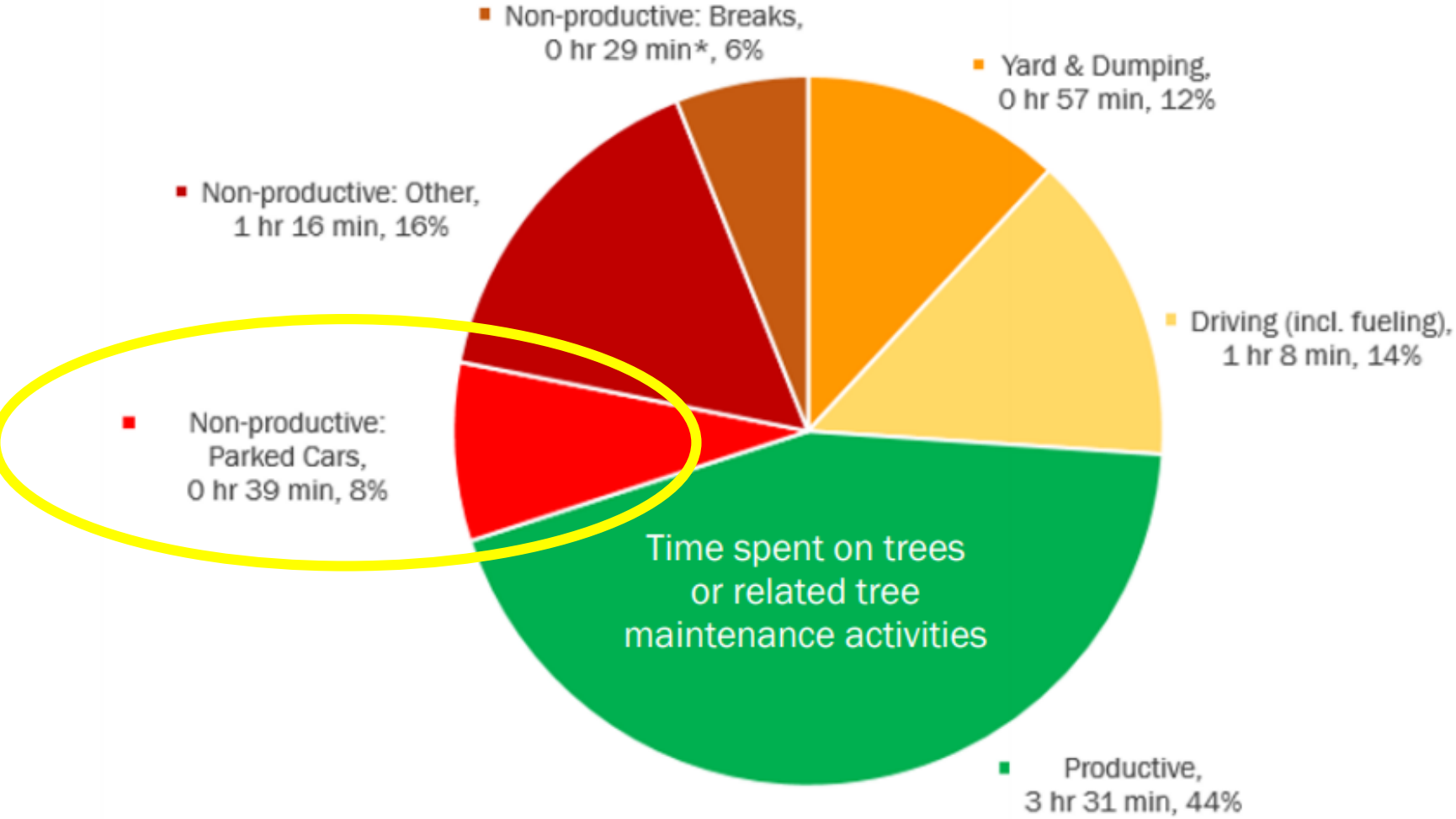
"the City Manager to advise all staff to report any allegations of potential wrongdoing involving City resources, including potential wrongdoing against the City by third-party vendors, to the Auditor General for further investigation."

