



Fleet Maintenance Audit

February 6, 2024



Background

- Fleet Maintenance & Operations performs maintenance and repairs to all City vehicles and equipment, excluding vehicles managed by Fire & Transit.
- The Ontario Highway Traffic Act requires that regulated and heavy vehicles (Over 4,500 kg) must undergo a vehicle safety inspection at least every 12 months and any heavy vehicle must also be inspected regularly.
- The unit has 29 employees including 18 mechanics, 2 general garage helpers, 1 welder, 4 inventory stockkeepers, 1 clerk, 3 mechanical supervisors and a Supervisor of Maintenance and Operations.



Our Audit Focused on Licensed Vehicles

The City's Fleet By Type			
	2021	2022	2023
Light			
Compact Cars	2	2	2
Vans	17	17	17
SUV's	105	103	105
Compact Pick Up Trucks	43	46	46
1/2 Ton Pick Up Trucks	84	84	84
3/4 Ton Pick Up Trucks	2	2	2
Heavy			
1 Ton Pick Up Trucks	56	56	56
14' Cube Vans	4	4	4
Trucks - Dump/Flat Bed/Hook Lift/Chipper	60	60	60
Plow Trucks	24	24	24
Trucks - Garbage/Aerial/Flusher/Roll off	<u>22</u>	<u>22</u>	<u>22</u>
Total	419	420	422

- City staff uses M5 to manage preventive maintenance scheduling, work orders, operating expense tracking, purchasing and parts inventory, labour hours, and warranty information.
- Our focus was on the 422 licensed vehicles managed by Fleet Maintenance.

Overflow Work is Sent to Outside Facilities

In house vs Outsourced work by Number of Work Orders									
Yr.	Location	In House		Outsourced		In house and Outsourced		Total	
2021	Williams	1994	77%	422	16%	188	7%	2604	100%
2022	Williams	2604	80%	499	15%	163	5%	3266	100%
2023	Williams	2425	78%	455	15%	220	7%	3100	100%
2021	Sandalwood	842	62%	341	25%	180	13%	1363	100%
2022	Sandalwood	995	56%	605	34%	170	10%	1770	100%
2023	Sandalwood	784	53%	515	35%	169	12%	1468	100%
In house vs Outsourced work by Cost (\$000)									
2021	Williams	\$2,068	77%	\$ 613	23%			\$2,681	100%
2022	Williams	\$2,910	80%	\$ 709	20%			\$3,619	100%
2023	Williams	\$2,694	76%	\$ 839	24%			\$3,533	100%
2021	Sandalwood	\$ 783	57%	\$ 597	43%			\$1,380	100%
2022	Sandalwood	\$1,579	60%	\$1,040	40%			\$2,619	100%
2023	Sandalwood	\$1,426	55%	\$1,188	45%			\$2,614	100%

- The City has two garages, Williams Parkway Operations Centre and Sandalwood Operations yard.
- Overflow work is sent to outside repair facilities.
- On average, approximately 20% of work orders at Williams Parkway and 30% at Sandalwood were outsourced.



Audit Objectives and Scope

January 1, 2021 to December 31, 2023



COMPLIANCE TO LAWS AND POLICIES

- Fleet maintenance activities comply with City policies and the Ontario Highway Traffic Act.



PREVENTIVE MAINTENANCE

- Preventative maintenance is properly scheduled, performed, recorded, and overdue maintenance is followed up timely.



REPAIR PROCESS

- Vehicle repairs are properly assessed, performed, inspected, recorded and monitored to uphold vehicle maintenance quality and to minimize downtime.



WARRANTY CLAIMS

- Warranty information is maintained for all vehicles, repairs eligible for warranty are flagged in M5, and City staff is taking advantage of warranty repairs.



OUTSOURCED WORK

- Performance of maintenance and repair work assigned to outside vendors is efficient, effective and economical.



PARTS INVENTORY

- Vehicle parts are properly re-ordered, stocked and available to support fleet maintenance and repairs.

Overall Message

Findings

The core activities of a complete fleet maintenance program are in place, however, there are opportunities for improvement in a number of areas that impact:

- the effectiveness of the preventative maintenance program
- compliance with Provincial legislation and fleet maintenance policies
- monitoring of procurement activity and vendor invoices
- authorized access to inventory.

