Attachment 1

INTERNAL AUDIT REPORT

Fleet Management Services Audit

May 2022

INTERNAL AUDIT REPORT

FLEET MANAGEMENT SERVICES AUDIT

CONCLUSION AND SUMMARY

Fleet Management Services (FMS) is responsible for administrating a maintenance program to ensure that the City of Vaughan vehicles and equipment are operated in a safe and reliable manner, and follows the guidelines of the Highway Traffic Act, National Safety Codes for Commercial Vehicles, City By-law standards and policies, and all government legislation. Since the City's fleet is so diverse, the services provided by FMS are just as varied. Services include preventative maintenance programs, inspections, driver training, fuel distribution and seasonal overhauls.

This audit has raised concerns related to the administration and oversight of FMS, which increases the risk of misappropriation and reputational damage to the City. Opportunities for improvement include:

- Developing a Comprehensive Fleet Management Strategy
- Acquiring a Fit-for-Purpose Fleet Management Information System (FMIS) and Upgrading the Automatic Vehicle Localization (AVL) Units
- Improving Compliance to Vehicle Inspection Requirements
- Investigating the Feasibility of Exiting the Fuel Distribution Business
- Enhancing Procurement, Contract Administration, and Inventory Management Processes
- Developing a Progressive Strategic Staffing and Training Plan

On September 8th, 2015, Internal Audit presented the Road Operations Audit report to the Finance, Administration and Audit Committee. The report identified that the City does not have a comprehensive strategic policy to govern the acquisition, use and distribution of vehicles, machinery, equipment, and inventory. Although the previous Fleet Director began preliminary work on this initiative, it has stalled, largely due to the COVID-19 pandemic and a change in management.

Acquisition, distribution and use of vehicles, machinery and equipment continues to be decentralized, which has created a skewed culture of ownership when it comes to vehicles, machinery, and equipment. This has caused several adverse impacts for the City. As part of the execution of a comprehensive fleet management strategy, FMS should assume the role of "centralized owner" of the assets and the other City departments as the "users" of the assets. This would result in FMS having more governance responsibility and accountability over the equipment, machinery and vehicles used at the City.

Departments must be able to access vehicles, machinery, and equipment when it is needed, at a reasonable cost. This can be accomplished any number of ways, such as buying a unit and permanently assigning it to an operating department; buying a unit and assigning it to a pool for shared use; renting a unit on an as-needed basis; or reimbursing employees for using their personal vehicle. An effective fleet management strategy considers the risks and benefits of each option and uses a combination of all these methods.

One of the objectives of the strategy should be to optimize lifecycle asset management, from formal condition assessments to clear operational and utilization standards. This will inform the development and enhancement of policies, procedures, and Service Level Agreements.

Specification development process at the City are relatively makeshift and has resulted in significant issues in the acquisition of fleet assets. Debates over specifications have delayed the delivery of equipment, and in certain cases increased procurement costs. Standardization of similar fleet units would help promote unit assignment flexibility. In addition, a link to the Green Fleet strategy needs to be prioritized to help minimize environmental impacts through a combination of cleaner vehicles and fuels, fuel-efficient operation and driving.

Measuring and improving performance in most areas of fleet and maintenance management is hampered by the absence of a Fleet Management Information System (FMIS). This is the root cause to many other issues including: lack of an inventory management system/process, replacement planning, calculating maintenance efficiency and staffing. Management is aware of these gaps and is actively cooperating with Vaughan Fire and Rescue Services (VFRS) to explore options to purchase a dedicated FMIS.

Additionally, although the City has implemented AVL technology, it has been underused largely due to the poor reliability of the older units purchased. FMS has started the process of converting the older AVL units to the more reliable new units.

The Commercial Vehicle Operator's Registration system monitors commercial carrier safety to improve road safety for all road users. In 2018 a MTO audit was triggered at the City of Vaughan due to rates being consistently over 70%. The objective is to keep the rate as low as possible. The MTO Audit concluded that there were no egregious findings from their investigation. Nevertheless, FMS undertook an intensive education program with staff and rates have improved. However, existing rates are still above most of our comparative municipalities in the GTA. Continued proactive efforts to increase training, compliance to vehicle inspections and accident reporting will help mitigate health and safety and operational risks.

The City operates fuel dispensing equipment at the JOC and Woodbridge Yard. The fuel dispensers and tanks at the JOC require remediation. There are many risks in operating a fuel distribution system. Fuel storage tanks can suffer leaks and can potentially damage water supplies, soils, and local ecosystems. The City is also exposed to financial, safety and supply chain risks associated with the procurement and dispensing of petroleum products. Given these risks and the current state of the City's fuel tanks and pumps, management should strongly consider other alternatives.