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

A. 2. Assess Productivity When Measuring Outcomes

Activity and Time	Vendor crews (what crews reported)	Vendor crews (what we observed)
Productively working on tree maintenance	4 hr 42 min	3 hr 31min
+ down time due to parked car	0 hr 47 min	0 hr 39 min
+ other non-productive time	-	1 hr 16 min
+ breaks (and paid lunch for City)	0 hr 23 min	0 hr 29 min
+ yard & dumping	0 hr 53 min	0 hr 57 min
+ driving (incl. fueling)	1 hr 15 min	1 hr 8 min
= Total	8 hours	8 hours

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

In 2019 audit, we recommended PFR-UF :

- *send notices* to residents
- post more prominent *warning signs* and use more effective *road-blocking* devices
- *verify* whether parked car time was valid
- have them *call in* the licence plates / expedite removal
- require crews to provide *photos*

In the follow-up, we found PFR-UF :

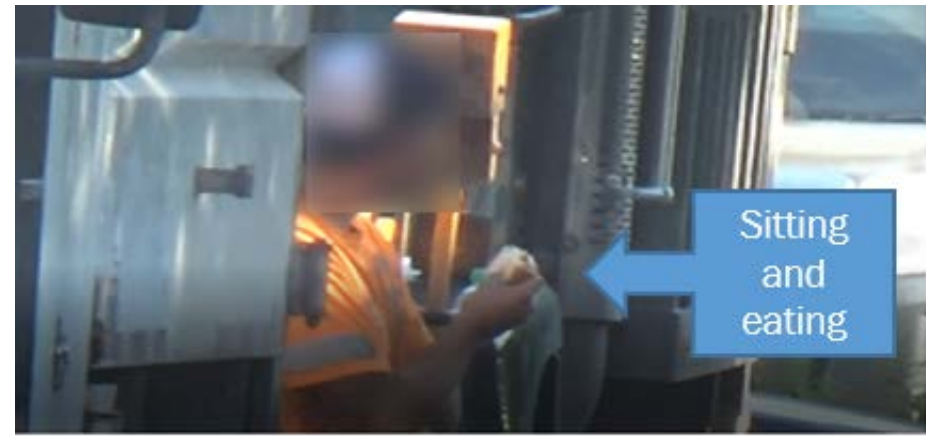
- **did not** send out letters or notices residents
- **did not** put out **signage** and **road-blocking** devices
- **did not** track whether crews **called in** parked cars
- **did not** request that crews record licence plates
- **did not** require **photos**

Issue 1: Need to reduce non-productive time waiting for parked vehicle removal and hydro hold-offs

- 478 hours of down time for contracted crews operating out of one yard during the two-month follow-up
- \$68,000 for this time (\$408,000 annualized)
- There are 8 other yards