Finding #1: Preventative Maintenance Schedule is not Based on the Manufacturers' Recommendations, and Maintenance is Not Always Completed Within the Required Intervals

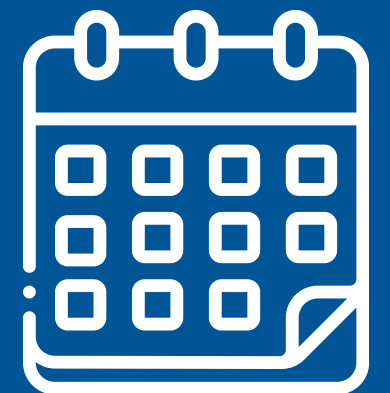
Condition

The manufactures recommended service intervals are not integrated into the preventative maintenance schedule.

Vehicles are not always maintained within the City's recommended time and mileage standards of 12 months or 10,000KM.

Year / Make	Vehicle Use	Manufacturers Recommended Maintenance		CoB Current Maintenance	
		KM	Months	KM	Months
2012 Dodge Caravan	All	13K	6	10K	12
2012 Toyota Tacoma	All	16K	12	10K	12
2013 Jeep Patriot	All	16K	12	10K	12
2015 Ford F-350	All	12K	6	10K	12
2016 Ford F-550	All	12K	6	10K	12
2017 Dodge Ram 1500	All	16K	12	10K	12
2018 Chevy Equinox	All	12K	12	10K	12
2022 Mitsubishi RVR	All	16K	10	10K	12
2022 Ford F-150	All	16K	12	10K	12
2022 Ford F-550	Normal	12K-16K	12	10K	12
	Severe	8K-12K	12	10K	12
	Extreme	4K-8K	12	10K	12
2023 Ford Explorer	Normal	12K-16K	12	10K	12
	Severe	8K-12K	12	10K	12
	Extreme	5K-8K	12	10K	12

Finding #1: Preventative Maintenance schedule is not Based on the Manufacturers' Recommendations, and Maintenance is Not Always Completed within the Required Intervals (Cont'd)



Preventative Maintenance Intervals (2021 - 2023)	#	%
365 days or less	1084	83.0%
365 days - 400 days	174	13.3%
400 days - 425 days	34	2.6%
Over 425 days	14	1.1%
	1306	100.0%
10,000KM or less	1066	81.6%
10,000KM to 13,000KM	147	11.3%
13,000KM to 16,000KM	43	3.3%
16,000KM to 20,000KM	18	1.4%
Over 20,000KM	32	2.5%
	1306	100.0%
Over 365 days or 10,000KM	436	33.4%
Over 365 days and 10,000KM	26	2.0%

Impact

Not integrating the manufacturers recommended service intervals into the preventative maintenance schedule does not ensure that the maintenance program is optimized for all vehicles which can lead to more expensive repairs. It can also result in the voiding of the manufacturers warranty.

Not maintaining vehicles within established time and mileage intervals increases the risk of breakdowns and repairs and can reduce the life of the vehicle.

Finding #2: Vehicle Mileage is Not Always Updated

Condition

- The preventative maintenance schedule is directed by mileage in M5. Mileage can be updated in three ways:
 - At the time of service
 - At City fuel pumps through vehicle data units (VDU)
 - When fueling at Esso with fuel cards.
- Mileage is not always updated at the time of service. The mileage entered was either the same or lower than previously recorded for 82 (6%) vehicle services.
- As of Sept. 1, 88 (21%) vehicle data units were not operating properly and could not transfer mileage data into M5.

Impact

- Not maintaining accurate vehicle mileage impedes the effectiveness of the preventative maintenance schedule.
- It also increases the risk of vehicles exceeding required maintenance intervals which can increase the risk of repairs and reduce the life of the vehicle.
- This finding compounds the impact of the first finding since the maintenance interval may be based on faulty and inaccurate mileage.



Finding #3: Driver Vehicle Inspection Reports are Seldom Completed by User Departments

Condition

- Driver Vehicle Inspection Report (DVIR) should be completed every day in order to meet the requirements of the Province (Heavy Vehicles) as well as the requirement of the City's Preventative Maintenance Policy (Light Vehicles).
- We randomly selected 15 vehicles (9 Heavy Duty, 6 Light Duty) to verify whether operating units had completed a DVIR during the last week of September and October. We found that only two out of the required 45 (4%) DVIR forms were on file.

Impact

- Refer to next slide for impact.



Impact

- Not completing driver vehicle inspection reports does not ensure that the vehicles operator is aware of potential mechanical or safety issues with the vehicle.
- Operating a vehicle without a completed DVIR can result in fines or penalties from the Ministry of Transportation (MTO).
- If a vehicle is found to be operating with a major defect, it can result in up to a \$20,000 fine and the vehicle being impounded.

