



# CITY OF VANCOUVER INTERNAL AUDIT REPORT Fleet Services Audit

**Distribution:**

Audit Committee  
KPMG

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**EXECUTIVE SUMMARY**

28 August 2020

The Fleet and Manufacturing Services (FMS) branch complies with the Ministry of Transportation and Infrastructure requirements with respect to safety inspections, staff certifications, and reporting timelines. FMS branch's internal controls are adequate to support FMS business objectives and the use of its resources is appropriate in meeting the City's operational needs.

Carrying out a post implementation review of the Asset Works Fleetfocus M5 system to ensure that it is fully delivering its functionalities; following up on all shortfalls identified during the pre and post inspections to ensure safe operations and compliance to regulatory requirements; providing adequate training to all M5 systems users to maximize their use of all the system's features; engaging all stakeholders in regular meetings to discuss major projects and issues; refining a receipt of completed work process by clients; and developing a communications plan and survey with clients to solicit feedback will improve the effectiveness and efficiency of FMS.

The more significant findings and recommendations are:

**E.1 Asset Works Fleetfocus M5 Development, Application and Post Implementation Review Needed**

Working with Supply Chain Management and Technology Services (TS), a post implementation review with a critical look at the stated deliverables, effectiveness of the system and efficiency gain would maximize the system's usefulness to FMS and ensure the project objectives are achieved.

**E.2 Pre and Post Trip Inspections Require Follow-up**

It is important to ensure management addresses all shortfalls identified in the pre and post inspections for safe operation. Addressing key outstanding issues highlighted during inspections will ensure all Ministry regulatory requirements are met.

**E.3 Provide Asset Works Fleetfocus M5 Training to All Users to Maximize Systems Usage**

Adequate training to all users of the M5 system would maximize their use of all the functionalities on the M5 system to gain effectiveness and efficiency in FMS operation.

**E.4 Client Communications and Feedback Survey for Outfitting of New Vehicles**

FMS should communicate the work necessary in readying the vehicles/equipment to ease any client concerns and assist them in their planning and eventual use.

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## A. BACKGROUND

### City's Fleet and Equipment (Plant Assets)

As at March 31, 2020, the City of Vancouver's vehicles and equipment inventory is comprised of over 5,829 units of assets that support municipal functions including park operations, road repair, parking services, employee transportation, police services, fire rescue etc.

Department	Light Duty	Heavy Truck	Heavy Equipment	Trailer	Small Equipment	Boat	Other	Grand Total
Engineering Services	374	320	135	143	1,332	1	642	2,947
Park Board	131	56	158	36	826	1	53	1,261
VFRS	56	63	10	17	519	5	195	865
VPD	522	5	2	13	40	4		586
REFM	60	2	2		3			67
Cemetery	1	1	12		45		7	66
DBL	10				1			11
Finance	1	2	5		1		1	10
Community Services	4	1		2				7
Library	5			1				6
Emergency Management	2							2
Legal	1							1
<b>Category Totals</b>	<b>1,167</b>	<b>450</b>	<b>324</b>	<b>212</b>	<b>2,767</b>	<b>11</b>	<b>898</b>	<b>5,829</b>
<b>Fleet Count (sum of Light Duty, Heavy Truck, Heavy Equipment)</b>	<b>1,941</b>							

The cost of these City assets was \$229.9 Million, less depreciation of \$109.3 Million, resulting in a net value of \$120.6 Million at 2019 year-end.

### Procurement and Management of Fleet and Equipment

The City replaces approximately 200 vehicles and equipment annually. This is a joint effort between multiple stakeholders including engineers, mechanics, department customers, supply chain, and sustainability groups. The approach is to review the market condition, whether or not these vehicles and equipment should be replaced, and technology at various levels prior to going to the tendering process.