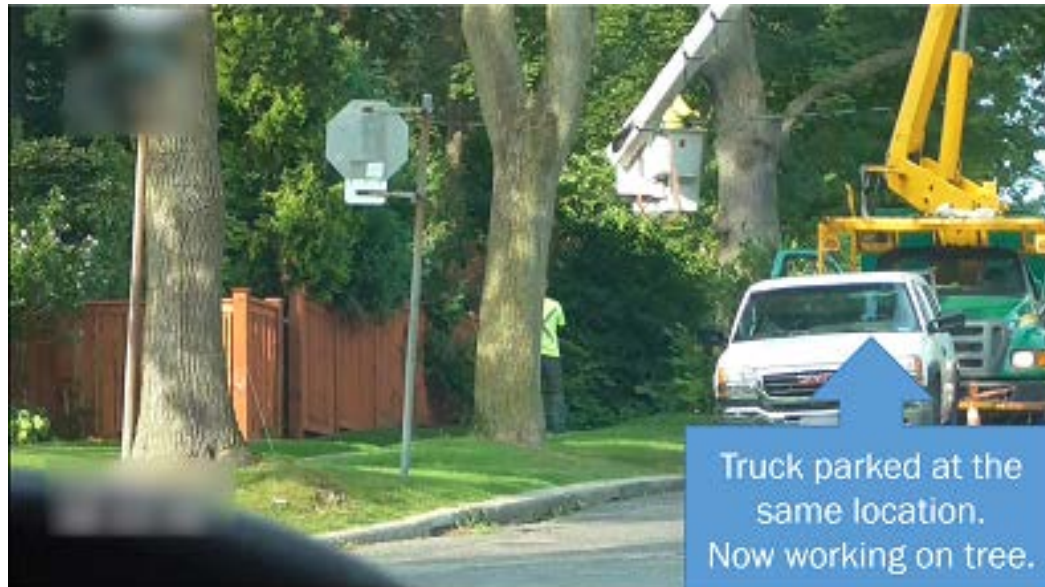


A four-person crew waited for 4 hours for parked cars to be removed



Example 13 in Report

Issue 2: Crews reported parked cars, yet no obstruction was observed



**Example 9
in report**

Issue 3: Crews can move on to work at nearby locations

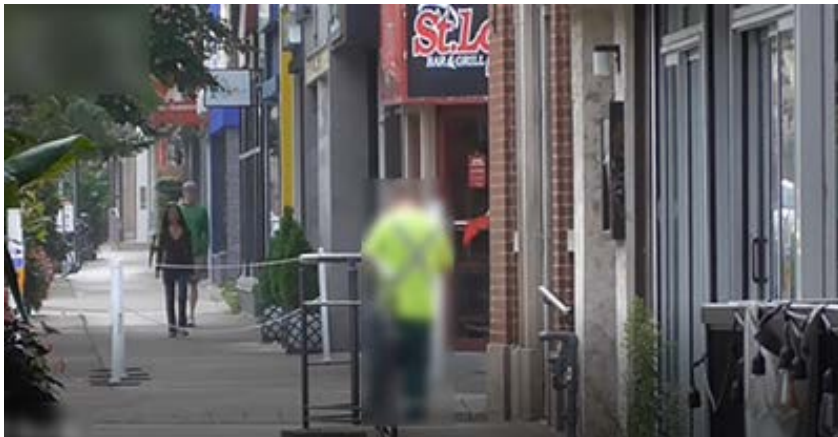


Truck was parked on the side of the street where there were three trees the crew pruned later in the day.

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.



Example 14 in report

AG Monitoring Example



Pruning took $\frac{1}{2}$ hour **but crew recorded 1 hour**

The crew didn't check to see if they could work on other trees a few hundred meters away –

It is possible that the crew could have pruned an additional 1 hour and 45 mins of trees that day

