Oshawa

Public Report

To:	Community Services Committee
From:	Ron Diskey, Commissioner, Community Services Department
Report Number:	CS-17-19
Date of Report:	April 13, 2017
Date of Meeting:	April 20, 2017
Subject:	Fleet Purchasing and Inventory Management Audit
File:	F-2000

1.0 Purpose

The purpose of this report is to present the KPMG Fleet Purchasing and Inventory Management Audit Report (Attachment 1).

2.0 Recommendation

That the Community Services Committee recommend to City Council:

That Report CS-17-19 dated April 13, 2017 and Attachment 1, being the KPMG audit report for fleet purchasing and inventory management, be received for information and that the recommendations and management responses in the KPMG audit report be endorsed as the general basis for implementing improvements within Fleet Services.

3.0 Executive Summary

Not applicable.

4.0 Input From Other Sources

The fleet audit by KPMG was conducted with the involvement of the appropriate City employees.

5.0 Analysis

On December 14, 2015, Council received for information the 2016 Audit Plan. The Plan was comprised of five audits, as follows:

- Real Estate Function
- Asset Management
- Oshawa Senior Citizens Centre (O.S.C.C.) Governance

- Health and Safety
- Fleet Purchasing and Inventory Management.

The Real Estate Function and O.S.C.C. audits are complete. The Asset Management audit will be reported on shortly.

The Fleet audit contains eight recommendations (two high risk, 3 medium risk and three low risk) related to the following aspects:

1. Fleet analysis and data availability (high risk)
2. Regular monitoring of NAPA KPIs (high risk)
3. Utilization of fleet vehicles (medium risk)
4. Fleet replacement strategy and methodology (medium risk)
5. Segregation of duties in requests for new parts and servicing (medium risk)
6. Fleet replacement rates (low risk)
7. Formal inventorying of winter tires (low risk)
8. Vehicle specification guidance and templates (low risk)

The KPMG recommendations and the City's management response will be the basis for implementing improvements within Fleet Services.

6.0 Financial Implications

There are no financial implications at this time.

7.0 Relationship to the Oshawa Strategic Plan

This report responds to the Council-approved principle of financial stewardship, which underlies the Oshawa Strategic Plan. It also responds to the goals of Economic Prosperity – Ensure economic growth and a sound financial future, with specific connection to the theme of safe and reliable infrastructure, which speaks to asset management, and the goal of Accountable Leadership – Ensure respect, responsiveness and transparency.

Helen Break, Director, Strategic Initiatives,
Office of the City Manager

Glenn Simmonds, Director, Operations
Community Services Department

Ron Diskey, Commissioner,
Community Services Department

City of Oshawa

Internal Audit of Fleet Purchasing and Inventory

Overall report rating:

Yellow-red: Partial assurance with improvement opportunities

KPMG LLP

April 4, 2017

This report contains 36 pages

Appendices comprise 20 pages

Contents

Appendices

Distribution

To (for action):

- Glenn Simmonds, Director, Operations Services
- Mike Saulnier, Manager, Waste & Environmental Programs & Fleet Services

cc (for information):

- Stephanie Sinnott, Executive Director, Finance Services/Treasurer
- Dave Lyon, Manager, Purchasing Services
- Michelle Bretherick, Manager, Financial Reporting and Planning
- Josh Fraser , Supervisor, Fleet Services

Sponsor

- Ron Diskey – Commissioner, Community Services

Section One

Executive Summary

Conclusion

We have provided a rating of partial assurance with improvement opportunities (yellow-red) for this review of Fleet Purchasing and Inventory Management. Fleet Services currently manages 319 assets covering a broad range of vehicles and equipment with an approximate value of $23.8M. To maintain these assets, Fleet Services has contracted NAPA to manage most of the fleet spare part inventory. We note that the information systems and data resources currently supporting Fleet Services are not well developed or utilized to support decision making. We believe that there are opportunities for the City to improve the utilization of vehicles and reduce costs through development of regular and formalized fleet analysis. Currently, NAPA is not meeting their contractual 80% of parts availability target. Moreover, there are process design gaps within the controls around requests for new parts and servicing, providing the opportunity for misappropriation of assets.

From our discussions with management, we understand that Fleet Services has undergone a lot of change in the past 6 years. From 2011-2013, there were 3 different fleet managers. A major focus initially was to put in place a consistent verification process for repair work. Moreover, a switch from the Ritson facility to the Wentworth facility took place with a focus on inventory controls through the NAPA contract. Naturally, it will take some time for Fleet processes to mature. Based on the 2016 vehicle inventory listing, the current Fleet management has inherited an aged fleet, with approximately 33% of assets exceeding their useful lives. This statistic agrees to our analysis of the condition of vehicles, where 2 of the 6 samples tested should be considered for replacement.

The first part of our review focused on analyzing the information systems and resources supporting the current fleet of vehicles and Fleet Services operations. Through this work (Appendix A), we observed that the system currently supporting Fleet Services is not being utilized effectively and may not have the capability to provide adequate reporting to support management decision making and it was a time-consuming exercise for the City to provide the necessary data to KPMG to analyze vehicle usage for this audit. Moreover, there are limited resources skilled in data quality and analysis available to Fleet Services. As a result, Fleet Services management often does not have the information required to make informed decisions to achieve the best outcomes for the City, from a cost and efficiency perspective. We found that the majority of the fleet is not being analyzed on a regular basis to identify assets for replacement. Moreover, the few assets that are analyzed only include 3 year mileage and repair/maintenance costs. Information is not readily available to monitor a number of NAPA KPIs, which measure availability and quality of parts. The City should look to dedicate

a resource(s) to support fleet analysis, in line with comparable municipalities. We provide a possible fleet analyst mandate (Appendix B).

Over a period of 3 months, we were able to obtain various reports to form a limited data set which we used to analyze the condition of 6 assets (Appendix C). This showed that there are fleet vehicles that should be replaced as well as those that have reached their useful lives but may not need to be replaced. We also analyzed the utilization of the light vehicle fleet (Appendix D), which indicated that some vehicles within the City's fleet are likely being underutilized. Furthermore, we compared the cost of owning vehicles to reimbursing employees for mileage, concluding that it could be more cost efficient to reimburse in some instances where it is possible and practical to do so (dependent on availability of staff using their own vehicles).

Upon inspection of the fleet replacement process, we noted that the replacement analysis is not formally recorded and retained. In addition, fleet customer departments may reject the outcome of the analysis and go to City Council to obtain approval of vehicle or equipment purchases, resulting in inefficiencies from a cost and operations perspective. The current replacement analysis can and should be formalized to improve future outcomes. In addition, only Fleet Services should be able to seek approval from Council for fleet asset purchases.

The second part of our review focused on the processes in place for fleet parts inventory management. Upon walkthrough of the process for requests for new parts and servicing (Appendix G), we noted limited segregation of duties between individuals requesting parts and performing the review of part orders. Having different individuals performing these tasks ensures orders are appropriate and necessary and limits the risk of parts being misappropriated.

Currently, NAPA contractual KPIs are not being monitored on a regular basis. NAPA is currently below the 80% availability of parts target; we noted an average fill rate of 68% from June to October 2016. Fleet Services should monitor the 80% fill rate KPI on a monthly basis and engage in regular discussions with NAPA if the figure is below target to hold them to account.

Background

This internal audit forms part of the Internal Audit Plan for 2016 for the City of Oshawa ("City" or "Corporation"). This review will focus on analyzing vehicles in fleet, as well as related processes in place for inventory management of parts.

Objectives

Objective	Description of work undertaken
Objective one To analyze current fleet of vehicles	We undertook analysis of the current fleet of vehicles and operations to support: • Resources required to support the fleet operation, including structure; • The infrastructure to manage / support the fleet operation and information system; • The strategy for fleet and associated budget for new vehicles (budget vs. timing of purchase) and cost recovery model for capital replacement; and • Tendering and sourcing process (RFT). The purpose of this objective was to analyze the strategies in place for fleet maintenance and asset management and to review the staffing model in order to support the various stakeholders.
Objective two To assess the current processes in place for fleet parts inventory management	We reviewed the processes and controls in place for managing inventory levels for parts (excluding processes undertaken by NAPA). This included the following: • The controls around requests for new parts and servicing from staff; • Processes for maintaining inventory levels; • Review of additional inventory managed by Fleet, ie. winter equipment, tires • Contractual requirements of NAPA, how they are held to account for providing inventory services; • Validating any reporting from NAPA on availability of parts (target being 80%).

Recommendations

- **Fleet analysis and data availability**: We found that currently fleet analysis is not undertaken in a routine and documented way to support decisions on whether vehicles should be replaced or maintained. In addition we noted difficulties in obtaining the data and the resources to support the analysis of vehicles. Fleet Services management should undertake analysis of further vehicles using the data available. A resource should be identified with the necessary skills to help to provide reporting on the fleet. Longer term, a

cross-functional team containing Fleet Services, Finance, and IT should map Fleet's requirements to the functionality of MMS and other systems (see Recommendation One).

- **Regular monitoring of NAPA KPIs:** NAPA contractual KPIs are not being monitored on a regular basis. Fleet Services should regularly monitor NAPA KPIs (see Recommendation Two).
- **Analyze the utilization of fleet vehicles:** Based on our analysis, some vehicles within the City's fleet are likely being underutilized, resulting in increased costs. Fleet Services management should conduct further analysis of the vehicle fleet and assess customer requirements to determine whether vehicles are being utilized efficiently (see Recommendation Three).
- **Change in fleet replacement strategy and methodology**: Customer departments may reject the outcome of Fleet Services' replacement analysis and go to City Council to obtain approval of vehicle or equipment purchases. Only Fleet Services should be able to seek approval from Council for vehicle or equipment purchases (see Recommendation Four).
- **Segregation of duties in requests for new parts and servicing**: Inadequate segregation of duties between individuals requesting parts and performing the review of part orders, provides the opportunity for misappropriation of parts. These duties should be segregated to reduce risk (see Recommendation Five)

Recommendations raised

We have raised the following recommendations (high priority represents the most urgent and high risk category):

	High	Medium	Low	Total
Raised	2	3	3	8
Accepted	2	3	3	8

Acknowledgement

We thank the staff involved for their help in completing this review.