Fleet organizations use vendors to complete services for a variety of reasons, including maintaining service levels during periods of peak workloads and/or staff shortages, avoiding costly investments in tooling, and to providing service in remote locations. Management has established agreements with some licensed contractors to support the operations. However FMS does not have a robust, sustainable procurement process in place. FMS has recently recognized this gap and is working with Procurement Services to issue RFPs for the establishment of VORs, including, Tires, Auto Parts, Rust Protection, Hydraulic truck repairs and multiple other services.

Strategic staffing ensures that the FMS has the right number employees with the skills to achieve their objectives effectively and efficiently. FMS has not developed a formal strategic staffing plan. Administrative and operational level staff have been challenged in meeting their responsibilities. These staffing issues have been exacerbated by the physical limitations of the current facility.

Management should develop a progressive strategic staffing plan that includes addressing the physical operational limitations of the existing facilities.

During the audit, management has already taken steps to address some of these issues. Internal Audit will follow up on the status of outstanding management action plans related to this audit and will report the status to a future Audit Committee meeting.

BACKGROUND

The operation and maintenance of vehicles and equipment is critical to the delivery of services to the citizens of the City of Vaughan. FMS is responsible for administrating a pro-active and cost-efficient maintenance program to ensure that vehicles and equipment are operated in a safe and reliable manner, while ensuring that the guidelines of all government legislation and government agencies are met. This includes:

- **Regulatory Compliance and Driver Training** - Commercial Vehicle Operators Registration (CVOR) administration, driver license review, record retention, compliance reporting and driver training.
- **Capital Planning and Contract Management** - Responsible for contracts/procurement of new vehicles and equipment, vehicle replacement forecasting, specification development, disposal of replaced units, and all fleet contracts for parts, service, and fuel sites.
- **Fleet Maintenance** - Manages vehicle and equipment repairs, preventative maintenance and all outsourced repairs.
- **Materials and Fuel** - Management of parts inventory, fueling system, and all internal fleet staff requirements.

OBJECTIVES AND SCOPE

The objective of the audit was to evaluate the adequacy and effectiveness of the internal controls, processes, and procedures in place to mitigate the business risks associated with services provided by Fleet Management Services.

The audit approach included a review of the strategic goals, objectives and oversight of the department, review of relevant policies and procedures, use of technology, and interviews with staff and management.

The scope of the audit covered the FMS activities for the period of January 2021 to December 2021.

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

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DETAILED REPORT

1. Develop a Comprehensive Fleet Management Strategy

On September 8th, 2015, Internal Audit presented the Road Operations Audit report to the Finance, Administration and Audit Committee. The report identified that the City does not have a comprehesive strategic policy to govern the acquisition, use and distribution of vehicles, machinery, equipment and inventory[1]. Although the previous Fleet Director began preliminary work on this initiative, it has stalled, largely due to the COVID-19 pandemic and a change in management.

Acquisition, distribution and use of vehicles, machinery and equipment continues to be decentralized, which has created a skewed culture of ownership when it comes to vehicles, machinery and equipment. This has caused several adverse impacts for the City. Further details are provided below. As part of the execution of a comprehensive fleet management strategy, FMS should assume the role of "centralized owner" of the assets and the other City departments as the "users" of the assets. This would result in FMS having more governance responsibility and accountability over the equipment, machinery and vehicles used at the City.

The City does not have to own all the vehicles, machinery and equipment necessary to conduct business nor do units have to be solely deciated and assigned to a single department. However, departments must be able to access vehicles, machinery and equipment when it is needed, at a reasonable cost. This can be accomplished any number of ways, such as buying a unit and permanently assigning it to an operating department; buying a unit and assigning it to a pool for shared use; renting a unit on an as-needed basis; or reimbursing employees for using their personal vehicle. An effective fleet management stragey considers the risks and benefits of each option and uses a combination of all these methods.

Utilization is one factor in the determination to replace a vehicle or equipment; other factors include age, operating cost, application, condition, and reliability. However, when making fleet replacement and addition decisions, cross-functional fleet utilization data is not always used, because it is not readily available due to the absense of a Fleet Management Information system. Without a detailed, methodical process to evaluate minimum vehicle use, the vehicles that are minimally used cannot be identified. Without identifying these vehicles, they cannot be reissued to departments in need, rather than new vehicles being purchased, nor can they be sold as surplus and removed from the maintenance cycle; both would help preserve City funds.

