



INDEPENDENT OFFICE OF THE CITY AUDITOR

Fleet Services Audit – Phase 2

Audit Report

April 05, 2023



Report Summary

The City of Saskatoon's (City) Fleet Services (FS) provides maintenance, repairs, fuel distribution, vehicle regulatory requirements, fleet replacement, and purchasing and leasing of fleet for various City's Civic Departments. Saskatoon Fire Department (SFD) manages its own fleet management practices independent of FS.

The objective of the audit was to assess the effectiveness, efficiency, and economy of FS and identify improvement opportunities. The areas covered within the audit included purchasing, leasing, and investment in civic fleet, repairs and preventative maintenance, asset management and monitoring, implementation of electric and autonomous vehicles, fuel distribution, and safety and training.

Based on the audit, we conclude there are robust processes in place with respect to warranty administration, periodic vehicle inspections, and rental model for the use of the fleet. However, there is a need to strengthen processes and controls related to fuel management, management of fleet at Fire, management and monitoring of fleet assets, and compliance with regulations.

The following is a summary of key recommendations:

1. Fuel Management

Controls related to fuel management need strengthening. Due to fraud-related risks, detailed findings and recommendations will be presented in-camera.

2. Saskatoon Fire Fleet Management

Implement a Fleet Management system and develop a formal asset management plan to manage its fleet effectively.

3. Fleet Services Asset Management and Monitoring

Service Level Agreements between FS and user groups should clearly define metrics, key performance indicators (KPIs), expectations and roles and responsibilities.

Monitor compliance with Preventative Maintenance as a KPI and complete implementation of the Fusion system for FS.

Implement a formal process to document the fleet's extended life and Lifetime Maintenance Costs thresholds.

4. Compliance with Regulations

Design and implement processes to monitor compliance with daily vehicle inspection reports and completeness of checks to mitigate the risk of unlicensed operators operating the City's fleet. Regularly assess operator training demand versus capacity.

Detailed Report

Background

The City of Saskatoon's (City) Fleet Services (FS) provides maintenance, repairs, fuel distribution, replacement, purchasing and leasing of vehicles and equipment to the City's Civic Departments. The Training Group (Training) within the Operations Support section of the Roadways, Fleet and Support Department provides operator training services. The City's fleet is funded through revenue generated from rental rates charged to Civic Departments and Boards.

In 2021, The City's active fleet assets were estimated to have a replacement value of \$112.7 million. In addition, Saskatoon Fire Department (SFD) has an estimated replacement value of \$35.51 million. Similar to other municipal organizations, fleet is funded through revenue generated from rental rates charged to Civic Departments and Boards. Rental rates are reviewed and adjusted to ensure sufficient funding is available for the timely replacement of vehicles and equipment in accordance with their service life expectancy. Fleet is positioned at the current funding level to replace vehicles and equipment according to the assigned life cycles.

FS supports the City's Civic Departments responsible for providing front-line services to citizens, including Water and Waste Operations, Parks, Transportation, Roadways, Saskatoon Light and Power, and Saskatoon Police Services (i.e., User Groups). FS is responsible for providing sufficient vehicles for usage, completing maintenance and repair for vehicles, and replacing vehicles and equipment when appropriate. FS also manages regulatory requirements, including compliance with vehicle inspection regulations and procedures. Training supports FS by providing operator training. We also reviewed fleet management practices in SFD, separate from FS. SFD vehicles and equipment are not managed or maintained by FS.

As part of the approved Audit Plan, the Independent Office of the City Auditor has completed the audit of FS. The Phase 1 audit investigated service disruptions experienced in Saskatoon Transit in the winter of 2021-2022. This report describes the results of Phase 2, covering various services related to the City's Fleet.

Audit Objective

The objective of the audit was to assess the effectiveness, efficiency, and economy of City's Fleet Services and identify improvement opportunities.

Audit Scope

The audit included vehicles and equipment that FS has custody and control over and those managed by the SFD. The areas covered within the audit included purchasing, leasing, and investment in civic fleet, repairs and preventative maintenance, asset management and monitoring, implementation of electric and autonomous vehicles, fuel management, and safety and training. The audit excludes Transit since this was already covered in Phase 1.