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Section Two

Recommendations

This section summarizes the recommendations that we have identified from our work. We have given each of our observations a risk rating as follows:

High – (Priority One): Issues arising referring to important matters that are fundamental and material to the system of internal control. The matters observed might cause a system objective not to be met or leave a risk unmitigated and need to be addressed as a matter of urgency.	**Medium – (Priority Two)**: Issues arising referring mainly to issues that have an important effect on the controls but do not require immediate action. A system objective may still be met in full or in part or a risk adequately mitigated, the weakness represents a deficiency in the system.	**Low – (Priority Three)**: Issues arising that would, if corrected, improve internal control in general but are not vital to the overall system of internal control. These recommendations are of leading practice as opposed to weaknesses that prevent systems objectives being met.

#	Risk	Recommendation	Management response, executive and deadline
1	High	**Fleet Analysis and Data Availability** Issue: As part of our work, we performed a walkthrough of the information system supporting the Fleet Services processes (Appendix A). We observed that this system does not provide reporting in an efficient manner to support Fleet decisions. The data we looked to obtain for the analysis took three months to be provided and was not routinely used within Fleet Services. When we did receive data, concerns were raised to us over the accuracy of labour costs being charged to particular work orders, and the cost of tires being accurately reflected in fleet cost reports.	A) Fleet agrees with Recommendation A. Management does a review and analysis on specific vehicles that have been highlighted throughout the year as "problematic" and put forward for replacement. We concluded the same deductions identified in appendix C by looking at the 3 year average of maintenance expenses related to every asset, while taking mileage and overall asset shape into consideration. Analysis is performed on all vehicles that show up on the replacement list. Although, this process could be documented more clearly. Recommendations are made from this analysis. Performing routine analysis on a regular basis is a challenge based on resources available, IT system and

#	Risk	Recommendation	Management response, executive and deadline
		At present there is no routine or documented fleet analysis undertaken to determine when vehicles and assets in fleet should be replaced. As part of this review we undertook the analysis of six vehicles from different asset classes against a recognized framework (Appendix C). Based on this analysis, there appear to be fleet vehicles that should be replaced as well as some that are in good condition. Impact: Fleet Services management does not have the relevant, reliable, and timely information required to make informed decisions to achieve the best outcomes for the City from a cost and efficiency perspective. For example, without being able to reasonably pull information for a group of assets, it is difficult to make decisions including: - Whether to outsource or perform the repair work in-house - Whether to replace or maintain assets - Whether NAPA is providing services in line with some of their contractual agreements Recommendations: A. Fleet Services management should undertake analysis of further vehicles using the data available to determine whether to replace or maintain assets. This analysis should be undertaken against a Framework which is deemed suitable for the Corporation (see Appendix C for guidance). The analysis should be undertaken on a routine basis in the future.	skill set. We can move forward to a documented framework if a dedicated resource is available or current software is changed to provide reports on a continuous basis. Deadline: 08/31/2017 B) Fleet agrees with Recommendation B. It is recognized that Fleet transitioned from a dedicated Fleet Analyst, to a pooled resource reporting to SBS with other duties distributed to Finance, Parts person and SBS. This has proven detrimental to Fleet operation and while the reporting structure is secondary, the dedicated resource with the specific skill set identified in appendix B is necessary to support Fleet for the future. Efforts are currently being undertaken to review current positions within SBS to possibly reallocate support to the Fleet operation. Failing this, we will need to write a report to Council for an additional position to support the Fleet organization. Deadline: 08/31/2017 C) Fleet agrees with Recommendation C. Current labor and parts information is captured on the work order and all expenses are made against a vehicle. To ensure further integrity, the proposed Fleet Analyst role would audit the current practice to ensure proper entries. Tires require additional effort due to the fact that they are not captured on a work order and must be done manually. See management comments under Recommendation 7.

#	Risk	Recommendation	Management response, executive and deadline
		B. A resource should be identified with the necessary skills to help to provide reporting on the fleet, analyze fleet for replacement and support replacement efforts through development of RFPs. We provide guidance in the form of a mandate for a Fleet Analyst (Appendix B). C. The recording of key information relating to maintenance costs should be reviewed to ensure its accuracy, particularly labour costs assigned to work orders and tires. D. In the longer term, Fleet Services should continue to engage with Finance and IT management on the Enterprise Asset Maintenance Management System (EAMMS) to ensure this project will allow the necessary data to be pulled in a timely and efficient manner.	Deadline: 08/31/2017 D) Fleet agrees with Recommendation D. Fleet has worked extensively with IT Services to define Fleet requirements, including a review of the Fleet system in 2015, which resulted in enhancements to the system. Within the limitations of the system, measures have been put in place to capture accurate and useful information. In addition, mechanics have received tablets to facilitate information capture and ensure accountability. The fleet system will be replaced with a Commercial-Off-the-Shelf (COTS) solution through the Enterprise Asset Maintenance Management System (EAMMS) as the current system is not considered an option to meet Fleet's long term needs. Deadline: Q1 2018 Owner(s): Glenn Simmonds, Director, Operations Services; Beth Mullen, Manager, SBS; Mike Saulnier, Manager, Waste & Environmental Programs & Fleet Services; Josh Fraser, Supervisor, Fleet Services
2	High	**Regular Monitoring of NAPA KPIs** Issue: Currently, NAPA contractual KPIs are not being monitored on a regular basis. The 80% availability of parts target is being monitored on an ad hoc basis with the NAPA district manager. During the last review, the fill rate was in the 60% range; NAPA's action plan was to review the consumption report to improve the fill rate figure. As part of our work, we analyzed the NAPA fill rate	Fleet agrees with this recommendation. Monitoring NAPA key performance indicators and ensuring NAPA meets its contractual obligations is important. To this end, consideration of the 80% fill rate have been part of a monthly review and regular discussions with the NAPA District Manager. Monthly meetings are held and regular discussions take place on anomalies. There was latitude

#	Risk	Recommendation	Management response, executive and deadline
		reports, noting an average rate of 68% from June to October 2016. Other availability of part KPIs, such as, "10% of the remaining items will be available within 24 hours of the request, and the final 10% representing the maximum number of parts that can be on backorder at any time", are not currently monitored. There are also a number of quality of part KPIs specified in the NAPA contract that are not being monitored. However, as mentioned in recommendation #1, these KPIs require the relevant data to monitor. Impact: NAPA is not currently meeting its contractual obligations with respect to the 80% availability of parts KPI, and it is not currently known if NAPA is meeting its other targets as they are not monitored. Recommendation: Fleet Services should monitor the 80% fill rate KPI on a monthly basis and engage in regular discussions with NAPA if the figure is below target to hold them to account. As information becomes available, Fleet Services should also monitor other part and quality KPIs as set out in the NAPA contract. If KPIs are consistently below target, the City may consider negotiating down the amount of service fees paid to NAPA.	given in the initial implementation phase and the different seasonal needs in the full fleet operation took over 9 months to clearly identify requirements. We also implemented staff changes with NAPA in order to effectively service the parts counter. January 2017 is now at the 80% threshold. The other 20% is identified by the mechanics and is escalated to the Fleet Supervisor to investigate. KPI's are monitored monthly by the Manager and Supervisor of Fleet. Regular monthly meetings are held with NAPA. Owner(s): Mike Saulnier, Manager, Waste & Environmental Programs & Fleet Services; Josh Fraser, Supervisor, Fleet Services; (NAPA District Manager) Deadline: 03/31/2017 (Monthly)
3	Med	**Analyze the Utilization of Fleet Vehicles** Issue: Upon analysis of the fleet of 77 light vehicles (Appendix D), we noted that 45% are being driven less than or equal to 10,000 km per year. Moreover, the vehicles that make up this percentage belong to a number of asset classes. In	Fleet agrees with this recommendation. Fleet has started branding vehicles "City of Oshawa" versus a specific department. This gives Fleet greater flexibility to move vehicles around to different departments, based on needs,

#	Risk	Recommendation	Management response, executive and deadline
		addition, within each asset class, there is a broad range of average yearly mileage, so vehicles are not being used on a consistent basis. We also compared the costs of City owned vehicles as opposed to staff using their own vehicles and found that for most vehicles, savings would be made by paying staff mileage at $0.54 per km (Appendix E) Impact: Some vehicles within the City's fleet are likely being underutilized, resulting in unnecessary costs. Recommendation: We recommend that Fleet Management conduct further analysis of the vehicle fleet and assess customer requirements to determine whether vehicles are being utilized efficiently. Moreover, we recommend that Fleet Management consider using a "compensate" model instead of owning vehicles where practical to optimize cost (see Appendix E).	utilization, City image and safety. Fleet asks departments based on utilization data to provide justification for new vehicle orders/purchases. The replacement of some units have been deferred due to low maintenance costs and low utilization. Analysis will be conducted to identify where a compensate model would be appropriate and cost effective, taking into consideration the unique needs of the positions utilizing the vehicles including the need for equipment and tools, as well as the insurance coverage required of staff for the use of private vehicles. Owner(s): Glenn Simmonds, Director, Operations Services; Mike Saulnier, Manager, Waste & Environmental Programs & Fleet Services; (Finance) Deadline: 06/30/2017
4	Med	**Change in Fleet Replacement Strategy and Methodology** Issue: Fleet Services management currently makes recommendations to customer departments on replacing or maintaining asset(s) that have met useful life targets. The recommendation will also include the type of asset that will serve as the replacement. Fleet Services will provide a similar recommendation for incremental fleet purchases after gathering user requirements. Impact: By allowing customer departments to reject Fleet Services' recommendations and obtain approval at City Council, the City is unable to have a common service standard for its fleet.	Fleet agrees with this recommendation. The majority of vehicles purchased are validated by Fleet. Fleet performs an analysis in cooperation with the department of the work being performed with the vehicle. Based on this feedback, fleet identifies the vehicle required with appropriate GVWR rating. The goal is to standardize city vehicles as much as possible to take advantage of training requirements for mechanics, tools and parts availability. However, after taking the user group's needs into consideration, it should be Fleet's decision as to what vehicle fits the

#	Risk	Recommendation	Management response, executive and deadline
		This lack of one standard can result in increased costs and differing maintenance requirements. As an example, we noted that bylaw officers are currently using Impala Police Package (9C1) sedans, which include features such as a V6 engine, heavy duty police suspension, and 4 wheel disc brakes. Another example is that some of the Chevrolet ½ ton pickups had to have suspensions upgraded after purchase in order to perform the intended functions. Recommendation: We recommend that the fleet replacement strategy and methodology be modified so only Fleet Services may seek approval from City Council for vehicle or equipment purchases. This change will allow one service standard to be set for the fleet across the Corporation, ensuring that vehicles are fit for the intended purpose. A potential amended fleet replacement process can be found in Appendix F.	need of that group while ensuring the needs of the City are maintained. Owner(s): Glenn Simmonds, Director, Operations Services; Corporate Leadership Team Deadline: 10/31/2017
5	Med	Segregation of Duties in Requests for New Parts and Servicing Issue: As part of our work, we documented the process for new parts and servicing (Appendix G). Currently, four individuals have the ability to order parts while also reviewing the ordered parts to ensure validity: 1) Supervisor, Fleet Services, 2) Two Mechanic positions, and 3) Automotive Partsman. This access provides the opportunity for the four positions mentioned to order invalid parts. Impact: With the current process, there is the opportunity for misappropriation of assets. From the period of June 2016 to	Fleet agrees with Recommendation 5. Fleet will confer with IT regarding the potential to modify the MMS system. If a change to the system is not possible, Fleet will enhance the existing tracking system, which has the supervisor or service advisor marking parts received on the work order, SBS staff performing a reconciliation with the NAPA parts consumption report and the Fleet Manager checking and signing off on the reconciliation, with random spot checks by the proposed Fleet Analyst to verify both parts ordering and delivery.