An asset condition assessment and asset listing review were performed by the previous Fleet Supervisor. Based on the Fixed Asset Report prepared by FMS, areas of the City's fleet have significantly passed their life expectancy, and some are in a condition that seriously impact the ability of various departments to provide expected levels of service. Analysis of the reporting indicates that 214 of the 293 the vehicles have exceeded their replacement year as per policy. Of these, 128, with a value of $9.5M, have been given a condition grade of 3 or less out of 5, with 5 being the highest rating. Further, 179 of 261 pieces of equipment with a

[1] *Road Operations Audit report presented to FA&A on September 8, 2015: Recommendation No. 5 – Vehicles, Motorized Equipment, and Inventory Use.*

replacement value of over $10M have also exceeded their replacement year as per policy. Of these, 126, with a value of $7M have been given a condition grade of 3 or less out of 5. It should be noted that although the FMS grades assets on a scale of 5, there is no formal, industry accepted condition assessment methodology being used. Condition assessments appear to be performed in a superficial manner, with no defined criteria for the scoring.

There is currently no effective policy or procedure in place to guide the decision-making when declaring a vehicle as "beyond economic repair"[2]. For example, the City owns two 2018 Ram pick-up trucks that have incurred $12,122,28 and $14,821.46 in repair costs respectively. With one being out of service for 320 days and the other for 341 days. It is unclear as to who makes the decision to continue to invest in these vehicles or what alternatives should be considered. Because there is no effective standardized practice for declaring a vehicle as beyond economic repair, the risk increases that units are not taken out of service on a timely basis and the City continues to incur costly maintenance and downtime.

The acquisition of new units begins with determining the business requirements of the user department and translating this into vehicle and equipment specifications that describe the configuration, technical features, and functional capabilities required. Specifications should balance the need for custom design features, which can be expensive and delay delivery of assets, with standard equipment. Department representatives and FMS develop new vehicle and equipment standards cooperatively. This process is relatively makeshift and has resulted in significant issues in the acquisition of fleet assets. Debates over specifications have delayed the delivery of equipment, and in certain cases increased procurement costs. Having standard specifications by unit, helps lower the cost of ownership[3]. The risk of purchasing assets not designed to meet specific requirements, will likely result in higher operating costs, mechanical failures and equipment and operator downtime.

Capital budgets are not based on anticipated need but on past budgeted values. No strategic reserve has been established for fleet assets. Approximately $750K is budgeted annually and about half of that is expected to be contingency or reserve. This level of arbitrary funding is further deteriorated by the fact that new vehicle inventory in Canada dropped significantly, and with higher demand prices have risen substantially[4].

On April 21, 2009, the City of Vaughan launched Green Directions Vaughan, the City's first Community Sustainability and Environmental Master Plan and in 2010, the City of Vaughan Green Fleet Strategy was issued. The objective of that program was to ensure that efficient vehicles and equipment are continually added to the City's fleet. Yet from a fleet perspective very little has been done to ensure that the objectives of this program are being achieved. The City only operates two electric vehicles. There have been significant technological strides in electric[5], hybrid electric vehicles[6](HEV's) and biofuels since the launch of the Green Fleet Strategy. Nevertheless, the policy has not been updated to reflect the current operational

[2] An asset is considered beyond economic repair when it is more cost-effective to replace the asset than it is to repair it.
[3] Association for the Work Truck Industry; https://www.ntea.com//
[4] https://toronto.ctvnews.ca/new-and-used-car-prices-continue-to-rise-with-no-relief-for-two-years-car-analyst-says-1.5660896: The average new listing price increased by 9.3% in October 2021 over September 2021 and almost 17.7% over the year before.
[5] EVs use a battery to store electrical energy and are powered using an electric motor.
[6] Hybrid vehicles combine a gas or diesel engine with an electric motor and battery. The batteries are continually recharged by the engine or from energy generated during braking.

environment. Adopting fuel efficient fossil fuel alternatives can reduce overall operating costs. Fleet managers have a pivotal role in delivering these benefits. As purchasers of new vehicles and equipment, they are central to the adoption of newer, cleaner technologies into the vehicle and equipment fleet.

Service Level Agreements (SLAs) between FMS and user departments can also provide numerous benefits to the entire organization. SLAs help define each party's roles and responsibilities, provide transparency regarding service assessment, and establish mutual accountability where client dependencies exist. They can help FMS prioritize work and foster a good working relationship with other departments. Without a clearly defined SLA, the department runs the risk of not meeting customer expectations regardless of the level of service it is providing.