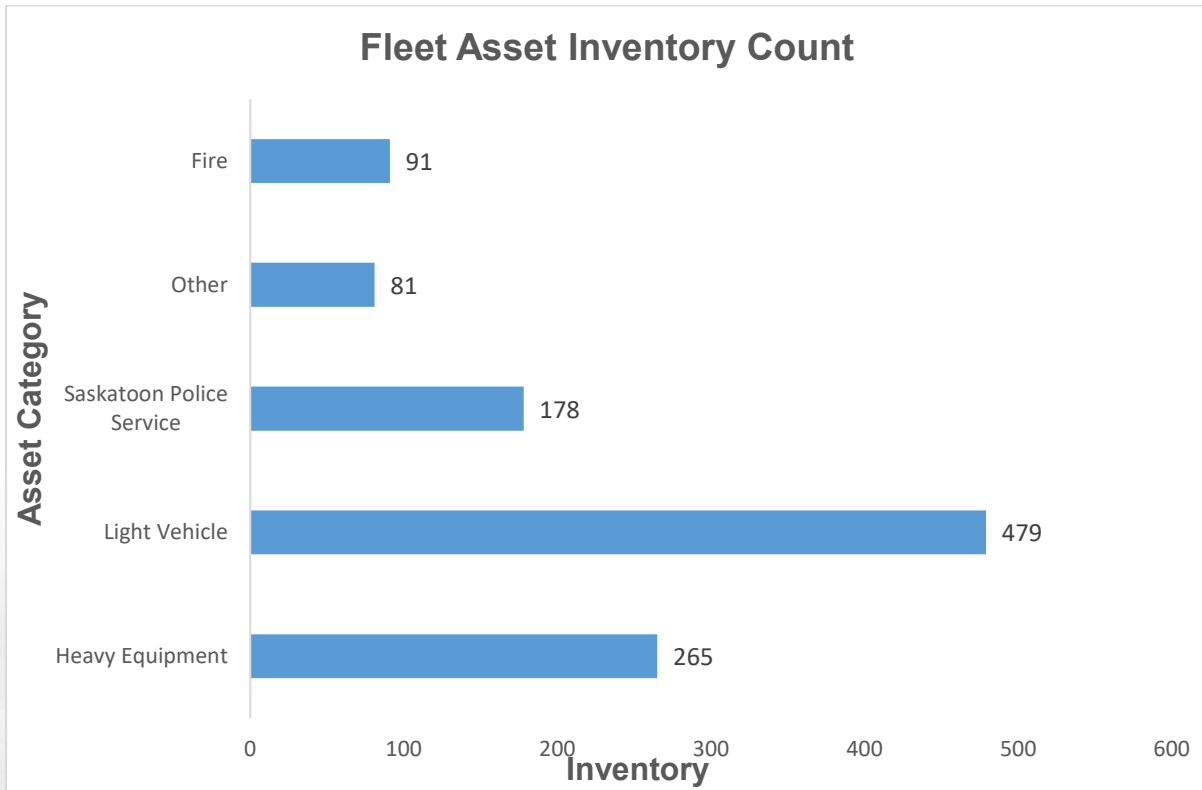
Audit Approach

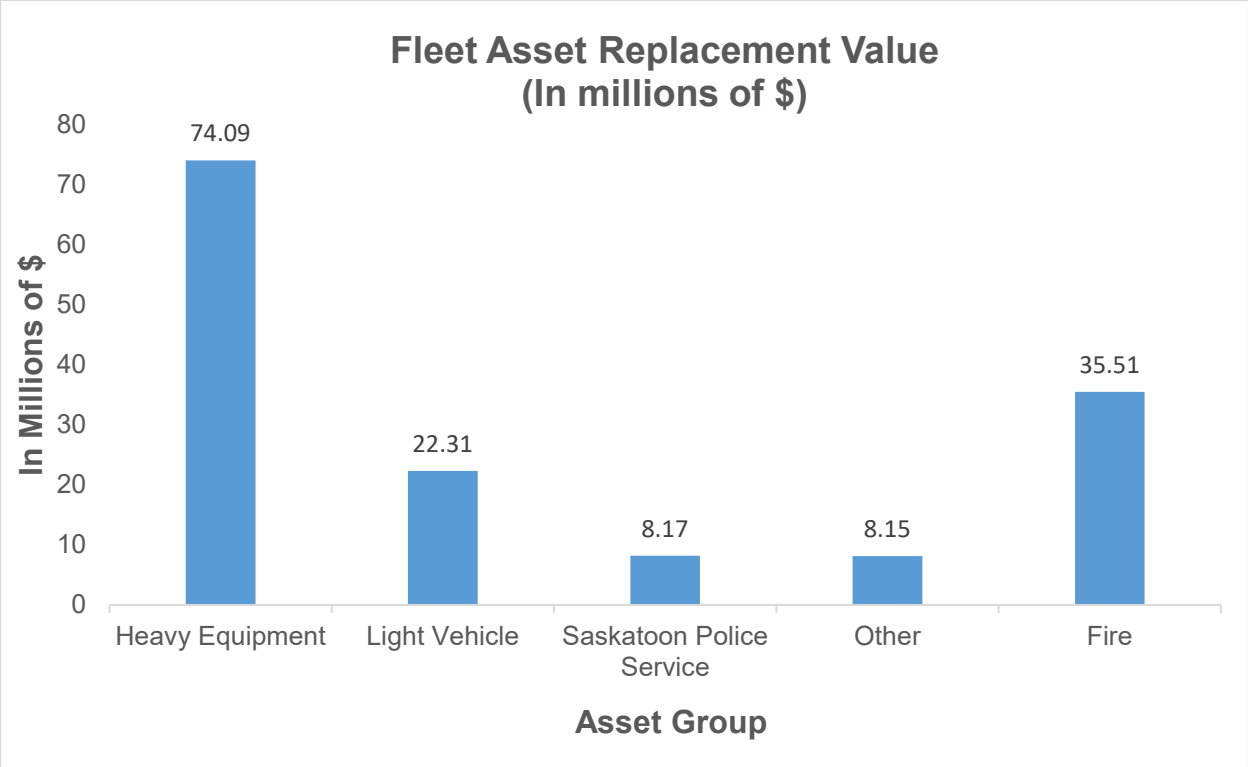
The following approach was used in the conduct of the audit:

- The City Auditor led the audit supported by a team of consultants engaged by the Independent Office of the City Auditor and was responsible for the completion and reporting of the audit.
- The audit team met with various FS staff, SFD staff, and other user department staff, including operators and maintenance staff, and stakeholders, during the conduct of the audit to determine the effectiveness of the services provided by the FS and SFD in supporting and addressing the City's strategic goals and objectives.
- The team completed a detailed review of documents and records, as well as analytical procedures to validate the processes, transactions, and controls. Potential opportunities for improvement and accompanying recommendations are also provided.
- The City Auditor met with Fleet management to discuss preliminary findings and recommendations to ensure timely actions are undertaken to mitigate key risks.

Fleet Asset Inventory

The tables below show the City's fleet asset inventory count and the replacement value for 2021.





Detailed Findings and Recommendations

1. Fuel Management



We found that controls related to fuel management at the City need strengthening. Due to fraud risks, detailed findings and recommendations will be shared in-camera.

2. Saskatoon Fire Fleet Management



Processes to track SFD fleet assets, maintenance, costs, and inventory is manual. SFD has not developed a full asset management plan.

Recommendation 2: We recommend that SFD should:

- 2.1 Design and implement a fleet management system i.e., Enterprise Asset Management (EAM) module of Fusion System to digitize workflows for asset management, asset cost management, and scheduling of planned maintenance. This will provide visibility of cost by asset, better optimization of internal costs versus external costs, and enable better planning of short term and long-term preventative maintenance.
- 2.2 Once the fleet management system is implemented,
 - Gather data over a sufficient period of time (for example, 24 months) and perform data analysis to assess resources required to maintain Fire fleet. With data analysis, assess maintenance requirements against maintenance resources, and optimize the composition of in-house and third-party service providers.
 - Develop budget based on asset need rather than prior performance.
- 2.3 Develop a formal asset management plan for SFD, similar to the asset management plans developed by the City in other asset categories
- 2.4 Ensure that key assumptions such as inflation, future demand for service and the exchange rate fluctuations are considered when developing long term capital asset requirements.