### Procurement

Once the City's fleet and equipment are procured they are accounted for in the Plant and Equipment Reserve (also called Plant Account system of funding vehicle and equipment replacement). The assets are then administered by FMS - Fleet Strategic and Asset Management,

### Fleet Management Services Operation

In addition to vehicle and equipment purchases, this group is also involved in their disposals, and setting financial criteria for purchases and dispositions. Of the 4,900 units in the City's fleet and equipment inventory, around 2,100 are major units such as vehicles, trucks, trailers and heavy equipment funded through the Plant Account. The remaining units represent small equipment/tools that are mostly used by Engineering, Parks and VFRS but are maintained by FMS as needed. Each of these departments has a role in this as described below:

### Budgets

The Budgets department approves the annual vehicle replacements and the rental rates and provides concurrence on Council reports required for purchases over \$300,000 and for additions to the program.

### Financial Planning & Analysis

This department, working with Financial Strategy and Planning, provides financial information such as the interest rate to be used in the capital portion of the rental rate calculation and the recommended minimum balance of the Plant Account.

### Fleet Strategic and Asset Management

The staff in this FMS group are responsible for creating replacement programs, purchasing equipment, calculating rental rates and disposing of vehicles and equipment. At the end of the service life, and after a vehicle or equipment has been identified for disposal or decommissioned, it is transferred to Central Stores that either runs a surplus offer tender or sends the unit to auction.

### Asset Management Practices

The City inventories capital units, evaluates their condition, establishes criteria for acceptable condition and for continued maintenance versus replacement or retirement of an existing asset, and identifying funding for adequate maintenance and scheduling replacement of these capital assets.

### Fleet and Manufacturing Services (FMS) Support Services Operation

The FMS Branch provides vehicles, equipment and shop services to support all City departments. It also operates like a leasing agency and provides full & partial service leases for its fleet partners. FMS establish standards and policies governing the management of the fleet in the following areas:

- Manufacturing, outfitting, maintenance, repair and servicing of cars, trucks, tools and equipment;
- Procurement specifications of vehicles and equipment;
- Leasing and renting of vehicles and equipment, including those from external agencies;
- Inventorying of fleet assets;
- Environmental initiatives for equipment and vehicles; and
- Fleet and fuel technology implementation.

### Utilization

FMS manages multiple planning cycles including 10 year, 4 year, 2 year mid-term capital updates, annually, and as needed if there are other priority changes from the customer groups. These capital assets are reviewed at least once a month and this is reported up to Corporate Finance as part of the branch monthly metrics.

### New and Replacement Vehicle Request

When departments put in a request for a new or replacement vehicle the FMS Strategy and Asset Management team works with the department to develop a Value for Money (VFM) analysis to assess the business need for the new vehicle (this includes usage of the old vehicle/asset during its life and to determine if a replacement is needed), consider alternatives, and recommend the type of vehicle and budget for the application. The VFM is reviewed by the FMS Branch Manager, Green Operations Director, Engineering FP&A, and the corresponding stakeholders on the customer side. The ultimate VFM review and approval is done by the Engineering Services General Manager.

### Fuel Management

Fuel is purchased in bulk and delivered to specific locations (National Yard, Manitoba Yard) and certain VFRS sites. FMS keep digital transaction records for all fuel deliveries from the vendor, and subsequent dispensing to internal fleet customers. These fuel dispensing records create the billing report that FP&A uses to report on consumption records.

Vehicles have a vehicle identification unit (VIU) ring installed at the fuel inlet which FMS programs to enable recording of which vehicle fueled up, when, and the volume dispensed. The VIU is programmed so that it will only enable fueling up for the type of fuel the vehicle uses. Fuel keys are provided for various units (e.g. small equipment, rental vehicles), where a VIU does not make sense to install. These will either link to a unit or to an account code and records the fuel dispensed, when, and the total volume dispensed.

These expenses are charged back to the user customer on a monthly basis based on the date and the volume dispensed and which account the VIU or Fuel key is linked to.

### Green Initiatives

FMS follows City's Greenest goals and strives to be the best in green practices. City of Vancouver is the first of 14 Cities nation-wide to achieve the E3 Rating, a high level of overall energy, emission and financial performance.