Recommendations

We recommend that management formally adopt a city-wide comprehensive Fleet Management strategy that will be a driver to set predetermined goals, improve outcomes and strengthen fleet management governance. At minimum, the strategy should include:

- Moving to a centralized service delivery model to govern fleet management, where Fleet Management Services is held accountable for the ownership, distribution, and maintenance of the City's Fleet inventory, except for VFRS.
- Implementing policies, procedures, and SLAs to govern the acquisition, use and distribution of vehicles, machinery, equipment, and inventory.
- Leveraging technology, such as an FMIS and AVL, which will be used to assist management with oversight and reporting on the goals, objectives and KPI's of the strategy.
- Developing a comprehensive Fleet Asset Management Plan and a formal condition assessment methodology to assess the state of the City's Fleet assets and prioritizing vehicle, equipment, and machinery replacement.
- Establishing multi-year budgeting and forecasting models, analytics and funding sources, including the establishment of a Fleet Reserve, to support a Fleet capital replacement plan.
- Utilizing a formal standards library for all vehicles and equipment at the City, providing for standardization of similar fleet units to promote unit assignment flexibility.
- A link to the Green Fleet strategy which aims to reduce environmental impacts through a combination of cleaner vehicles and fuels, fuel-efficient operation and driving.

With the adoption of this recommendation, Internal Audit will close off the previous recommendation from the 2015 Roads Operations Audit.

Management Action Plan

Management agrees with the recommendations.

- FMS will develop a centralized service delivery model and update its Fleet policy to effectively govern the City's Fleet of assets. (Q4-2023)

- FMS will establish SLA's from data that will become available after the implementation of the FMIS and implement updated policies and procedures to manage the assets including acquisition, use and the distribution, repairs, maintenance, and disposal. (Q4-2025)

- FMS will recruit a Fleet Acquisition Specialist to accelerate asset acquisitions, develop policies, procedures, and standards around asset acquisition. (Q3-2022)

- The AVL upgrade is expected to be completed by Q3, 2022.

- FMIS implementation is expected to be completed by Q4, 2023.

- FMS will develop the comprehensive Fleet Asset Management Plan and condition assessment methodology. (Q4-2024)

- Transportation and Fleet Management Services management will collaborate with the Corporate Finance team to explore additional funding sources to support a comprehensive Fleet capital replacement plan. (Q4 2023)

- FMS will establish a standard library for all vehicles and equipment at the City. (Q2-2024)

- FMS will develop the Green framework to establish the link with the Green Fleet Strategy to reduce environmental impacts. (Q4-2023)

2. Acquire a Fit-for-Purpose Fleet Management Information System (FMIS) and Upgrade the Automatic Vehicle Localization (AVL) Units

The primary benefit of a fully integrated FMIS is the ability to manage all aspects of a fleet operation through a single interface and toolkit. The City does not have a robust fit-for-purpose FMIS, which is the root cause of many of the issues highlighted in this report.

Many of the automation issues faced by FMS were already identified in the VFRS Mechanical Review report completed by MCG Consulting Solutions. The report was presented to the Audit Committee on November 22, 2021. At that meeting management committed to immediately commencing a 4-month pilot to assess the expanded use of JD Edwards to close this gap.

On January 31st, it was determined that work had yet to begin on the JDE pilot project. Upon further discussion with management on February 14th, it was agreed that the JDE pilot would not proceed and that FMS and VFRS would work together with OCIO to procure and implement a dedicated FMIS system, as previously recommended by both Internal Audit and MCG Consulting Solutions.

One of the emerging applications of fleet management is in the area of GPS-based AVL systems. This technology merges on-board diagnostics of a vehicle with satellite-based GPS data. All City of Vaughan fleet assets are fitted with an AVL unit. The data is principally intended to be used to support staff and citizen safety; and ensure the safe and compliant use of City assets; as well as their optimization, efficiency, and maintenance.

Although the City has implemented AVL technology, it has been underutilized largely due to the poor reliability of the older units purchased, which has adversely impacted analytical and reporting capabilities. FMS has started to covert these older units to more reliable AVL units (AVL-TO-GO), which is anticipated to be completed by June. However, as of Q4 2021, only 84 vehicles were equipped with the updated units. Once all of the AVL units have been installed, management will be in a better position to analyze data such as fleet usage, idling performance, AVL distribution, seat belt usage and sharp acceleration. This will help inform decision making with respect to the Fleet Strategy and driver training, while mitigating operational, financial and health and safety risks.

Recommendations

We recommend that management:

- Finalize the procurement and implementation of the fit-for-purpose Fleet Management Information System.

- Install the upgraded AVL units in all City vehicles and fully leverage the resulting fleet data to inform management decisions.

Management Action Plan

Management agrees with the recommendations.