#	Risk	Recommendation	Management response, executive and deadline
		October 2016, based on the NAPA transactions register, there were 232 instances where one of the positions mentioned above ordered parts. However, we could not obtain a report showing the individual who reviewed the part orders within MMS. Recommendation: We recommend meeting with IT to see if MMS can be configured to segregate the duties between the individual ordering parts and the part reviewer. If MMS cannot provide this configuration, we recommend IT build a report which lists work order #, ID of orderer, and ID of receiver. The Manager, Waste & Environmental Programs & Fleet Services, should review this report on a monthly basis and investigate any instances where the same individual has ordered and received parts.	Owner(s): Mike Saulnier, Manager, Waste & Environmental Programs & Fleet Services; Josh Fraser, Supervisor, Fleet Services; (Fleet Analyst) Deadline: 08/31/2017
6	Low	Calculation of Fleet Replacement Rates Issue: We were informed by fleet management that there have been instances where the fleet reserve did not cover the cost of asset replacement. Historically, replacement values were calculated using cost of purchase and an annual 1% inflation factor. For the 2017 budget cycle, Fleet and Finance management modified the process whereby estimates of vehicles' current replacement values were obtained and used to calculate rates, resulting in a 17% increase in the capital fleet reserve contribution year-over-year. Management's vision going forward is to update cost estimates on an annual basis to inform fleet replacement rates. Although we did not identify any issues in	Fleet agrees with this recommendation. Fleet identified this issue previously and the yearly review is now in place. Currently Finance is working on a comprehensive Reserve and Reserve Fund Policy review and will be making recommendations to Council in the late spring or early fall. This recommendation will be addressed through this process with input from Fleet. Owner(s): Stephanie Sinnott, Executive Director/Treasurer, Finance Services; Mike Saulnier, Manager, Waste & Environmental Programs & Fleet Services; Josh Fraser, Supervisor, Fleet Services; (Fleet Analyst) Deadline: 10/31/2017

#	Risk	Recommendation	Management response, executive and deadline
		our testing of the cost values for 2 of the 9 classes of light vehicles, there is currently no process for verification of these values. Impact: Without a process for verification of asset cost values, there is a greater possibility going forward that capital fleet reserve contributions are inaccurate. Recommendation: We recommend that Finance challenge Fleet's cost values on a go-forward basis.	
7	Low	**Formal Inventorying of Winter Tires** Issue: Currently, winter tires are written into vehicle specifications and delivered with the vehicle. Tires are kept in the heated storage inventory under surveillance of two security cameras. When switching tires, mechanics mark the tires with asset numbers for identification. However, there is no formal process for tracking winter tires Impact: Without formally inventorying tire assets, there is a greater risk of tires going missing. Recommendation: We recommend formally inventorying winter tires within an electronic system and performing asset counts annually. This would provide better tracking of the tire assets.	Fleet agrees with this recommendation. Winter tires are captured in the asset description in MMS but the system does not allow for a tire inventory or proper tracking. EAMMS may address inventories including tires. In the interim, it is proposed the Fleet Analyst position would be responsible for an Excel-based tire inventory, which is monitored twice a year at seasonal changeover, and tracking. Owner(s): Josh Fraser, Supervisor, Fleet Services; Brian Jeffery, Automotive Partsman Deadline: 05/31/2017
8	Low	**Vehicle Specification Guidance and Templates** Issue: As part of our work, we inspected the list of fleet related tenders for 2015 and 2016, noting that the time from tender to close is an average of 17 days. We performed a deep dive of 3 out of 11 (27%) of the tenders, obtaining and	Management agrees with this recommendation. Developing specifications for each asset class is time consuming. Fleet is presently updating specifications with the help of a contracted specification writer for all asset classes when assets come up for renewal. Once all asset classes are completed, specification templates will

#	Risk	Recommendation	Management response, executive and deadline
		inspecting all related emails from purchasing. Through our analysis, we noted that approximately a month is spent during the specification process. This delay is due to edits made to specification drafts for a number of reasons. We were also informed that specification drafts are sometimes not "generic" enough to provide for open tender. We note that a specification writer is retained by the City to help with preparation but time is still needed within Fleet as the writer does not have specific in-house operations experience. Impact: The time spent on the tender process consumes resources, which could otherwise be used to perform other tasks within their respective areas. Recommendation: We recommend that Fleet and Purchasing increase the efficiency of the tender process by working cooperatively to clarify the "do's and don'ts" of specification writing taking into consideration the requirements of the Purchasing By-law, including the creation of a base specification template. Further work should be undertaken with the specification writer to ensure they can build an understanding of specification requirements.	be in place, albeit subject to future updates as per changes in requirements. The usefulness of a base template will be explored and developed as appropriate. Owner(s): Mike Saulnier, Manager, Waste & Environmental Programs & Fleet Services; Josh Fraser, Supervisor, Fleet Services; Dave Lyon, Manager, Purchasing and Fleet Analyst Deadline: end of Q2 2017

Appendices

Appendix A: Fleet Services Information System

With the help of Fleet Services, we observed the MMS Fleet system which is currently used to manage the fleet operation. There are two main reports available for use. We provide screenshots of these reports over the next pages. The first is an Asset Listing by Class report, which shows all assets in a given class, their location, acquisition date, and VIN (screenshot 1). The second report is the Fleet Inventory report, which houses asset information by asset number (screenshot 2). Maintenance and repair costs can be found within the Fleet Inventory report by work order (screenshot 3). Once a particular work order is selected, the cost of job parts (screenshot 4), sublet repairs (screenshot 5), and labour (screenshot 6) for that work order can be viewed on different tabs. Various subcategories of work order exist (screenshot 7); however, these categories are not detailed enough to provide information for fleet analysis. For example, category 99934 – Electrical/Battery could contain a wide range of repairs including battery replacement, alternator repair, starter repair, wiring, motherboard replacement, etc.

These reports do not provide information in an efficient manner to support critical processes, including cost analysis and the ongoing replace vs. maintain decisions surrounding vehicles. With the current information system, analysis to support the decision to outsource a repair would require fleet management to locate a similar work order and look at three separate screens to understand whether the work order is similar in nature to the work being contemplated. Fleet management would then have to manually calculate the total historical repair cost using at least three separate screens. Moreover, analysis containing multiple data points is more reliable, meaning fleet management would have to perform the aforementioned process multiple times. Based on the guidance for vehicle replacement (Appendix D), a replacement decision also requires age, km driven, type of service, reliability, and condition in addition to maintenance and repair cost details.

To perform our analysis of vehicle condition, Finance provided the Fleet Maintenance Cost Report (screenshot 8), which captures year-to-date and life-to-date information for a specified asset. Information captured on this report includes labour hours, labour cost, parts cost, oil/lube cost, fuel used (litres), fuel cost, sublet cost, tire cost, engine hours, and km driven. This report is owned by Finance; Fleet understands and knows how to interpret the report but is not familiar with how it is generated.

Screenshot 1 – Asset Listing by Class Report

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OSHWO004                              City of Oshawa -  Fleet Maintenance                    Page   1
                                         Asset Listing by Class Report                       Run Date 01/03/2017
                                                                                             Run Time 10:47:22

Class Asset Description               Location                      Acquired    Serial ID        Parking Location

** Units using AVL **

03  Compact SUV/Crossover
   03070   Compact SUV (Vue Hybrid)   Waste (246)                   15-JAN-2007 5GZCZ33Z07S850335 COD Stall 4
   03071   Compact SUV (Equinox)      Municipal Law Enforcement(564)04-OCT-2007 2CNDL23F986033453 44 Simcoe St S  ext 2141

   03072   Compact SUV (Equinox)      Municipal Law Enforcement(564)04-OCT-2007 2CNDL23F686035239 44 Simcoe St S  ext 2141

   03090   Compact SUV / Crossover    Building Inspection (562)     25-MAY-2009 3GSCL93Z49S631069 G2 McMillan St Garage (x 2

   03091   Compact SUV / Crossover    Building Inspection (562)     25-MAY-2009 3GSCL93Z99S632122 G2 McMillan St Garage (x 2

   03092   Compact SUV / Crossover    Building Inspection (562)     25-MAY-2009 3GSCL93Z29S631300 G2 McMillan St Garage (x 2

   03093   Compact SUV / Crossover    Building Inspection (562)     25-MAY-2009 3GSCL93ZX9S632341 G2 McMillan St Garage (x 2

   03094   Compact SUV / Crossover    Building Inspection (562)     25-MAY-2009 3GSCL93Z19S631417 G2 McMillan St Garage (x 2