Administration Response and Action Plan:

SFD Administration agrees with all recommendations. The following actions will be undertaken in a staged approach with the understanding that EAM implementation initiates the processes related to asset management, asset cost management and the planning and scheduling of preventative maintenance processes and workflows.

In preparation to implement EAM, the SFD has identified two required resources, a service coordinator, and a Logistics manager, to assist the technicians. The required resources are in alignment with industry best practices and the City corporate model to operate an asset management program. The absence of these resources is prohibitive to EAM implementation because of:

- The required time for the technicians to achieve competency in all roles of the EAM manage work process
- Rise in incidents has decreased the time between the apparatus service intervals and the subsequent repairs resulting from apparatus breakdowns related to increased use.
- The technician only environment voids consistency in scheduling, planning and workorder creation affecting resulting data for future use.

The process to implement begins with filling the resource positions, followed by developing EAM processes with the support of the Fusion implementation team. The expected implementation is Q2 of 2024.

The creation of an Asset Management plan will coincide with the implementation of EAM. The asset management plan will reflect new preventative maintenance processes, alternative response vehicles, required training, and the KPI creations to determine and measure efficiencies within the SFD Logistics area. The expected implementation is Q3 of 2024.

The SFD will work with Finance to minimize affects resulting from inflation, future demand for service and the exchange rate fluctuations. The market for mobile assets in the wake of the COVID pandemic has created a volatile marketplace resulting from material shortages and supply chain difficulties. Q2 and Q3 of 2023.

SFD owns and manages its vehicles and equipment. The SFD Fleet includes 25 apparatuses (fire trucks) and 10 support units (aerials, ladders, boats), 46 light fleet vehicles, 8 trailers, and 4 heavy fleet vehicles.

Currently, manual processes are used to track the SFD Fleet assets, performance, maintenance, costs, and inventory. In the absence of a fleet management system, data is not readily available to make data-driven decisions for asset and maintenance requirements. The availability of a system will track and manage assets and ensure that these are being optimized to the fullest. We understand that SFD is planning to implement a Fleet Management system in the future.

Maintenance Costs

SFD Fleet maintenance costs are accumulated in one general ledger account, and labour costs related to fleet maintenance in another. Combined, these costs total just over \$1 million per year. Despite the significance of these costs, records supporting how these costs were incurred are paper-based, impacting the ability to analyze costs efficiently for the fleet.

Mechanic Utilization and Efficiency

SFD maintains three mechanics on staff to maintain and repair 25 fire units and over 55 small vehicles and equipment. SFD indicated that the three mechanics are fully utilized. To complete required maintenance and timely equipment certifications, a portion of the SFD's light vehicle fleet is maintained by third-party service providers.

Understanding how mechanical staff spend their time would require tracing back to manual work orders, invoices, and schedules. As a result, significant resources would be required to analyze the utilization and efficiency of preventative maintenance and repairs.

Vehicle Equivalency Unit (VEU) Analysis is a fleet management tool to optimize the size and composition of a mechanic team. Large equipment, such as fire trucks, have features and components that can result in significantly different maintenance requirements. Understanding VEU is critical for staffing and budgeting.

Due to manual record keeping, SFD cannot readily perform data analysis to understand the mechanics' productivity better and determine if there is a cost-benefit to increase its complement of mechanics or increase the use of third-party service providers.

Recording SFD's inventory records, labour costs, and fleet maintenance transactions in the Enterprise Asset Management Module (EAM) in SAP will ensure the effective utilization of resources.

Maintenance Budgeting

Current systems and practices for planning do not allow for strategic planning of asset maintenance and resources needed for effective fleet maintenance. Current fire fleet maintenance budgeting is based on the previous year's budget and actual costs because there is no formalized basis to develop budgets.