- FMS and VFRS are in the process of procuring a fit-for-purpose Fleet Management Information System. (Q4-2023)

- FMS will develop a management dashboard using data from AVL and FMIS to support data driven decision making. (Q3-2024)

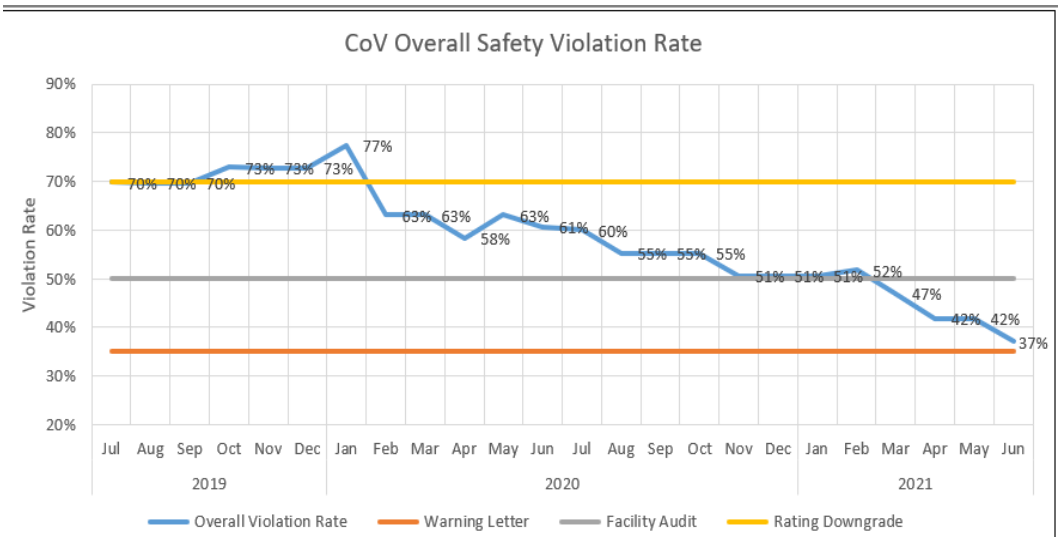
3. Improve Compliance to Vehicle Inspection Requirements

The Commercial Vehicle Operator's Registration (CVOR[7]) system monitors commercial carrier safety to improve road safety for all road users. The City's overall performance rate is determined by combining its collision, conviction, and inspection performance values over a 24-month period. The objective is to keep the rate as low as possible. Ministry interventions and sanctions include disciplinary letters and audits, up to and including the cancellation of the City's operating privileges if corrective action is not taken. If the rate increases above a certain percentage (35%), the MTO sends a warning note to the City. If it rises above 50% it may audit the City. If it rises to over 70% for 6 months or more, a MTO audit is triggered.

In 2018 an MTO audit was triggered at the City of Vaughan due to rates being consistently over 70%. This was primarily due to 16 accidents over a 24-month period. The MTO Audit concluded that there were no egregious findings from their investigation. Nevertheless, FMS undertook an intensive education program with staff. From July 2019 to December 2020, the rate remained above 70%. The City was between 50% and 70% from February 2020 February of 2021. Since then, the City has shown steady improvement, and in February of 2022 the rate was 28.82[8]. However, this is still above most of our comparative municipalities in the GTA.

[7] Commercial vehicle operators in Ontario must have a valid Commercial Vehicle Operator's Registration certificate and carry a copy. The CVOR system monitors commercial carrier safety to improve road safety for all road users.

[8] The average rate for the 8 comparative Ontario municipalities and regions that audit reviewed was 16.77. The only one higher than CoV is Toronto at 38.7%. It should be noted that Toronto has a much larger fleet and a much larger road network.



The City's commercial vehicle drivers are required to inspect their assigned vehicle before operation. The purpose of the daily vehicle inspection is to ensure that problems and defects have been identified before the vehicle is driven. Inspections reduce the risk of operating a vehicle with problems that may cause or contribute to the severity of an accident.

The data shows that on average the compliance rate to these requirements is below 50%[9]. This indicates that the inspection report was either not completed or not completed appropriately over half of the time[10].

This situation is amplified by an increasing trend in the number of accidents reported at the City, and a significant delay in operators reporting accidents. It is the policy of the City for vehicle operators to report accidents within a day of occurring. However, evidence of asset damage is often only discovered by FMS operational staff when they are working on the asset and notice the damage[11]. In April of 2021, the average delay for accident occurrence to accident reporting was over 16 days. The lack of immediate reporting of accident reporting is likely due to fear of reprisal, rather than negligence.

Recommendations

We recommend that FMS management:

- Work proactively with the client groups to increase training, compliance to vehicle inspections and accident reporting. Consideration should be given to direct verification of operator competency.