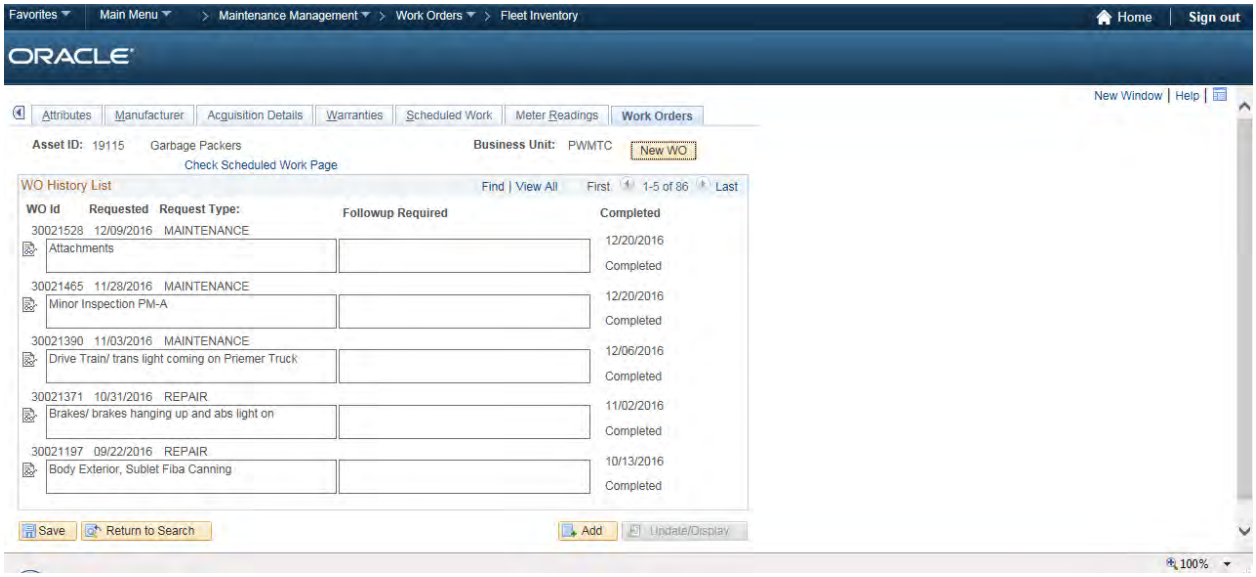
   03095   Compact SUV / Crossover    Building Inspection (562)     25-MAY-2009 3GSCL93Z59S631680 G2 McMillan St Garage (x 2

   03096   Compact SUV / Crossover    Parks (309)                   25-MAY-2009 3GSCL93Z99S631830 COD Stall 24
   03097   Compact SUV / Crossover    Building Inspection (562)     25-MAY-2009 3GSCL93Z49S631878 G2 McMillan St Garage (x 2

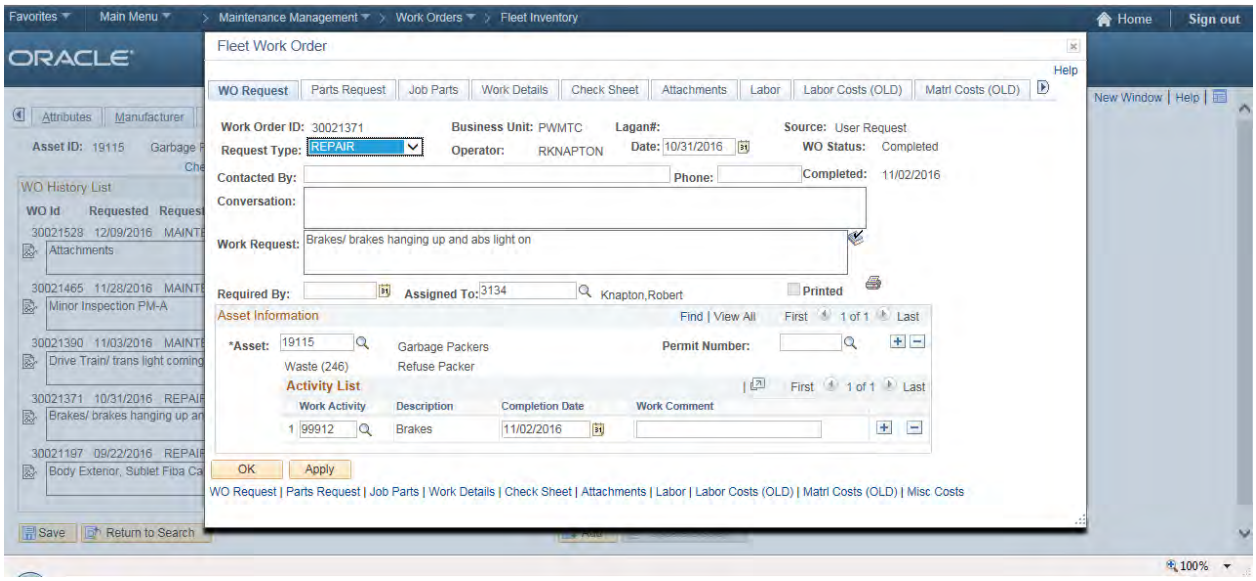
   03098   Compact SUV / Crossover    Building Inspection (562)     25-MAY-2009 3GSCL93Z39S631967 G2 McMillan St Garage (x 2