Long-Term Asset Plan

Long-term capital asset requirements are limited to the current cost to replace the fleet and do not reflect the future expected cost the City will incur to keep SFD adequately equipped. The

long-term asset requirements do not address inflation, consideration of future service demand, and fluctuating exchange rates' impacts on key purchases.

In addition, we noted that SFD has not yet developed a full asset management plan to ensure that the assets will meet the levels of services. This may impact SFD's long-term capabilities to deliver services and maintain service levels.

3. Fleet Services Asset Management and Monitoring



3.1 Service Level Agreements

Service Level Agreements are in draft form, do not clearly define performance measures, and are not executed in a manner to support FS and User Groups interactions or decisions.

Recommendations 3.1: We recommend that Fleet Services, in coordination with user groups, should:

- 3.1.1 Finalize the user groups' service level agreements to include:
 - a) Services and obligations of Fleet Services and the user groups, including key performance indicators and regular reporting requirements, such as:
 - Unit uptime (availability) expressed as a number of units available or required turn-around time for fleet repairs and maintenance.
 - User Groups level of compliance with the preventative maintenance scheduling set out by Fleet Services.
 - Fleet reports on utilization and lifetime total maintenance costs and assign responsibility for regular utilization review and specific actions to support a fully utilized fleet.
 - b) Mechanisms for evaluation of performance and periodic review and update of service level agreements.
 - c) Critical vehicles, equipment, and required availability for the user group to operate at expected service levels.
- 3.1.2 Formalize the mandate of the Vehicle Committee by requiring meetings are scheduled regularly, and key decisions and actions are documented and followed up.

Administration Response and Action Plan:

- Administration agrees with the recommendations.
- The SLAs between FS and various user groups will be finalized by the end of 2023.
- Implementation of the KPIs and regular reporting will follow in Q2 of 2024 once the Fleet EAM is fully implemented, and the reporting feature is available. FS has a Data Analyst position that will utilize fleet data and apply it to various KPIs that have been identified in the SLAs. These KPIs will include factors such as uptime/downtime, availability, critical units, turn-around time for repairs and maintenance etc.
- In addition to the SLAs, FS is also developing a Fleet Handbook which will document and formalize fleet related processes. The handbook is expected to be finalized by the end of 2023.
- Vehicle Committee roles and responsibilities along with the frequency of meetings and tracking of key decisions and action items will be improved and documented by the end of 2023. This information will be included in the Fleet Handbook for all operators. Periodic reviews of SLAs will be completed by the Vehicle Committee.

Service Level Agreements (SLAs) define the level of service the users expect from the service provider. SLAs between FS and the User Groups should be an accountability tool to assist the user departments in managing their fleet to meet service demands. It should benefit all parties involved, clearly state service level requirements and each party's obligations, and include performance targets and mechanisms to address service issues. Effective SLAs provide a framework for continuous improvement between FS and user groups and should be reviewed periodically to assess the relevance of the targets and should be updated to reflect changes in the user group or FS.

We reviewed the SLAs between FS and six major User Groups, which included Roadways, Water and Sewer, Waste Stream Management, Saskatoon Police Service, Saskatoon Light and Power and Parks. We also interviewed the User Groups' management regarding services provided by FS, user groups' service requirements, and the overall effectiveness of SLAs.

As per SLA, FS should maintain sufficient staffing levels to ensure adequate fleet service. We found that FS monitors the staffing levels required to service the City's fleet.

During our audit, we identified the following issues:

- SLAs are in draft form and have not been finalized for several years. During interviews, some user groups informed us that they were either not aware of the SLAs or did not use them for reference.
- SLAs are not defined with specific or measurable standards, and mechanisms to address deviations are not described. Key Performance Indicators (KPIs) are not identified in the SLAs and do not adequately address measurable performance targets, regular or periodic review of results, and escalation of issues.
- Critical units (vehicles or equipment necessary for the user group to provide an expected level of service) and the uptime, or availability, are not defined in the SLAs.
- The Vehicle Committee, comprised of representatives from FS and User Groups, makes fleet management decisions and is required to meet regularly and document decisions. However, we noted that the meetings are Ad hoc in nature, and decisions are not formally documented.
- FS does not provide detailed and regular reporting to user groups on fleet unit costs and utilization that would assist in informed decision-making. We analyzed the utilization of two-fleet categories and identified uneven usage amongst user groups, which provides an opportunity to assess vehicle usage to avoid fleet overutilization, resulting in higher maintenance costs.