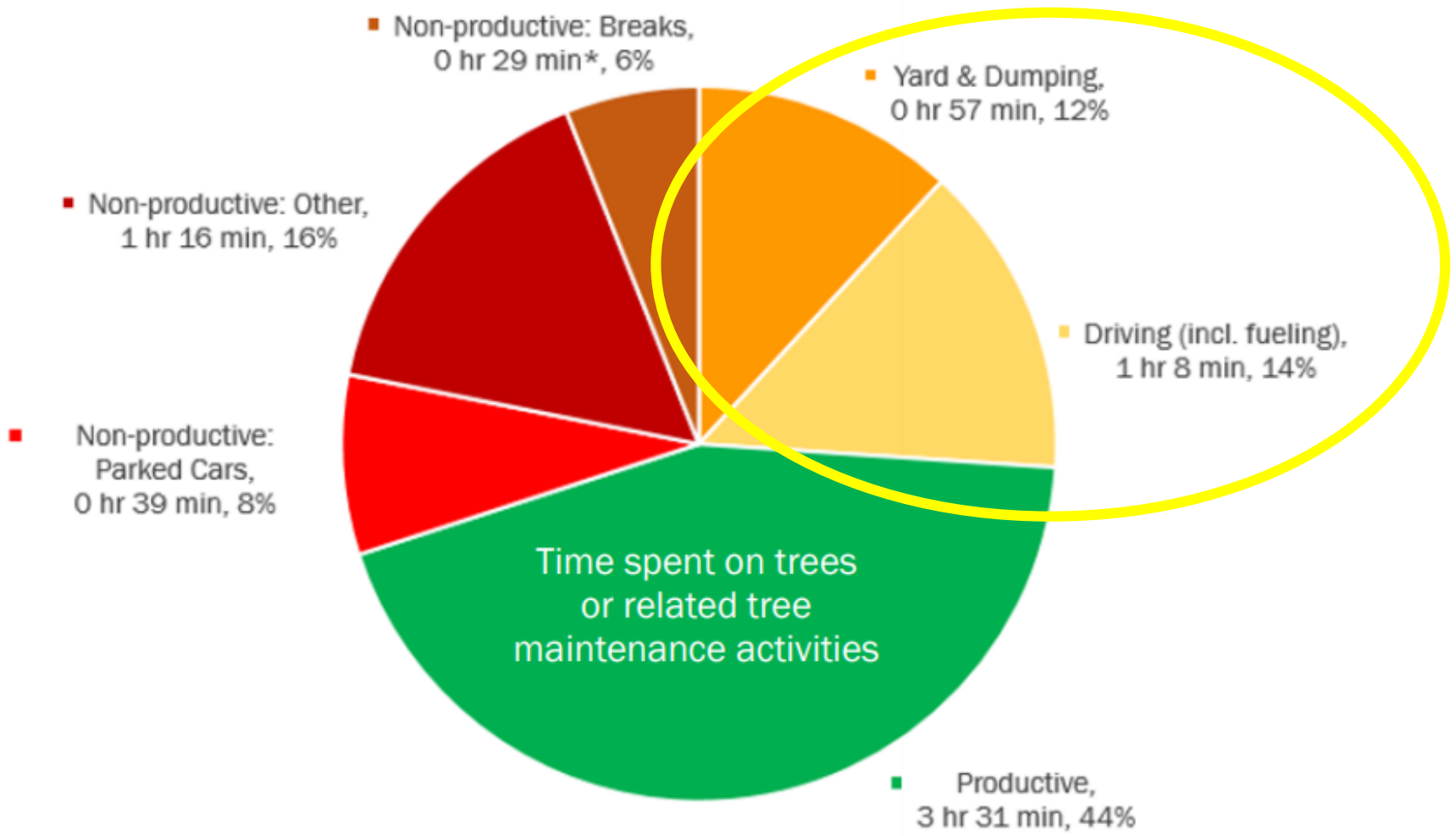
Pruning took 10 mins

Pruning took 20 mins

Parked car – *crew waited for 1 hour 15 min for a car to move*

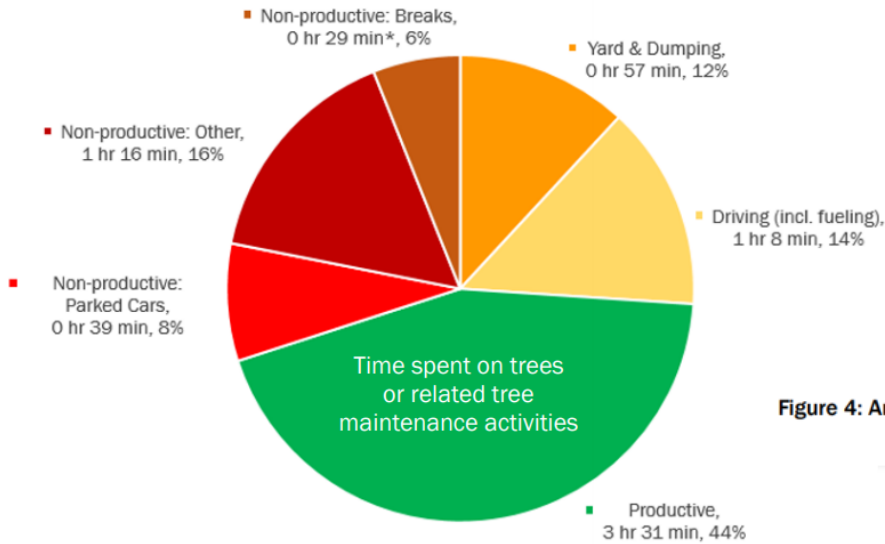
Arrows show approximate location of tree on the street