   03110   Compact SUV/Crossover      Construction (227)            07-JUN-2011 2GNALBECXB1297352 City Hall  ext 2457
   03111   Compact SUV/Crossover      Construction (227)            07-JUN-2011 2GNALBEC4B1298853 City Hall  ext 2457
   03130   Chevrolet Equinox          Engineering (211)             25-JUL-2013 2GNALBEK2D6374552 City Hall
   03160   Compact SUV Crossover      Parks (309)                   07-JUN-2016 2GNALBEK4G1186360 Union Cemetary
Total Compact SUV/Crossover                16
```

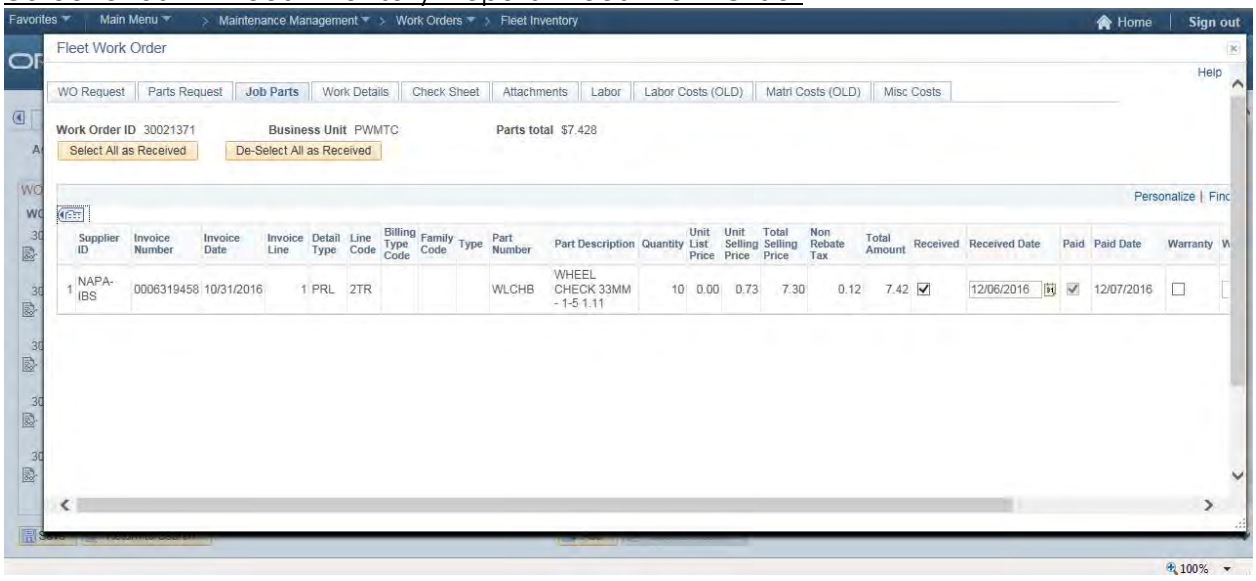
Screenshot 2 – Fleet Inventory Report



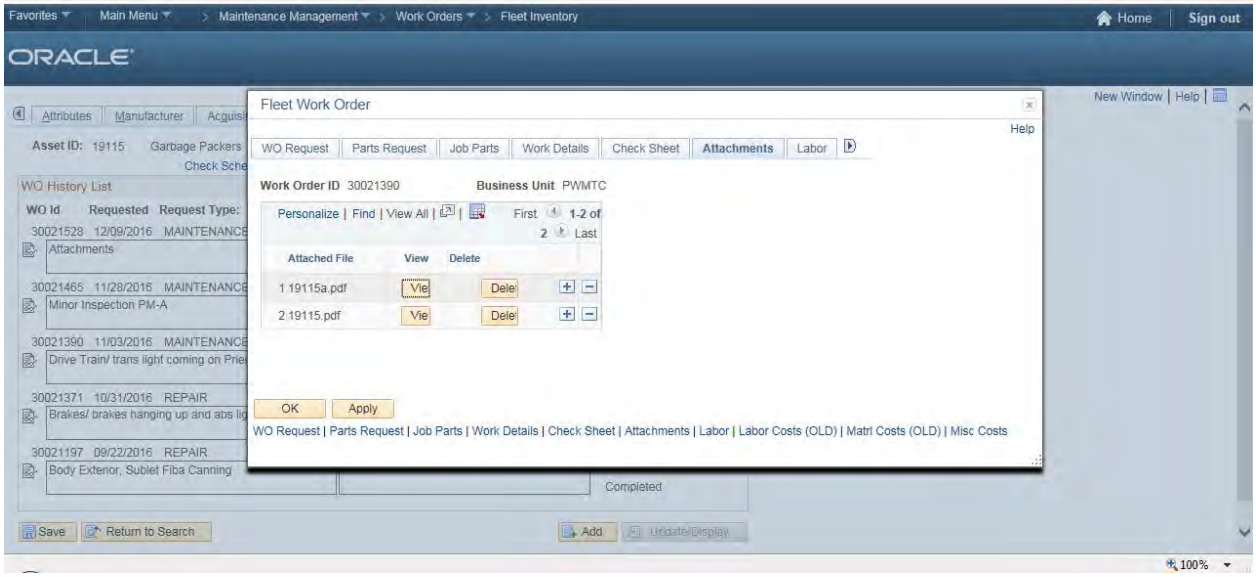
Screenshot 3 – Fleet Inventory Report: Fleet Work Order



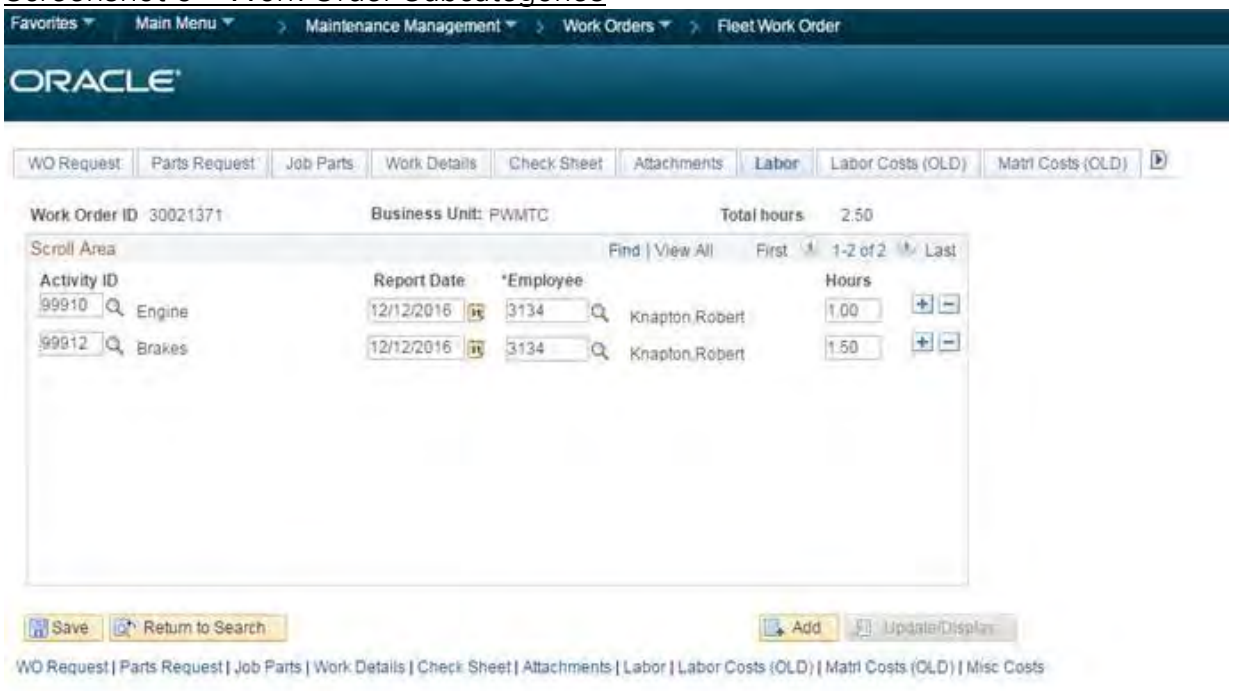
Screenshot 4 - Fleet Inventory Report: Fleet Work Order



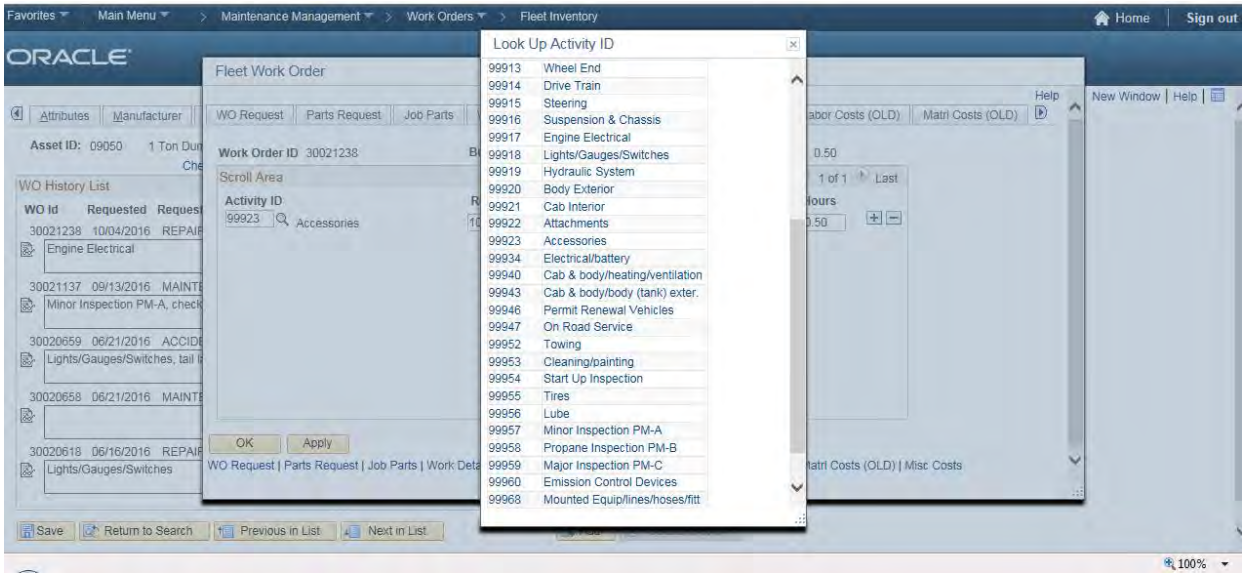
Screenshot 5 - Fleet Inventory Report: Fleet Work Order



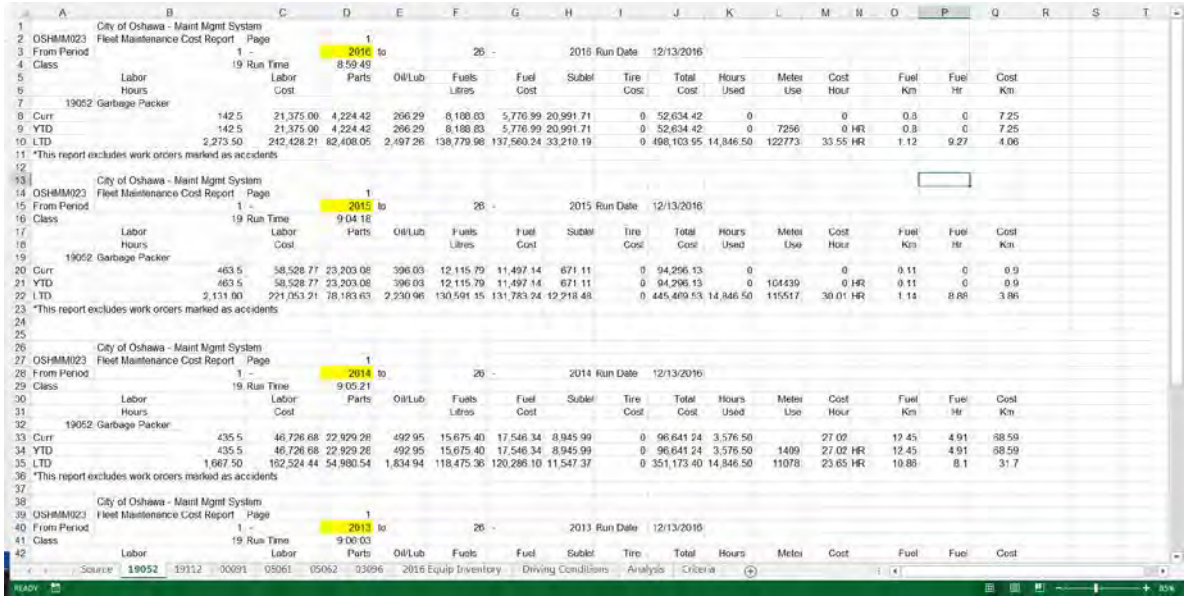
Screenshot 6 – Work Order Subcategories



Screenshot 7 – Work Order Subcategories



Screenshot 8 – Fleet Maintenance Cost Report



Appendix B: Guidance for Fleet Analyst Mandate

Job Title: Fleet Services Analyst

Reports To: Manager, Waste & Environmental Programs & Fleet Services

Purpose/Summary:

The Fleet Services Analyst has specialized skills and serves to assess and optimize the City fleet in collaboration with the Supervisor, Fleet Services and Manager, Financial Reporting and Planning through improving data quality, development of analysis, identification of trends, and creation of visual dashboards and reports. The Fleet Services Analyst will also assist in standardizing processes and improving workflow within the Fleet Services department.

Key Areas of Responsibility:

- Ensure accuracy of Fleet Services data
  - Examine processes and methodologies for data gathering
  - Recommend improvements in data gathering processes
  - Leverage technology to automate facets of data within Fleet Services
  - Collaborate with IT to improve workflow and data accuracy
- Develop and improve Fleet Services reporting
  - Improve standardization of reporting language and methodologies
  - Collect and refine relevant data from various data sources
  - Develop data models and conduct statistical analysis to determine trends and data relationships
  - Create reports and dashboards to help City holders understand trends and conclusions
- Improve the performance of Fleet Service operations
  - Periodically assess asset health, optimizing ROI and cost structure
  - Assess and make recommendations for when assets should be purchased, replaced, or divested
  - Monitor utilization of assets and make recommendations for improvement
  - Collaborate with business stakeholders and identify recommendations for improvement
- Support Fleet Services management and stakeholders

- Create and maintain custom reports for management and/or stakeholders as needed
- Monitor Fleet Services' major third party service providers against SLAs and key KPIs
- Assist management in standardization and improvement of fleet services processes

Education and Qualifications:

- Undergraduate degree in Computer Science, Engineering, Mathematics or Statistics, Business, Economics
- 3+ years of relevant experience in data analysis
- Proficiency with data analysis and visualization software such as Excel, R, SQL
- Strong data mining skills
- Ability to quickly learn and apply new concepts

Other skills and experience:

- Experience in the fleet industry preferred
- Excellent organizational skills
- Excellent written and oral presentation skills
- Ability to translate complex analysis into material that can be understood by diverse audience
- Proficiency in the use and maintenance of ERP and computer database systems preferred
- Accounting and finance knowledge considered an asset
- Eagerness to learn new areas and work with little supervision