3.2 Preventative Maintenance

Fleet Services does not monitor compliance with Preventative Maintenance as a key performance indicator.

Recommendation 3.2: We recommend that FS, in collaboration with user groups, should:

- 3.2.1 Establish Preventative Maintenance as a key performance indicator (KPI) to monitor compliance with maintenance schedules, set compliance targets, regularly monitor compliance against the targets, identify trends of non-compliance, and undertake corrective actions.
- 3.2.2 Regularly review the odometer reading for errors and enhance awareness among operators about the importance of entering correct odometer reading.

Administration Response and Action Plan

- Administration agrees with the recommendations.
- FS will establish Preventative Maintenance KPI. Regular reporting of all KPIs will be initiated in Q2 of 2024 once the Fleet EAM is fully implemented and the reporting feature is available. The KPI will be established for both the annual regulatory government inspections as well as preventative maintenance inspections.
- After the fuel integration with SAP is completed, a documented process for verifying odometer readings will be developed by the end of Q3 2023. Odometer reading errors are currently reviewed by FS but this process is not documented. Training and enhanced awareness about the importance of entering correct odometer reading will be addressed through the Fleet Driver Handbook and subsequent communication once the handbook is developed by the end of 2023.

Preventative maintenance (PM) of the City's fleet is planned and scheduled in the system, and user groups are informed when PM is required. It is important to complete PM on schedule to maintain the warranty, reduce the likelihood of mechanical breakdowns, reduce unexpected downtime, and prolong the fleet's useful life.

We noted that FS does not monitor compliance with PM as a key performance indicator. Without an established KPI for PM Compliance, FS and the User Groups do not have a target to achieve PM Compliance and higher fleet reliability. Tracking compliance with PM as a performance measure identifies where targets are not met, as well as observable trends. Delays in PM and repairs that are meant to maintain the vehicle's performance and safety may lead to more costly repairs in the longer term.

FS performs PMs services such as tire rotations, engine service, and fire extinguisher checks. PM Services vary by vehicle type; however, the most frequently performed PM is engine service. FS performs engine service on a usage-based approach, i.e., every 5,000 km or 8,000 for light and heavy fleet units, respectively. For vehicles that do not meet the usage thresholds, a time-based approach is applied, and engine service is scheduled every 12 months.

From January 2021 to November 2022, 5,033 PMs were scheduled for 1,016 vehicles. PM data shows engine service accounts for 2,419 (48%) of PM Services. Based on our analysis of PM conducted for engine service, we found that:

For usage-based scheduling:

- 57.2% of PM engine services were completed at the required utilization (5,000 km or 8,000 km) or within a 1,000 km threshold of the required utilization; and
- 75% of PM engine services were completed within a threshold of 1,500 km.

For time-based scheduling:

- 78.4% of PM engine services were completed On-Time (i.e., within 365 days since the last PM Engine Service) or within 30 days of the due date; and
- 81.6% of PM engine services were completed On-Time or within 60 days of the due date.

Currently, operators enter the vehicle odometer reading at the fuel stations at the time of fueling. The odometer information assists in forecasting the expected date of required PM based on utilization. We assessed all fuel transactions recorded by the system between January 1, 2021, to October 31, 2022, and identified odometer entries with an average error rate of 21%. Inaccurate data errors may impact the FS's PM schedule, resulting in improperly scheduled maintenance activities.

Warranty Administration

Manufacturers' warranties should be claimed to address new product deficiencies and avoid unnecessary repair expenses. FS has effective processes for warranty administration. Warranty repairs are addressed by the manufacturer or local dealer directly, and FS incurs no expense. If the manufacturer or dealer is not in the local area, FS performs the warranty work and is reimbursed by the manufacturer. We reviewed warranty claims processed in the audit timeframe and confirmed FS was reimbursed accordingly.