## **B. SCOPE**

The audit objective was to provide reasonable independent assurance that the existing internal controls and business processes relating to the management of City's vehicle fleet are effective and efficient. The audit included a review of:

- Acquisition, utilization, maintenance and replacement of vehicles, including optimization of resources;
- Internal controls over fuel management;
- Appropriateness of capital and operating expenditures;
- Compliance with regulations and policies, including those that ensure the safety of vehicle operation;
- Green fleet operations to ensure alignment with Greenest City goals; and
- Support to other City departments (e.g. VFRS).

The audit is not designed to detect fraud. Accordingly there should be no such reliance.

## **C. CONCLUSION**



The Fleet and Manufacturing Services branch (FMS) complies with the Ministry of Transportation and Infrastructure requirements with respect to safety inspections, staff certifications, and reporting timelines. FMS branch's internal controls are adequate to support FMS business objectives and the use of its resources is appropriate in meeting the City's operational needs.

Carrying out a post implementation review of the Asset Works Fleetfocus M5 system to ensure that it is fully delivering its functionalities; following up on all shortfalls identified during the pre and post inspections to ensure safe operations and compliance to regulatory requirements; providing adequate training to all M5 systems users to maximize their use of all the system's features; engaging all stakeholders in regular meetings to discuss major projects and issues; refining a receipt of completed work process by clients; and developing a communications plan and survey with clients to solicit feedback will improve the effectiveness and efficiency of FMS.

Findings and recommendations have been discussed with appropriate management and responses incorporated in this report.

## **D. RISK ANALYSIS**

The potential significant risks considered if controls were not in place are:

- Non-compliance with Ministry of Transportation and Infrastructure regulations;
- Staff safety is compromised due to work performed not meeting maintenance standards;
- Fleet and Manufacturing Services is not operating efficiently resulting in increased cost to the City;
- Staff not certified to perform work requiring specific qualifications;
- Established procurement procedures of vehicles and equipment not being followed;
- Maintenance and outfitting work do not meet client expectation; and
- Work delay results in financial loss to the City.

## **E. AUDIT ISSUES, RECOMMENDATIONS AND MANAGEMENT RESPONSES**

### **E.1 Asset Works Fleetfocus M5 Development, Application and Post Implementation Review Needed**

#### Asset Works Fleetfocus M5 Solution

Asset Works Fleetfocus M5 (M5 for short) cost approximately \$ 4M and was implemented to provide an enhanced and effective management tool for the City's fleet assets and equipment. The solution included software, installation, configuration, maintenance, support and services.

#### Asset Works Fleetfocus M5 Development

A Business Enhancement Committee involving all stakeholders such as Finance, Supply Chain, IT, and Operations was set up during the M5 development. This committee met bi-weekly to review and prioritize outstanding issues and established work plan and timeline for completion with IT Development Operations Process.

#### M5 Initial Training

Super users (Foreman) were identified and trained before rolling out the technician training. Several training sessions were set up for both day and afternoon shift technicians. The project team trainers indicated that subsequent training sessions were scheduled to specific areas that needed additional training.

#### Implementation

GO LIVE for this system was originally scheduled for November 2018 but was delayed until April 2019. It has been running since that time.

#### Further Development Desired

FMS staff revealed that some stated functionalities/features should be enhanced to maximize its operation efficiency as many 'workarounds' were necessary to obtain the desired results. Review of the project during development found that:

- Management staff in FMS not involved with the M5 system development were unclear of the rationale on why some items were added to the development;
- The project team had to spend lots of time fixing or working around deficiencies or inadequacies of the system during the course of the project; and
- It was difficult to know what was actually supposed to be in scope and what was outside the scope.

#### Examples of System Deficiencies

Some examples cited such as: parts request, invoice dates, credits in system and ordering parts if the vehicle is not on site, require inordinate amount of workarounds to get the information from the system. Another concern raised by staff was that the system is not intuitive and to go from one screen to another related area requires many steps where the old system needed only one or two steps.