- Service oriented and capable of managing competing priorities/meeting deadlines

Appendix C: Guidance and Analysis on Vehicle Replacement

Three common criteria are applied when assessing the replacement of a fleet vehicle:

- Planned lifecycle: A planned lifecycle is the most common criteria. For example, many fleets plan to replace their light vehicles after 7 years. Larger fleets may conduct financial analysis on their fleet units to adjust the 7 years up or down for particular unit types in order to achieve the lowest total lifecycle costs, but this is difficult to do in smaller fleets where there are not enough units to narrow the margin of error sufficiently
- Utilization: A maximum utilization, generally measured in km or engine hours, is frequently used.
- Exceptional Costs and Downtime: Many fleets will consider retiring "a lemon" (a vehicle with a poor repair record) earlier. Some vehicles have more breakdowns and require more repairs than others of the same model. This approach may consider the frequency of repairs, the amount of downtime, or particularly large repairs in what would otherwise be the last couple of years of vehicle life.

The Government of Saskatchewan has created an assessment model that captures these three criteria:

Variable	Point Allocation
Age	One point for each year of age.
Kilometers	One point for each 25,000 km of use.
Type of Service (duties or driving conditions)	One, three, or five points based on the type of service assignment that vehicle is given. For instance, a northern or off-road vehicle may be assigned a five because it is subject to harsh road conditions or daily use, whereas a sedan driving on paved roads could be assigned a one.
Reliability	One, three, or five points depending on the frequency that a vehicle is in the shop for repair. A five would be assigned to a vehicle that is in the shop two or more times per month on average, while a rating of one would be assigned to a vehicle in the shop an average of once every three months or less.
Maintenance and Repair Costs	One, three, or five points based on total life costs (not including accident damage repairs).

Variable	Point Allocation
	A five may be assigned to a vehicle with lifetime costs equal or greater to the vehicle's original purchase price, while a one could be given to a vehicle with life M&R costs equal to 20 per cent or less of its original purchase cost.
Condition	This category takes into consideration body condition, rust, interior condition, accident history, anticipated repairs, etc. A scale of one, three or five points is used with five being poor condition.

Evaluation Ranges for Light Vehicles	Evaluation Ranges for Medium and Heavy Vehicles
Under 20 points: Excellent to Very Good condition	Under 18 points: Excellent to Very Good condition
20 to 24 points: Good condition	18 to 22 points: Good condition
24 to 29: May qualify for replacement planning	23 to 28 points: May qualify for replacement planning
30 points and above: Consider for replacement	29 points and above: Consider for replacement

We were able to obtain the necessary data for analysis of six vehicles based on the methodology outlined above. We outline our analysis below.

Asset: 19052; Garbage Packer		
Variable	Rating	Details
Age	10	10 Years Acquired: Oct 31, 2005 Disposal: Early 2016
Kilometers	5	122,773
Type of Service (duties or driving conditions)	5	Garbage packer - waste operation
Reliability	5	Average of 3.5 repairs per month based on 2016 data

Asset: 19052; Garbage Packer		
Variable	Rating	Details
Maintenance and Repair Costs	5	358046.45 total for labour, parts, and sublet repairs Similar assets est. purchase cost of 305000
Condition	5	Engine overheating, AC doesn't work, main hydraulic line blew on road, body of truck has hole in it
Total	35	Conclusion: Consider for replacement

Asset: 19112; Garbage Packer		
Variable	Rating	Details
Age	6	6 Years
Kilometers	3	75,709