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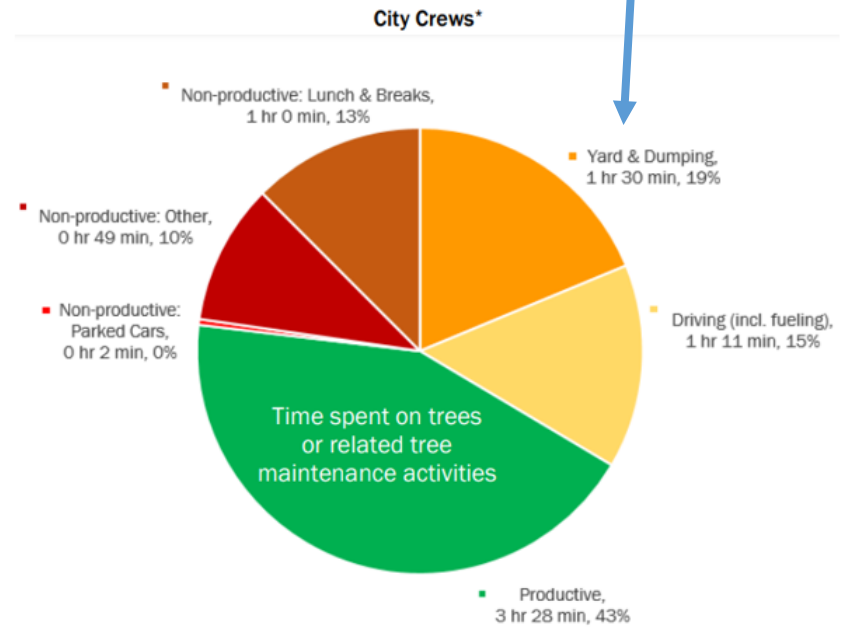
Productivity

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City Crews clock more yard time

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



Reduce yard time / driving time

- Some crew members not present at the start or end of shift
- **Yard-to-yard time** for crews parking at one yard and reporting in at another yard
- **Paper-based** work assignment distribution and daily log submission
- Reported timeline for PFR-UF implementation of **EWMS has been delayed** by at least two years, since 2019 audit



- Driving time will be reduced if work is well planned and efficiently completed

A. Prioritize Actions To Improve Operational Efficiency And Productivity To Achieve Outcomes

Recommendations:

- periodically perform **discreet physical observation understand how controls are working to assist planning and evaluating outcomes**
- **plan, assign and monitor work** to improve productivity (and accuracy, efficient use of time, completeness of daily logs)
- remind staff of **duty to report potential wrongdoing**
- conduct **effective inspections** and ensure **FPIR records accurately reflect the actual scope** of inspection
- reduce daily **yard time**
- **minimize downtime** related to parked vehicles and hydro hold-offs
- obtain **precise route information, investigate discrepancy, obtain geo-tagged photos** of trees before and after work

B. Apply the Express Terms of Contract in Practice

B. Managing to the Contract

1. Paid breaks

2. Safe work practices

3. Record retention, access to records, and right to audit

B. 1. Paid Breaks

- Express terms of the contract **do not** include paid breaks
- PFR-UF practice of paying vendor crews for 30 minutes of break time
- City paid about **\$1 million a year** for 30 minutes of break time
 - Not including unreported break and extended break and lunch paid also by the City.