FMS staff indicated that laptops provided to technicians to access or record information in the systems were not efficiently used as it takes away technicians' time from working on the jobs. Because the system requires multiple steps to record or retrieve data, it is not efficient to use.

#### Post Implementation Review Not Conducted

A post implementation review was not conducted to ensure the stated scope was adhered to and deliverables from the system were in fact completed as indicated in the planned project outcome.

A post implementation review of the Asset Works Fleetfocus M5 with a critical look at the stated deliverables, effectiveness of the system and efficiency gain would help all stakeholders to assess whether the project objectives were met and how the system's potential can be maximized.

#### Recommendation

E.1.1 The Director, Green Operations Division, should initiate a review of the M5 project by conducting a post implementation review with Supply Chain Management (SCM) and Technology Services (TS) to evaluate how the new system is performing with respect to its stated objectives, effectiveness of the system and efficiency gains. This post implementation review should start by January 31, 2021 and should be reviewed with SCM and TS.

#### **Management Response:**

Please check one:

☒ Agree with the findings

☐ Disagree with the findings

Please check one:

☒ Agree with the recommendations

☐ Disagree with the recommendations

#### **Management Action Plan:**

***Request assignment of a business analyst from Strategic Planning & Project Management Continuous Process Improvement team to conduct a post implementation review to evaluate how the new system is performing with respect to its stated objectives, effectiveness of the system and efficiency gains.***

## E.2 Pre and Post Trip Inspections Require Follow-up

### Ministry Requirements

Commercial Vehicle Safety & Enforcement (CVSE) branch of the BC Ministry Transportation and Infrastructure conducts an annual audit of the City's commercial vehicles pre-and-post trip inspection reports. The purpose of the CVSE audits is to ensure that all commercial vehicle drivers, and ultimately the organization they work for, are held responsible for:

- maintaining safe running vehicles,
- following the safety equipment standards;
- ensuring all defects for these vehicles are noted; and
- defects are repaired before they are being used.

### Current Internal Reviews

Each operator is required to perform the pre and post trip inspections, sign off on the report and file them so that they are available for the Ministry's annual audits. Staff indicated that due to the volume of these inspection reports the FMS Regulatory Compliance, Operational Programs and Administration team can only conduct sample reviews of internal reports randomly on 2 days per month due to the high number of vehicles operated by Engineering, Parks and other City departments.

### Deficiencies Noted and Action Needed

Examination of these sample reports and FMS summaries show that there are deficiencies noted in these samples, such as:

- safety items not checked off properly as having been inspected;
- not signed by the operator;
- not reviewed by supervisors; and
- defects noted but not /reported rectified etc.

If there are many deficiencies within the sample, the multiplier effect if projected for the entire year would be substantial. Supervisors of business units are provided with regular reports but the data in the reports only show the results from the sample reviews. Thus it is important to impress upon the responsible management that they need to address these inspections as the shortfalls are more than what the samples in reports indicate. If the City does not pass the Ministry's audit, the City's fleet of vehicles can be grounded and all operations stopped.

### Recommendation

E.2.1 The Director, Green Operations, should set up regular meetings for his operations team and user branch (customer) stakeholders to discuss the pre and post inspection process to address all audit deficiencies. The operations team can outline some of the key work that needs to be done, such as follow-up on the trip reports, and other issues within the month and use this as a communications channel to keep all stakeholders informed of common issues and concerns. The participants would include Equipment Superintendents, and/or Equipment Coordinators, and Driver Services. This should be led by the Manager, Regulatory Compliance, Operational Programs and administration by December 31, 2020.