Type of Service (duties or driving conditions)	5	Garbage packer - waste operation
Reliability	5	Average of 2.2 repairs per month based on 2016 data
Maintenance and Repair Costs	3	140530.31 total for labour, parts and sublet repairs 305000 purchase cost
Condition	4	transmission stuck in second gear, hydraulic leak in hopper, packer issues
Total	26	Conclusion: May qualify for replacement planning

Asset: 00091; Impala Sedan		
Variable	Rating	Details
Age	8	8 Years
Kilometers	3	74,191
Type of Service (duties or driving conditions)	3	Municipal Law
Reliability	1	Average of 0.4 repairs per month based on 2016 data

Asset: 00091; Impala Sedan		
Variable	Rating	Details
Maintenance and Repair Costs	3	16017.67 total for labour, parts and sublet repairs 34200 purchase cost
Condition	2	Issues with locks and battery not holding charge
Total	20	Conclusion: Good condition

Asset: 05061; Chevy 3/4 ton pick up		
Variable	Rating	Details
Age	11	11 Years
Kilometers	4	89,086
Type of Service (duties or driving conditions)	5	Parks operation
Reliability	1	Average of 0.5 repairs per month based on 2016 data
Maintenance and Repair Costs	4	29850.68 total for labour, parts and sublet repairs 39054 purchase cost
Condition	3	Body getting old, side step fell off, door hinge issues, lift gate issues
Total	28	Conclusion: May qualify for replacement planning

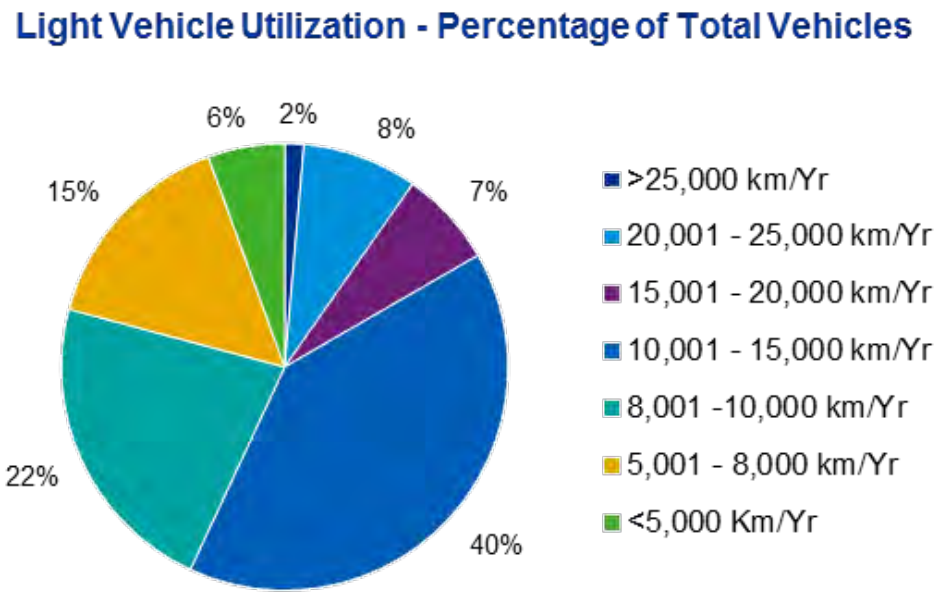
Asset: 05062; Chevy 3/4 ton pick up		
Variable	Rating	Details
Age	11	11 Years
Kilometers	4	139,530
Type of Service (duties or driving conditions)	5	Parks operation
Reliability	3	Average of 0.77 repairs per month based on 2016 data

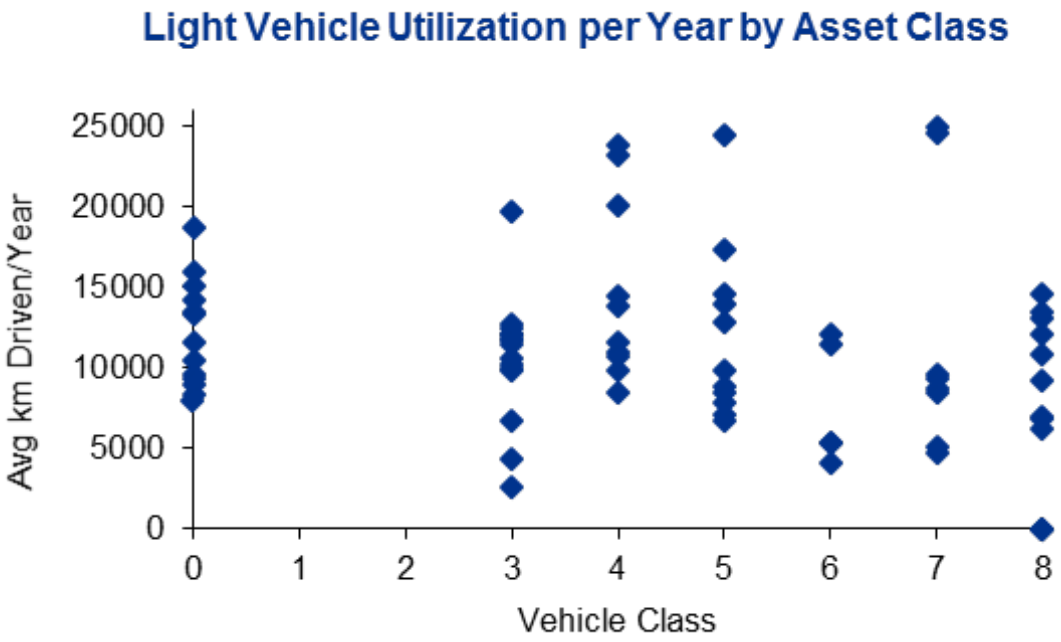
Asset: 05062; Chevy 3/4 ton pick up		
Variable	Rating	Details
Maintenance and Repair Costs	4	28529.04 total for labour, parts and sublet repairs 39054 purchase cost
Condition	3	Body getting old, pedal rubber issues, door handle issues, engine electrical issues
Total	32	Conclusion: Consider for replacement

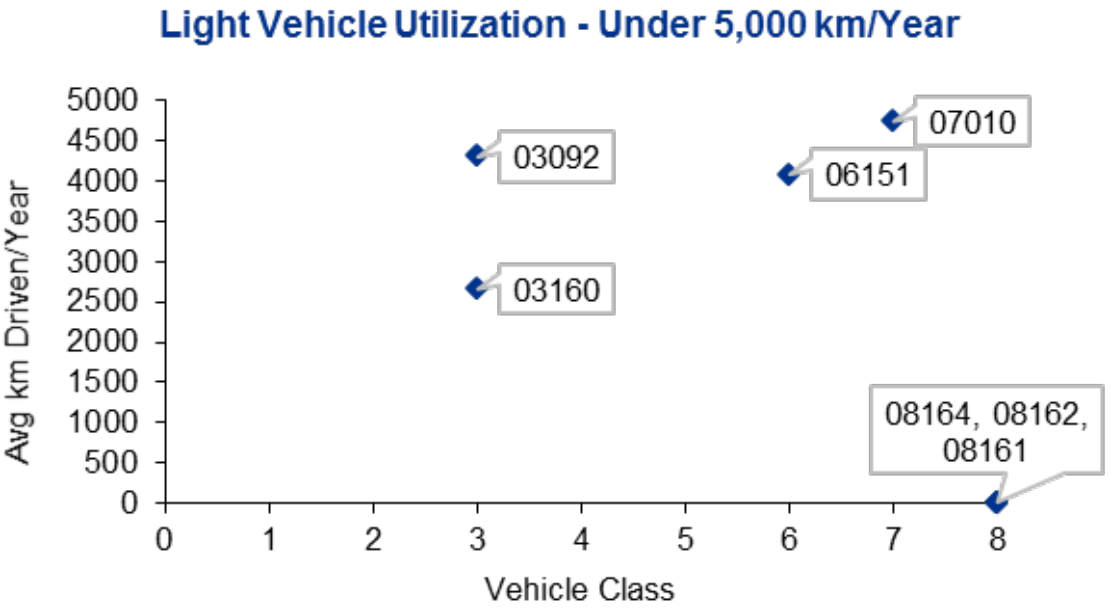
Asset: 03096; VUE SUV		
Variable	Rating	Details
Age	8	8 Years
Kilometers	2	47,563
Type of Service (duties or driving conditions)	5	Parks operation
Reliability	1	Average of 0.6 repairs per month based on 2016 data
Maintenance and Repair Costs	1	4606.77 total for labour, parts and sublet repairs 30339 purchase cost
Condition	2	Some engine electrical issues
Total	19	Conclusion: Excellent to Very Good condition

Appendix D: Analysis of Vehicle Utilization

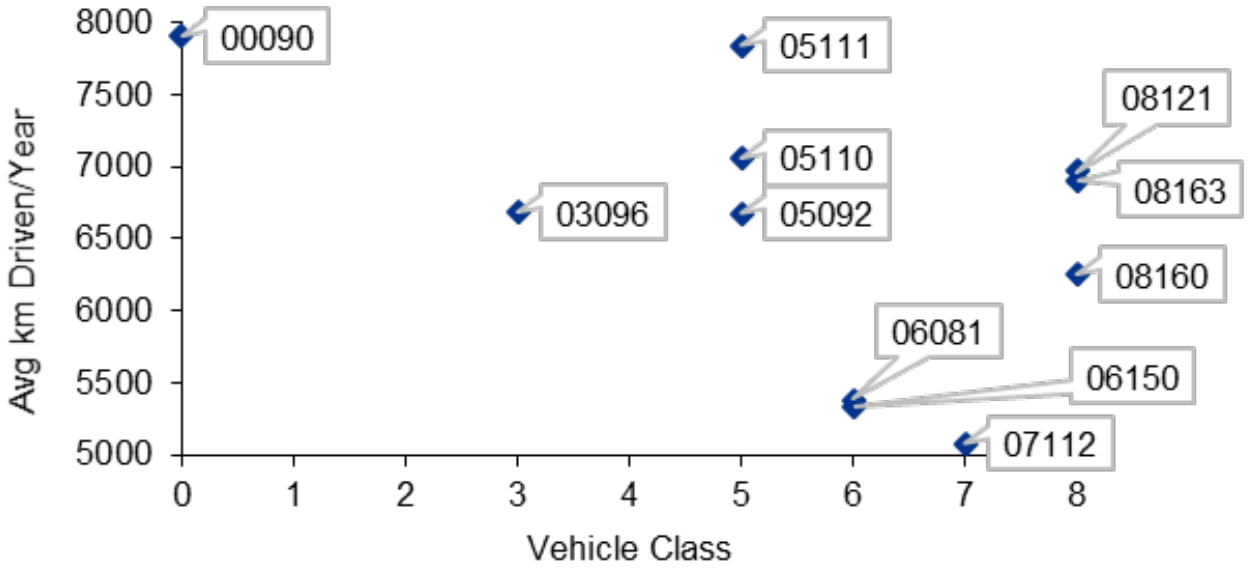
The objective of this analysis was to highlight trends in vehicle usage. For the fleet of 77 light vehicles (sedans, vans, SUVs, pickups), we obtained data for age and total KMs driven for each vehicle as at November 2016. We adjusted for 2 "outliers"; the mileage data for 2 vehicles in class 07 and 08 could not be obtained. We calculated average utilization per year for each of the 75 remaining vehicles by dividing the total KMs driven by age. Based on this analysis, 45% of light vehicles have an average utilization of 10,000 km or less per year which we consider low for light vehicles. Furthermore, the assets driving under 10,000 km per year were spread across various different asset classes (class 00 = Impala sedans to class 08 = Chevy X-Cab trucks). Moreover, within each asset class, there is a broad range of average yearly mileage. This result suggests that some assets within the light vehicle fleet could be better utilized and that there are too many light vehicles currently in the fleet.



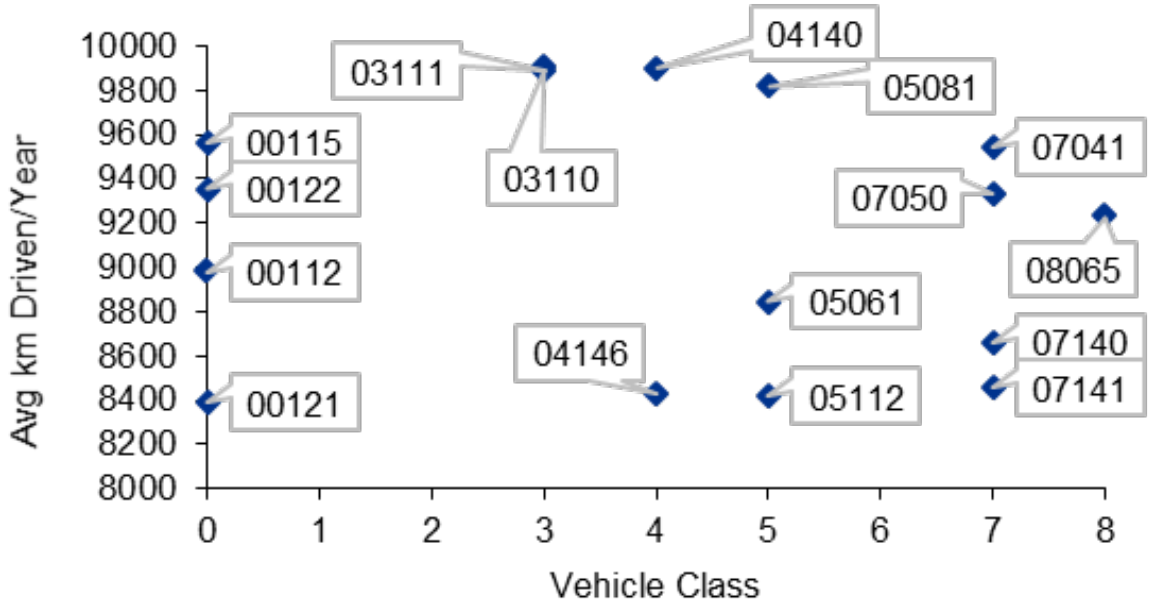

Light Vehicle Utilization per Year by Asset Class
Avg km Driven/Year
25000
20000
15000
10000
5000
0
0
1
2
3
4
5
6
7
8
Vehicle Class


Light Vehicle Utilization - Under 5,000 km/Year
Avg km Driven/Year
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
0
1
2
3
4
5
6
7
8
Vehicle Class
03092
03160
07010
06151
08164, 08162, 08161