B. 2. Work Practice Raise a Safety Concern



Crewpersons are not wearing appropriate personal protective equipment

For example, no hard hats



B. 2. Work Practice Raise a Safety Concern



Potentially unsafe operation of equipment / machinery

For example, it appears crewpersons are:

- Not wearing appropriate PPE (including eye and ear protection and hard hats)
- Operating chipper wearing things that can catch in the equipment's moving parts
- Leaning into the in-feed chute of the chipper while it is in operation



B. 2. Work Practice Raise a Safety Concern

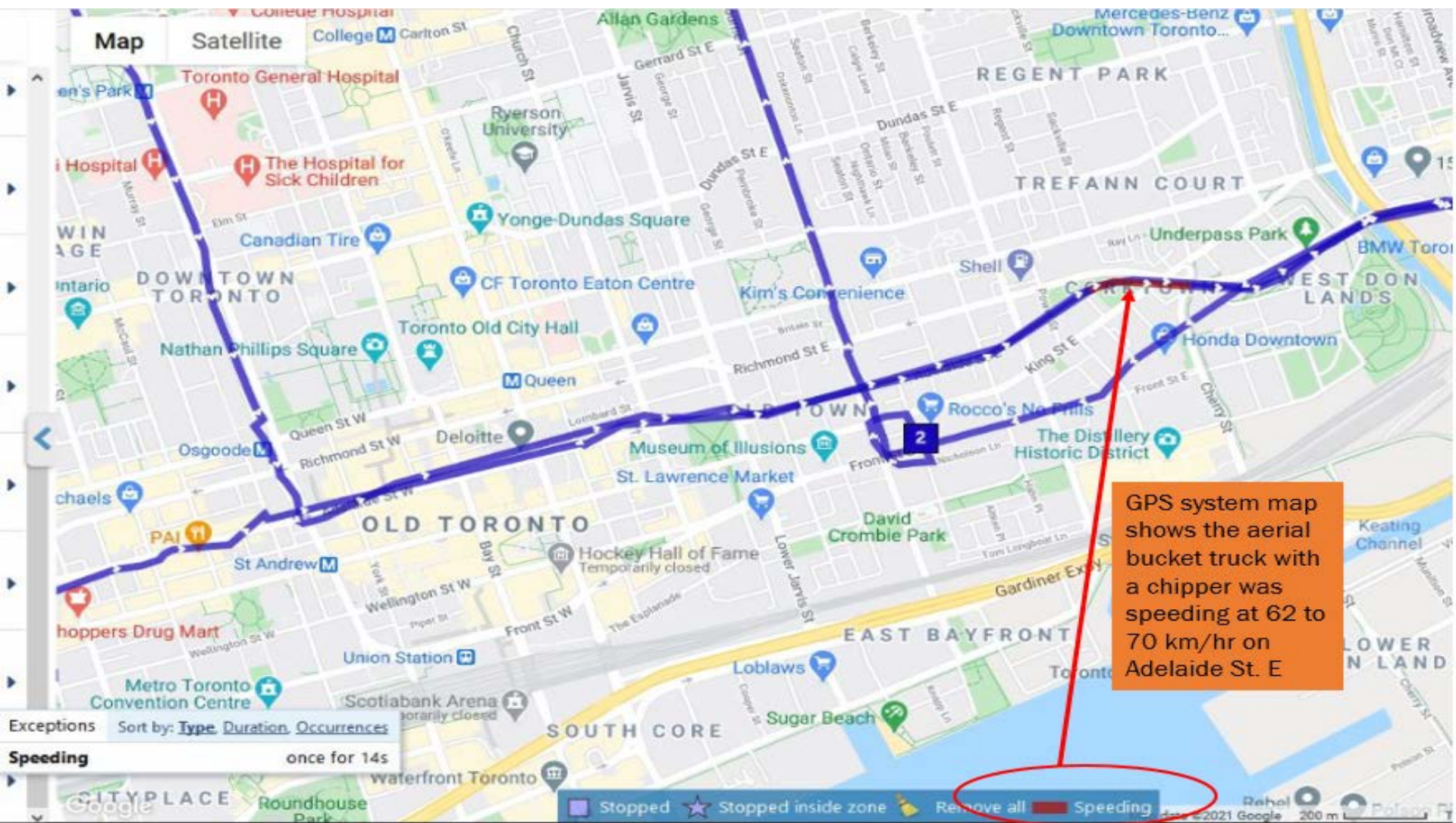


Concern about general safety when crewpersons are operating equipment while doing other things

For example,

- talking on the phone while navigating between the overhead wires
- smoking or using a phone while operating equipment such as a boom or chipper, as the crewperson may become distracted

Driving fast, going wrong way on a one-way street and running red lights



C. Leverage High Quality GPS Records to Support Contract Monitoring

C. Leverage High Quality GPS Records to Support Contract Monitoring

1. Use longitudinal and latitudinal data to pinpoint locations
 2. Obtain GPS routes travelled information required by the contract
 3. Retain all GPS information supporting invoices
 4. Use the information for planning
 5. Use the information to check if contractors are complying with traffic laws
- *City should consider a City-wide GPS solution

D. Strengthen Contract Management and Contract Monitoring Mechanisms

D. Strengthen Contract Management and Contract Monitoring Mechanisms

1. Defining expected outcomes and measuring performance
2. Clarifying responsibilities and accountabilities
3. Implementing effective contract management and monitoring contract compliance

D. 1. Defining Expected Outcomes and Measuring Performance

- To improve outcomes City should address how it will measure performance
 - What is the criteria / benchmark to assess that hourly rate or unit rate **work has been completed efficiently?**
 - What is the **expected productivity levels** for hourly rate work?