[9] *For example, in June 2021 the rate was 49%, and as low as 29% in March 2021.*
[10] *Random sample (target 100 every month).*
[11] *It should be noted that the data indicates that most of the reported accidents were preventable. Most accidents are minor in nature and often occur on City property (i.e., JOC – vehicles getting into fender benders with other vehicles). Multiple terms are used to describe a mishap involving a motor vehicle, including accident, incident, and collision. Nevertheless, it generally results in damage to City assets.*

- Report all incidents of unreported vehicle and equipment damage detected by the FMS operational staff to the Departments Driver and Compliance Trainer. Wherever possible, the supervisor of the operator responsible for the unreported damage should be informed of the incident.

Management Action Plan

Management agrees with the recommendation.

- FMS will develop the operator competency framework to increase compliance to vehicle inspections and accident reporting. (Q4-2024)

- FMS will update its Accident Management Reporting process to include the department's supervisor and the Driver Trainer in all unreported damages. (Q2-2023)

4. Investigate the Feasibility of Exiting the Fuel Distribution Business

The City operates fuel dispensing equipment at the Joint Operations Centre (JOC) and Woodbridge Yard. Fuel pumps, storage tanks, and other ancillary equipment need to be kept in operational condition for effective and safe performance. The Woodbridge Yard uses above ground fuel storage tanks (AST[12]), while the JOC uses in ground storage tanks. This particular AST style of tank is highly versatile. However, both types of fuel storage tanks can fail.

Internal Audit's review of the operation found:

- The fuel dispensers and tanks at the JOC are extremely old and in need of remediation. They were out of service at least 11 times between February 2019 and December 2021, impacting service delivery.
- Between 2019 and 2021, the City spent approximately $42,000 on external maintenance services to repair the pumps, and in some cases have the water removed from the tanks. If water is able to enter the tanks, then it is likely that fuel is able to be leach out.
- The JOC pumps are uncovered, directly exposed to the elements throughout the year and located in a high traffic area of the JOC, making them more susceptible to collisions and damage.
- The system used to operate the pumps and fuel supply is antiquated. Staff is still taking manual tank dips[13] at the JOC and the Woodbridge Yard to estimate remaining fuel, identify fuel consumption discrepancies, and to reconcile fuel invoices.
- In order to gain access to the fuel system a pin number and a vehicle specific swipe card are required. As of January 6, 2022, 943 City employees had enabled access to the fuel system. Internal Audit found that there were 62 terminated employees that still had enabled fuel pins numbers.

[12] ASTs are specifically built for secure storage above ground level.
[13] Dipping fuel tank drops a measuring stick into the fuel tank to determine how much fuel is in the tank. It is used to reconcile fuel consumption and inform you if you are losing fuel through leakage, theft, or poorly calibrated dispensing systems.

- The analysis also found 3 cases where the fuel system was accessed after the termination date of the employee, using the terminated employees pin number. This was likely due to the sharing of employee fuel pin numbers between staff members.

There are many risks in operating a fuel distribution system. Fuel storage tanks can suffer contamination, leaks, and can potentially damage water supplies, soils, and local ecosystems. Further, sediments and moisture can significantly impact the performance of fuel tanks, engines and increases the risk of fire and tank explosion. The City is also exposed to financial, safety and supply chain risks associated with the procurement and dispensing of petroleum products.

Given these risks, management should strongly consider alternative mechanisms to refuel City assets. One common alternative is the use of commercial fuel cards. These cards are purpose-built for buying fuel and would provide multiple locations for employees to refuel City assets. These arrangements facilitate better control over identify fraud or misuse, tracking purchases online and providing detailed reports.

Remaining in the fuel distributing would require significant capital investment to mitigate the existing environmental, health and safety and operational risks. This may include the need to replace the existing infrastructure, procuring the use of a real time, web-based platform that easily allows management to monitor every component of the fuel system through automated system diagnostics and improving management oversight over access to the fuel pumps.

Recommendations

We recommend that management:

- Investigate the feasibility of exiting the fuel distribution business and negotiating a contract to refuel City assets through a 3rd party distributor(s).

Or:

- Create a business case to replace the existing infrastructure, procuring the use of a real time, web-based platform that easily allows management to monitor every component of the fuel system, through automated system diagnostics.

In the interim:

- Improve processes over access and management oversight over staff use of the existing fuel system.

Management Action

Management agrees with the recommendation.

- FMS will conduct feasibility analysis of the fuel distribution business and identify opportunities. Fleet will submit an ARR for a feasibility study for the 2023 budget cycle. (Q4-2024)

- FMS will update its Fuel Management processes to improve access and management oversight over staff use of the fuel system. (Q4-2022)

5. Enhance Procurement, Contract Administration, and Inventory Management Processes

It is not practical for an organization to staff to the peaks of its workload. Fleet organizations use vendors to complete services for a variety of reasons, including maintaining service levels during periods of peak workloads and/or staff shortages, avoiding costly investments in tooling, and to providing service in remote locations.