Light Vehicle Utilization - 5,000 to 8,000 km/Year

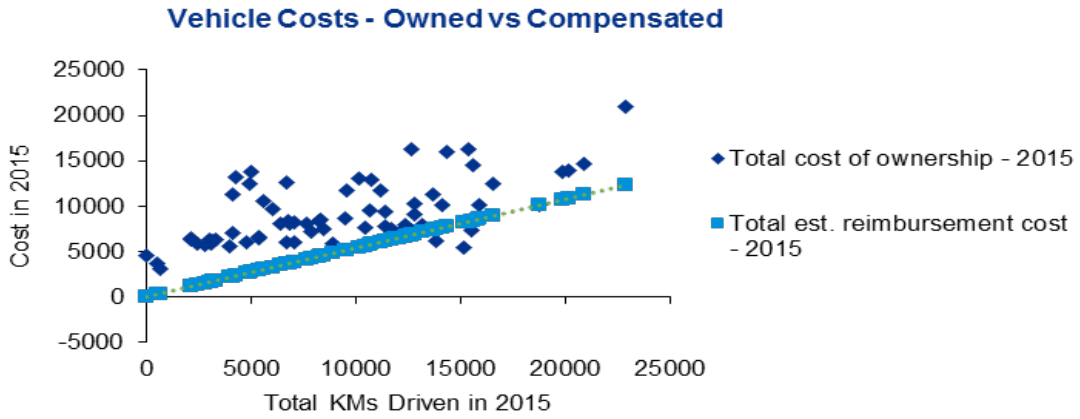


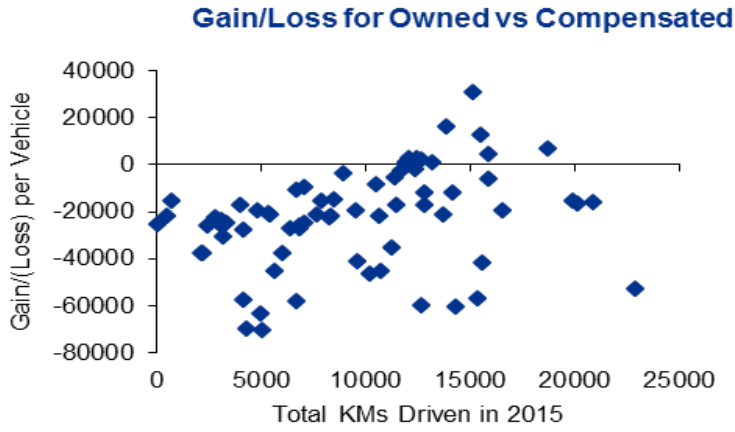
Light Vehicle Utilization - 8,000 to 10,000 km/Year



Appendix E: Own vs Compensate Analysis

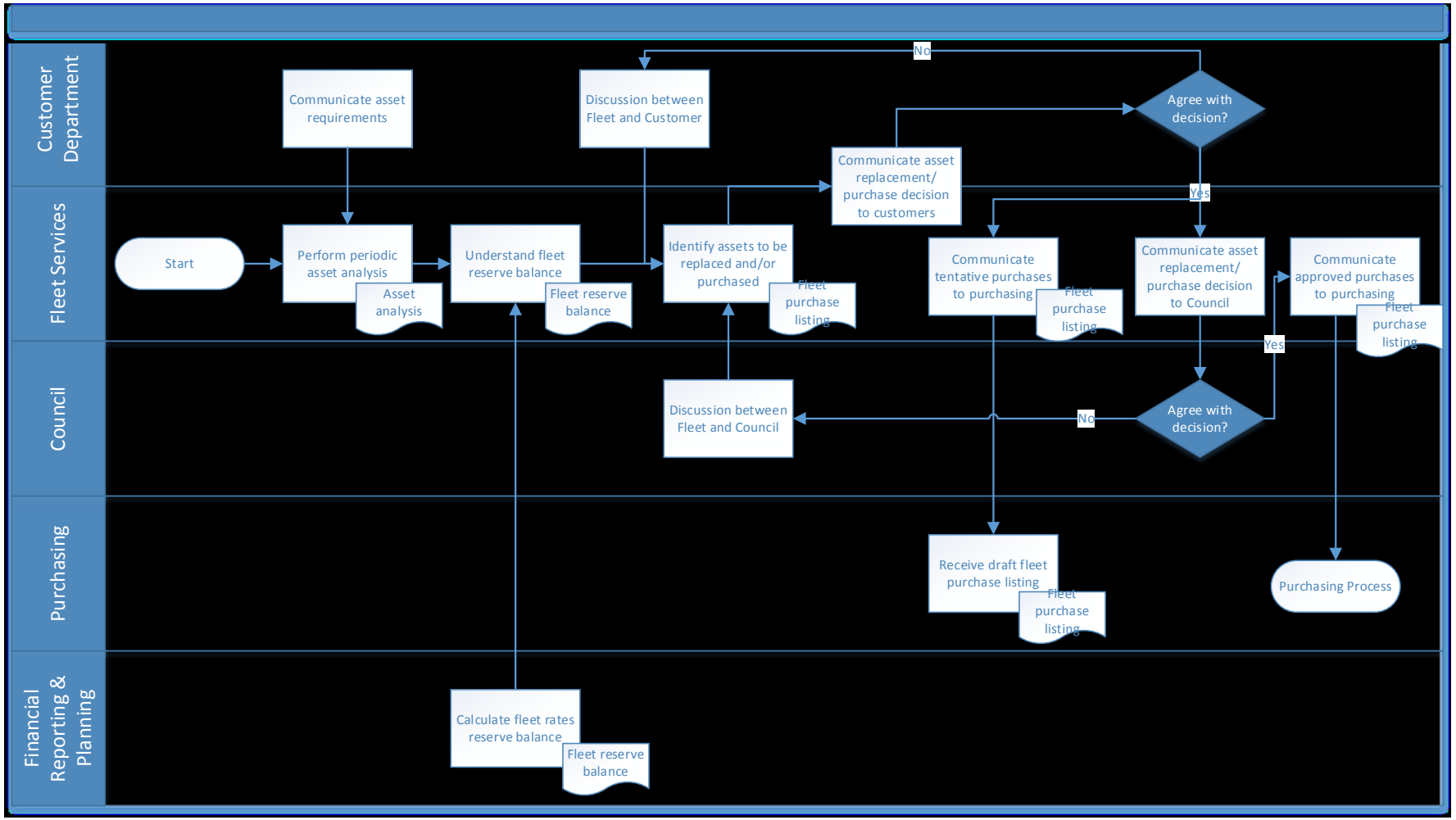
The objective of this analysis was to determine whether it would be more cost effective for the City to own a vehicle or compensate an employee for use of their own vehicle at $0.54/km. For the fleet of 77 light vehicles (sedans, vans, SUVs, pickups), we obtained Revenue and Expenses Actual vs Budgeted reports. Using the 2015 data, we calculated total costs of ownership. We then calculated the cost of reimbursement at $0.54/km. We then extrapolated the cost difference between owning and compensating over the lifecycle of the vehicle, taking into account salvage values. This analysis suggests that in the majority of instances, allowing staff to use their own vehicles (compensate model) could result in less cost to the Corporation where it is appropriate to do so. There is likely the opportunity for the City to reduce Fleet related costs through switching to a compensate model. However, we recognize that some assets, particularly those which have specialized modifications or are driven off-road (e.g. plow trucks), would not be suitable for employee-owned vehicle use.





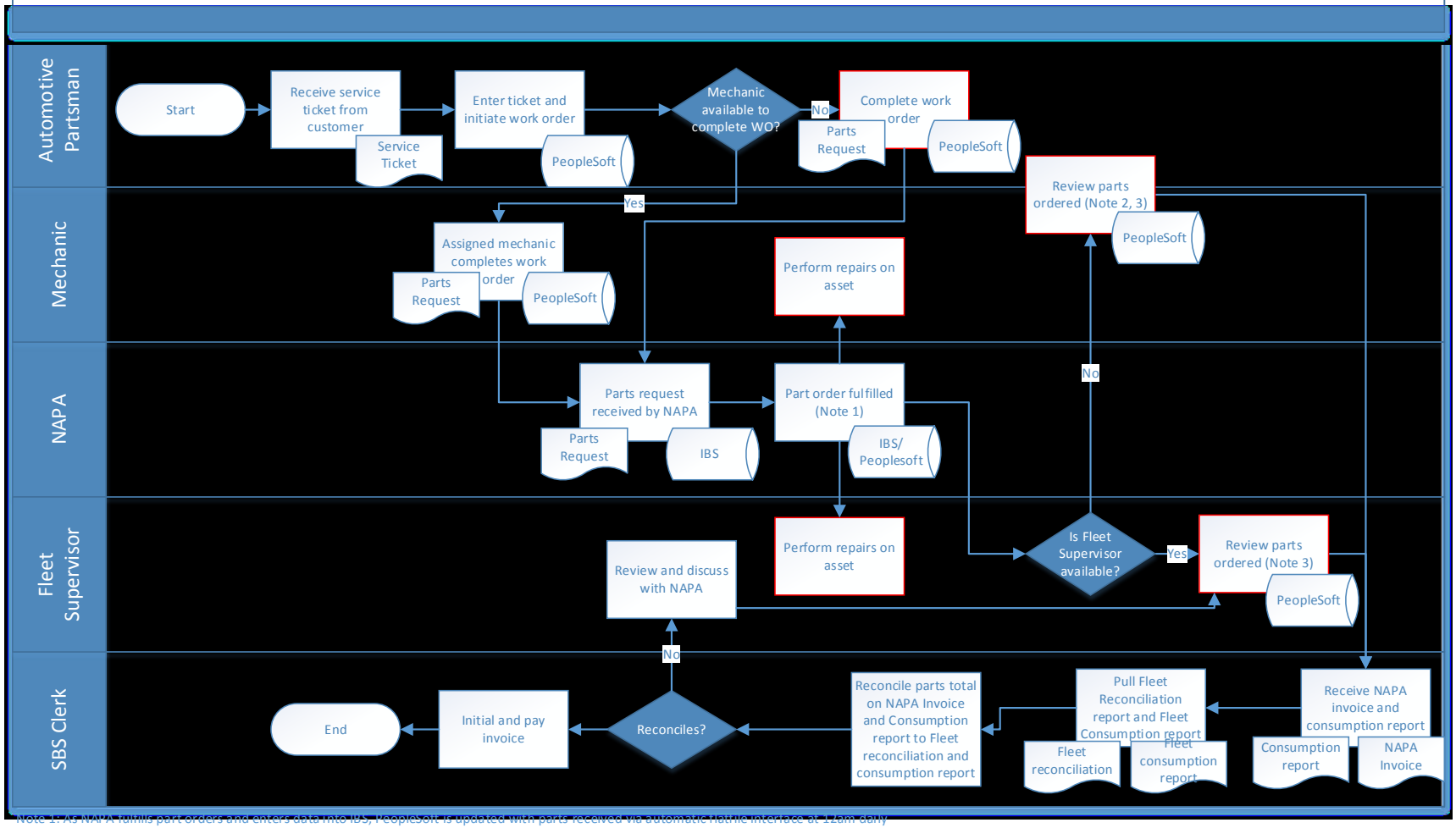
Appendix F: Potential Process for Fleet Replacement

The chart below details a high level process that management may consider when modifying the fleet replacement strategy and methodology to produce one fleet service standard.



Appendix G: Process for Requests for New Parts

The chart below details the process for requests for new parts. Boxes outlined in red represent gaps



Note 1: As NAPA fulfills part orders and enters data into IBS, PeopleSoft is updated with parts received via automatic nightly interface at 11am daily

Note 2: Two mechanics as well as the automotive partsman serve as backup reviewer for the Fleet Supervisor

Note 3: As items are reviewed, PeopleSoft automatically updates the Fleet Reconciliation and Fleet Consumption report

Appendix H: Staff involvement and documents reviewed

We undertook interviews from November 2016 to January 2017 with key stakeholders to inform this work, including:

Name	Title
Glenn Simmonds	Director, Operations Services
Mike Saulnier	Manager, Waste & Environmental Programs & Fleet Services
Joshua Fraser	Supervisor, Fleet Services
Dave Lyon	Manager, Purchasing Services
Stephanie Sinnott	Executive Director, Finance Services/Treasurer
Donna Henry	SBS Clerk
Michelle Bretherick	Manager, Financial Reporting and Planning
Eric Johns	Analyst, Financial Reporting and Planning
Glenn Simmonds	Director, Operations Services
Mike Saulnier	Manager, Waste & Environmental Programs & Fleet Services
Joshua Fraser	Supervisor, Fleet Services
Dave Lyon	Manager, Purchasing Services

We received the following documentation over the course of fieldwork:

- 2015 – 2016 GL Revenue and Expense Reports
- 2016 Equipment Inventory Listing
- Asset Details and Work Order History Listings (various asset classes)
- Fleet Equipment Data Sheets (various asset numbers)
- Final Executed NAPA Agreement
- Purchase Price Data (Asset classes 00, 03, 04, 05, 06, 07, 08)
- Vehicle and Equipment Replacement Policy
- G/L Revenue and Expense Listings (Asset numbers within asset classes 00, 03, 04, 05, 06, 07, 08)

- NAPA Consumption Reports (June – Oct)
- NAPA Transactions Registers (June – Oct)
- NAPA Inventory Value Reports (June – Oct)
- NAPA Fill Rate Reports (June – Oct)
- MMS system screenshots (various)
- C2015-041, C2015-092, and C2016-024 tender correspondence
- Council request for approval to award contract (C2015-097)
- MMS asset detail reports for assets 19052, 19112, 00091, 03096, 05062, 05061
- Capital Reserve Schedule (Acct 17113) as of Dec 6, 2016