 - How PFR will confirm hourly rate work and unit rate work packages have been **delivered** (with quality) **in accordance with specifications**
 - What **documentation / records / evidence** will be retained to confirm the performance levels achieved?
 - How do City crews and contracted crews **compare?**

D. 2. Clarifying Responsibilities And Accountabilities

- When work is outsourced:
 - **Vendors** are responsible for completing work, supervising their own crews, reporting and billing accurately and complying with the contract.
 - **City management** is accountable for outcomes, and ensuring the vendor complies with the contract

D. 3. Implement effective contract management and monitoring contract compliance

1. Directly observing people and processes
2. Effective on-site inspections
3. Supervisory review of daily logs for reasonableness, accuracy, and completeness
 - Supporting evidence (e.g., GPS, photos, call-in logs, inspection records, complaint files, etc.)
4. Questioning discrepancies and corroborating explanations
5. Documenting / communicating performance concerns and expected response
6. Retaining all relevant records

Strategic leadership and a culture shift is needed to:

- A. Prioritize Actions to Improve Operational Efficiency and Productivity
- B. Apply the Express Terms of Contract in Practice
- C. Leverage High Quality GPS Records to Support Contract Monitoring
- D. Strengthen Contract Management and Contract Monitoring Mechanisms

Recap and Conclusion

1. It has been **18 months** since our audit, **more action** should have been taken by PFR
2. **Strategic leadership** and a **culture shift** is key to moving PFR towards achieving **better outcomes**
 - **Maximizing** the amount of **time** crews actually spend **maintaining trees**
 - **Minimizing non-productive time**
 - **Increasing operational efficiency** and reducing time on supporting activities
3. **\$1 million** of tree maintenance work gained for every 30 minutes increase in time productively working on trees – expand the green on the pie – protect the tree canopy

Similar to 2019, management has agreed to all 17 recommendations

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