### **Management Response:**

*Please check one:*

*Please check one:*

☒ Agree with the findings

☒ Agree with the recommendations

☐ Disagree with the findings

☐ Disagree with the recommendations

**Management Action Plan:**

- ***The Manager, Regulatory Compliance, Operational Programs and Administration will initiate regular quarterly meetings with stakeholders***
- ***The quarterly meetings will review the monthly pre and post trip inspection data between FMS Planning Team and user branch Equipment Superintendents in Engineering, VPD and VFD.***
- ***The data review of monthly pre and post trip inspection will focus on themes of deficiencies to be addressed. The themes of deficiencies will be sent to user group Branch Managers and Equipment Superintendents to be reviewed at the quarterly meeting for improvement.***
- ***Utilize Driver Services "Manager Action Plan" and send to Branch Head for documentation of follow up actions conducted with operators consistently filling out pre-trips with errors.***

**E.3 Provide Asset Works Fleetfocus M5 Training to All Users to Maximize Systems Usage**

M5 System Usage

The M5 system is a computer system that is unlike the previous systems (e.g. FASTER/CCG, Fuel Management, SQL Reporting Systems etc.). Staff mentioned that many of its new features require understanding of its logic and the drill down features are not as intuitive as the former systems that it replaces. Training on the M5 system application would be required as what formerly took one or two steps would now require multiple steps to arrive at the desired screen for input. Identifying how the system can be streamlined to increase its efficiency and what additional training might be required to make it more user-friendly would improve the M5 application. Mechanics at the shop and all users now require more time to complete the tasks than before thus affecting their work efficiency.

Ongoing M5 System Training Desirable

There are other stakeholders within FMS and many users departments that could benefit from further training to be able to use the M5 functions more effectively. Training for M5 going forward could continue with using the super user model. This means involving those who are proficient in using the M5 systems as trainers (or subject matter experts as 'super users') to assist those new to the system. These super users within the shops can provide ongoing feedback to new users on common questions/concerns and finding useful solutions for them. Ideally, they can be paired with new system users to foster better understanding of the system's features for both the trainers and trainees.

**Recommendation**

E.3.1 The Director, Green Operations, should provide adequate training and refresher training to users of the M5 system to maximize their use of all the functionalities on the M5 system to gain efficiency in FMS operation. To accomplish this, one method might be to identify super users as trainers to start rolling out a structured plan to familiarize all staff that would require this training. Since the system is already in use, on-the-job application of this training may be most suitable. Another method may be the use of a web-based delivery and having instruction materials available to staff for the web training. This should begin as soon as practical but no later than by the 4<sup>th</sup> quarter of 2020.



**Management Response:**

Please check one:

☒ Agree with the findings

☐ Disagree with the findings

Please check one:

☒ Agree with the recommendations

☐ Disagree with the recommendations

**Management Action Plan:**

- **FMS will conduct a survey/questionnaire to Garage and Shop Technicians from the various user groups to identify further support required in areas of M5**
- **Based on themes survey results, evaluate online training opportunities offered by Asset Works**
- **Work with FMS Supervisor of Programs & Administration to coordinate targeted refresher training to specific user groups by super users**
- **Evaluate work station needs for online training opportunities to support user group training**

**E.4 Client Communications and Feedback Survey for Outfitting of New Vehicles**

The perceived quality of FMS services can be an indicator of their effectiveness. Many of FMS' customers are City staff outside of Engineering, such as vehicle operators and coordinators in various City departments and branches.

Work Completion Sign-off

On completion of a vehicle or a piece of equipment that was sent to FMS for maintenance or repair, the FMS technician would enter "done" status in M5. The foreman then reviews and completes the job / work order in the M5 system. This constitutes the sign-off for the work done. Then the user branch equipment superintendent and/or user branch equipment coordinator is contacted to pick up the vehicle or equipment.

Receipt of Completed Work

The user branches have been provided a link to an FMS Web Report where the users can enter the Unit #, and the report provides real time status of the current work order to the unit in addition to being notified by FMS that the work has been completed. Computers have also been installed at the intake control centers at Manitoba and National Yards, where operators also have access to the above mentioned web report. Currently, this notification constitutes receipt of completed work once the item is reviewed online and picked up.