Management has established some agreements with licensed contractors[14] to support the operations, however FMS does not have a robust, sustainable procurement process in place. There are very few established vendors of record (VOR[15]) for inventory and parts purchases. FMS has recently recognized this gap and is working with Procurement Services to issue RFPs for the establishment of VORs, including: Tires, Auto Parts, Rust Protection, Hydraulic truck repairs and multiple other services.

Management has agreements with four licensed contractors, including: preventative maintenance service, remedial repair, and overhaul services. Provisions of the agreements include an annual contractor performance evaluation to be performed by FMS. However, FMS did not conduct a contractor performance evaluation in 2021. This is particularly important since in 2020, one of the four vendors scored 48.5/100 and a second one scored 56.3/100. By not performing the evaluation, the City is not able to formally assess if the contractors are adhering to repairs and service requirements, preventative maintenance schedules and quality standards of work performed.

The acquisition, management, and provision of replacement parts to mechanics is a key ingredient of the in-house fleet maintenance process. The timely availability of high-quality repair and service parts directly impacts fleet availability. Service and repair activities which are consistently delayed due to the unavailability of parts, translates into reduced operator productivity, and the need for spare vehicles and a larger fleet to support the same level of services.

FMS is currently using Microsoft Access based end-user-reporting to manage their assets. This system has been developed and maintained by FMS' Business Analyst. He is the only individual who knows how the system works and should he leave, no one would know how to maintain the data base. Additionally, this process is only as good as the data that is entered

[14] Principally sole sourcing for specific equipment/part requirements.
[15] VOR arrangement means a procurement arrangement, typically established through an RFP, that authorizes one or more qualified vendors to provide goods/services to the City for a defined period.

into it. It is not integrated into other control systems and prone to error. Further the "inventory" database is focused on vehicle and equipment inventory, not on parts inventory.

The MCG Consulting Solutions review, commissioned by Vaughan Fire and Rescue Services of their mechanical division, concluded the following[16]:

> *"…A functioning FMIS is needed now and will be the backbone of the improved operating model as it will host the fleet inventory and all data needed to make decisions on fleet and maintenance management, including parts…. We discussed current and future plans for the integration of technology and tracking of Key Performance Indicators (KPIs) with each benchmarking partner[17]. All participants except VFRS have a FMIS capable of tracking information such as fleet inventory, odometer readings, fuel usage and maintenance history with associated unit costs. This makes it much easier for the other organizations to conduct a fleet utilization review, develop a capital replacement plan and calculate mechanical staffing requirements…Parts need to be readily available in a secure place that ensures an accurate inventory is maintained."*

VFRS and Fleet management are currently in the process of procuring a FMIS system which will incorporate a robust inventory management module.

In addition to the need for an inventory system, there is currently an inadequate level of physical security over inventory, which increases the risk of loss or theft. The JOC inventory stockroom is open to all Fleet staff members and viewed as a "hangout" for many City staff. The current management team has taken steps to reduce this practice, including requiring access cards to enter the JOC bay area.

The inadequate level of physical security is exacerbated by poorly controlled procurement practices. Best practice procurement processes are founded based on certain internal control fundamentals, such as Segregation of Duties (SOD[18]). A common SOD procurement process is to have a 3-way matching[19]. The term 3-way matching refers to the practice of cross-referencing three key documents: Invoice, Purchase Order, Proof of Receipt (i.e. Packing Slip). This helps ensure that the amount paid to the vendor matches the goods or services provided.

The City has a significant segregation of duties control gap when it comes to the procurement of goods. Operational FMS staff are empowered to order goods directly from vendors, receive the goods directly without recording them into inventory or going through an independent receiving/inventory function and approve the invoice for payment. The operational staff are then fully accountable to maintain custody over this inventory.

The Association of International Certified Professional Accountants states the following[20]:

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[16] *This report was presented to the Audit Committee in November 2021.*

[17] *Benchmarking Partners included: Mississauga Fire and Emergency Services, Brampton Fire and Emergency Services, London Fire Department.*

[18] *SOD is a key internal control intended to minimize the occurrence of errors or fraud by ensuring that no employee has the ability to both perpetrate and conceal errors or fraud in the normal course of their duties.*

[19] *The term 3-way matching refers to the practice of cross-referencing three key documents: Invoice, Purchase Order, Packing slip.*

[20] https://us.aicpa.org/interestareas/informationtechnology/resources/value-strategy-through-segregation-of-duties

"SOD is a basic building block of sustainable risk management and internal controls for a business. The principle of SOD is based on shared responsibilities of a key process that disperses the critical functions of that process to more than one person or department. Without this separation in key processes, fraud and error risks are far less manageable."