					September 2023				
#	Unit #	Dept.	Unit Description	L/H	25	26	27	28	29
1	FE20540	5202	2020 FORD F350 SUPERCAB	LD	A	A	I	I	I
2	FI15533	5203	2015 FORD F550 XL	HD	I	A	I	A	I
3	FI14065	1220	2014 FREIGHTLINER 114SD	HD	I	I	I	I	I
4	FI14054	1225	2014 FREIGHTLINER 114SD	HD	I	I	I	I	I
5	FE20642	5402	2020 CHEV SILVERADO 3500HD	LD	A	A	A	A	A
6	FE146012	1420	2014 FORD F250 CREWCAB	LD	I	A	A	I	A
7	FH20426	5450	2020 FORD F550 XL	HD	A	A	A	A	I
8	FC10287	5302	2010 JEEP PATRIOT	LD	A	A	A	A	A
9	FC20284	0202	2020 MITSUBISHI RVR SE	LD	A	A	A	A	A
10	FC224043	0241	2022 MITSUBISHI RVR SE	LD	I	I	I	I	I
					October 2023				
					23	24	25	26	27
11	FH09067	1220	2009 DODGE RAM 5500	HD	A	A	A	A	I
12	FH20495	5202	2020 FORD F550 XL	HD	A	A	A	A	A
13	FI21555	5402	2021 INT. TRUCK CV515	HD	I	A	A	A	I
14	FI14032	1420	2014 PETERBILT 220	HD	I	I	A	A	I
15	FI23612	5450	2023 INT. TRUCK CV515	HD	A	A	A	A	A
Legend:									
A Unit was active			DVIR was completed						
I Unit was inactive			DVIR was not completed						
HD Heavy Duty			LD Light Duty						



Finding #4: Preventative Maintenance Forms are Not Always Completed

Condition

- Each preventive maintenance service should have an inspection form filled out by the mechanic.
- Out of a sample of 23 preventative maintenance (PM) work orders completed in-house, only 12 of them had a completed PM inspection form on file.
- We also sampled ten out-sourced PM work orders and found that the PM inspection form was not sent for any of them.

Impact

- Not having completed preventative maintenance forms for each preventative maintenance service results in improper incomplete maintenance records and increases the risk that incomplete inspections will not be detected.

Finding #5: Warranty Terms in M5 are Incomplete

Condition

- When a vehicle is added to fleet, the warranty terms are entered in M5 by Fleet Administration staff, however warranty information in M5 is not always complete.
- Out of ten samples, the engine and power train warranty terms were entered in M5. However, for two samples, the warranty terms on Corrosion (Body/Rust) of 3 years/unlimited kilometres were not entered.
- Two 2019 Ford F550s did not have any Warranty terms entered in M5.

Impact

- Not maintaining complete warranty information in M5 increases the risk that repair work is performed or paid for on warranty-eligible vehicles.

Finding #6: Significant Vendor Spending Did Not Go through Competitive Procurement

Condition

- We reviewed vendor activities for outsourced maintenance from January 2021 to October 2023 and noted:
 - One vendor with accumulated spending of \$435K and another with accumulated spending of \$250K do not have a purchase order (PO).
 - Another vendor had a PO of \$21K with \$18K spent however, staff spent an additional \$26K outside of the PO through P-Card purchases.

Impact

- Not having a purchase order in place does not ensure the efficiency, effectiveness or economy of procurement activity. It also reduces the ability to control and monitor total vendor spend and does not allow for department and procurement approvals on the total contract amount.



Finding #7: Review of Vendor Invoices Needs to Be Improved

Condition

- One vendor is regularly charging \$169 per hour for labour and another is regularly charging \$165 per hour even though the current contract for both vendors states \$130 per hour.
- There are approximately 500 invoices over \$200 combined for these two vendors within the contract period (March 2021 to March 2024).
- Staff should self-audit all invoices, determine the total amount of overpayment, and recover these overpayments.

Impact

- Lack of due diligence in invoice review against contract terms results in overcharges going undetected.



Finding #8: Access to Parts Storage Rooms is Not Properly Restricted

Condition

- Many individuals have badge access to the parts storage rooms that do not need it.
- These individuals mostly include employees from other departments, as well as outside cleaners, temporary card holders and former Fleet Maintenance employees.
- Staff should identify individuals that do not require access to the parts rooms and work with Security to remove access.

Impact

- Not restricting access to vehicle parts rooms increases the risk of unauthorized entry and theft.

How Will our Recommendation Benefit the City?

- Implementing the recommendations in this report will
 - Improve preventative maintenance processes
 - Reinforce compliance with Provincial legislation and Fleet Maintenance policies
 - Strengthen the oversight of purchasing activity
 - Safeguard vehicle parts inventory from theft.



Fleet
Maintenance

Thank You



BRAMPTON