Transparency and Greater Insight Wanted

Interviews with client users of FMS' services indicated a desire to see more transparency in work prioritization, planned completion dates, and final estimate costs. This is especially concerning work assigned to the Outfitting shop relating to completing the vehicles with final decaling and installation of City specific equipment etc. before putting them in operation. Optimal delivery service and greater insight and visibility of the Outfitting shop operation in completing new vehicles for delivery would help their clients understand the process in this final step. Acknowledging receipt of the unit online without personal contact or physical inspection does not meet the clients' expectation if the completed work is not satisfactory.

Formal Feedback

Further, FMS is not currently collecting standardized feedback from customers to assess their satisfaction with the services they received (i.e. maintenance and other mechanical work), and

primarily the team receives feedback anecdotally at regular staff meetings. Receipt of ongoing feedback from direct users would assist FMS to continue to evolve and improve their services by:

- Ensuring a consistently high level of client satisfaction over time;
- Continuously learning from both positive and negative customer service experiences;
- Determining potential training areas for staff; and
- Assessing the overall effectiveness of the operation.

Developing a robust customer survey will also help gather feedback from multiple FMS user groups including front line operators and drivers to better understand user needs and potential service improvements. FMS can engage Corporate Communications or Business Planning and Support Services (BPPS) to formulate a survey platform that will assist in this development;

## Recommendations

E.4.1 The Director of Green Operations could enhance FMS Branch operation by implementing a feedback mechanism for direct users of the service. Benefits from the survey would be to use the feedback to develop improvements in areas of optimizing FMS' operation to be more effective, efficient and provide staff training where needed.

E.4.2 The Director of Green Operations should initiate a review of the FMS Outfitting process working with Engineering Strategy and Standards Branch or engaging the Strategic Planning & Project Management Continuous Process Improvement team with a focus to achieve a reasonable service response through workflow review, funding requirements, resource allotment, and criticality of unit and time constraints. This review will be a collaborative effort and dependent on the availability and the responses of staff from other branches/departments.

E.4.3 The Director of Green Operations should implement a documented process for when the user officially acknowledges receipt of an outfitted new vehicle by FMS other than signing onto a system and picking up the equipment/vehicle. This may just require an electronic signature, or a signed paper document stating that the item has been received and the requested work has been completed. If there are problems with the received unit, then the unit could be resubmitted for further service

This should be initiated by the December 31, 2020.

### **Management Response:**

Please check one:

☒ Agree with the findings

☐ Disagree with the findings

Please check one:

☒ Agree with the recommendations

☐ Disagree with the recommendations

### **Management Action Plan:**

#### **E 4.1**

- **FMS would develop an automated follow up email providing a feedback mechanism**
- **Example: Work order is completed, automated email goes to User Branch Equipment Superintendent with summary of job lines and notes included. If Equipment Superintendent doesn't agree with work completed, Unit gets re-booked in, referencing the previous work order. (look into options for creating a new visit reason)**
- **Add random survey component for user branch feedback through same email process**

- *Feedback from user branches will identify future proposed FMS technician training*

#### **E.4.2**

*Request assignment of a Project Manager from either Engineering Strategy and Standards branch or Strategic Planning & Program Management Continuous Process Improvement branch to review the FMS Outfitting of New Vehicles process to:*

- *Define the process*
- *Measure the components of the work flow*
- *Analyze the data*
- *Improve the process/procedures*
- *Control the sustainment*

*This work will be led by a Project Manager from an external business unit with input from key stakeholders such as FMS, Finance, etc.*

#### **E.4.3**

*FMS currently works with user groups to determine outfitting needs, and then inputs those needs into M5 for Operations to complete. To improve this process, the Fleet Strategy & Asset Management (FSMA) is currently engaged in a Lean Six Sigma Yellow Belt project that will:*

- *Identify areas of improvement for pre-delivery requirements of the new units to reduce vendor re-work*
- *Create standardized project documentation templates*
- *Standardize outfitting gathering requirements*
- *Require user group sign-off before outfitting starts*
- *Require sign-off from user group after outfitting of new vehicles is complete*