Recommendations

We recommend that management:

- Establish comprehensive VOR agreements and execute vendor performance evaluations in compliance with the vendor agreements.
- Implement the inventory control model within the FMIS once it is acquired.
- Develop and implement written departmental policies and procedures for inventory control activities, incorporating segregation of duties and 3-way matching principles.
- Enhance physical security over inventory items.

Management Action Plan

Management agrees with the recommendation.

- FMS will establish comprehensive VOR agreements and execute vendor performance evaluations. VOR agreements are expected to be completed by Q4 2023.
- A Council FMS report for Fleet Single and Sole source is scheduled to be submitted in June 2022.
- An inventory control module will be implemented as part of the FMIS implementation. (Q4-2023)
- Fleet will require an additional resource (ARR) to oversee inventory management.
- FMS will formally document the policies and procedures for inventory control activities, incorporating segregation of duties and 3-way matching principles. (Q4-2024)
- FMS will install employee badge access system to all the doors in the Fleet workspace. (Q4 2023)

6. *Develop a Progressive Strategic Staffing and Training Plan*

Strategic staffing is a tactic designed to ensure an organization has the workforce it needs to meet both current and future business objectives. Essentially, strategic staffing ensures that the FMS has the right number employees with the skills to achieve their objectives effectively and efficiently. FMS has not developed a formal strategic staffing plan. Administrative and operational level staff have been challenged in meeting their responsibilities. From an administrative perspective, demands on staff have increased as a result of increasing regulatory requirements, a lack of an integrated fleet management system, the impact of the COVID pandemic and staff turnover.

On the operational side, vehicle service lives are being extended as the City right-sizes the fleet and looks to manage new-vehicle acquisition budgets. Demands on operational fleet staff continue to increase to account for this additional utilization, during the costliest portion of a unit's lifecycle. Additionally, management confirmed that technical staff training is done ad hoc with no defined training plan. Considering the evolving asset inventory (such as electric vehicles[21]), a comprehensive training plan that ensures the appropriate technical/ vocational training is essential for operational efficiency.

Further, FMS operates out of only four service bays at the JOC with no obvious opportunity for expansion. This physical limitation restricts the work that can be done in the facility regardless of staffing level. Industry best practice is to allocate 1.5 bays per light-duty mechanic and 2.5 per heavy-duty mechanic[22]. Since Vaughan uses a mixed fleet, the ideal facility for the existing staff would be 8 fully functional bays[23].

The planned expansion and organic growth of any organization rely on the efficiency of strategic staffing. Once the management team have mapped out the planned growth for the coming months and years, they can determine the number of employees, facilities and skills needed to complete their objectives.

Recommendations

We recommend that management:

- Develop a progressive strategic staffing plan that includes:
  - Identifying the factors impacting staff availability.
  - Secession planning.
  - Outlining the Department's functional and vocational training needs.
  - Conducting a gap analysis to inform the strategic plan.

[21] *https://cleantechnica.com/2021/12/29/training-the-mechanics-of-the-revolution/*
[22] *Fleet Management Operating Guide by the National Assn. of Fleet Administrators. "This allows for vehicles waiting for parts once repairs have started and working two vehicles by one technician…to have the vehicle removed from a bay if the vehicle is waiting on parts is a waste of time. An efficient shop would have minimum time spent by a technician on vehicle movement rather than working on it."; https://www.fleetowner.com/operations/article/21660702/the-ideal-shop*
[23] *4 mechanics x 2 bays each.*

- Develop a plan to address the physical limitations to the operational facilities. This should include short term considerations, such as satellite services at various City locations/yards to do basic maintenance on vehicles and equipment (i.e. - sharpening blades) and having spare vehicle fluids at the yards for vehicle and equipment operators to use (i.e., windshield wiper fluid). It should also include longer term facility plans to effectively accommodate a growing fleet.

Management Action Plan

Management agrees with the recommendation.

- FMS will develop strategic staffing plan by Q4, 2024. Fleet will submit an ARR for a consultant to develop progressive strategic staffing plan in 2023.

- FMS will develop a short-term plan to address physical limitations to operational facilities, and longer-term facility recommendations (needs) to effectively accommodate a growing fleet (Q4-2024).

- Fleet will submit an ARR for the addition of a Mechanic II position. (2023 budgeting cycle)

- Fleet will submit an ARR for a consultant to complete a functional needs assessment in 2023.