3.3 Fleet Management System for Fleet Services

Medium Risk

Implementation of Fusion system for FS is incomplete.

Recommendation 3.3: FS should collaborate with the Fusion Implementation Team to address deficiencies in the Fusion's fleet management system (Enterprise Asset Management Module) and develop timelines for implementation of a single system for FS.

Administration Response and Action Plan

- Administration agrees with the recommendations.
- A project with a steering committee and dedicated resources to address the gaps and fully implement the Fusion fleet management system has been initiated. The project is scheduled for completion by the end of 2023. Successful completion of the project is expected to allow for implementation of a single fleet management system for FS.

Fusion for FS is partially implemented. FS is currently running two systems, Fusion and M5 (legacy fleet management system), which has resulted in inefficiencies and impacts day-to-day activities. This also negatively impacts information availability and reporting required by FS and user groups.

Since 2008, FS has used M5 as a fleet management system. Currently, Fusion system is being implemented as the City's enterprise-wide system. Fusion's Enterprise Asset Management (EAM) module was implemented in Quarter 2, 2022. Since implementation, FS has identified various deficiencies in Fusion's functionality and escalated issues to the Fusion Implementation Team. Examples of key deficiencies include:

- Work Orders created at the time of repairs and maintenance do not record unit odometer readings. Recording the odometer is essential to FS's usage-based approach to maintenance;
- Work Orders do not completely capture the mechanics' time and labour for cost tracking and monitoring;
- Work Order mobile applications are incompatible with the devices currently used by the FS technicians in the shop;
- FS's invoices for user group billings cannot be created in the Fusion system; FS continues to run M5 for this task;
- License checks cannot be completed using the Fusion system, and therefore, the license checks are currently completed using the M5 system; and
- FS spends considerable time running reports from both systems, i.e., Fusion and M5, and reviews both to confirm the accuracy and identify exceptions or gaps.

Prior to Fusion implementation, FS was planning to develop regular reporting of fleet asset management information to user groups, implementation and monitoring of KPIs, and the development of a FS dashboard to report performance on key metrics such as vehicle idling time and vehicle incidents. However, we understand the work has been paused while resources have been redirected to address Fusion implementation.

Without a reliable and single fleet system to support FS's operations, resources are not used effectively, performance measurement is difficult to implement, and user groups are underserved.



3.4 Extended Useful Life of Fleet

Lack of defined process to formally assess and document the extended useful life of fleet or assign a future date for planned disposal.

Recommendation 3.4: We recommend FS should develop a process to formally assess and document the extended useful life of City’s fleet. This includes:

- Formal review of the fleet’s fitness for use through a standardized assessment (for example, Light Vehicle Replacement Guideline suggested by the American Public Works Association);
- Documenting appropriate authorizations and approvals from FS and the user groups; and
- Updating the fleet’s expected life plan with revised rental rates and disposal date.

Administration Response and Action Plan

- Administration agrees with the recommendations.
- FS will develop a formal procedure and required documentation for assessing fleet’s fitness for use. Consideration was given to special circumstances such as keeping some units past their useful life through the pandemic to allow for social distancing so that user groups could carry out daily operations, or training needs.
- Regular reporting of all KPIs will be initiated in Q2 of 2024 once the Fleet EAM is fully implemented and the reporting feature is available. These KPIs will include vehicle/equipment retention and end-of-useful-life assessment criteria and will be documented within the standardized assessment procedure. The procedure and assessment documentation will include appropriate authorizations and approvals from FS and user groups, as well as an updated expected life cycle with revised lease (rental) rates and new disposal date.

Currently, FS, with input from the User Group, extends the life of the fleet deemed in good condition with remaining life. However, FS does not have a process to formally assess and evaluate the aged fleet’s useful life and document the fleet’s extended life. Without a formal process, it creates conditions for:

- Loss of opportunity to dispose of aged units with useful life while they retain market value;
- Greater reliance on an aged fleet with an increased likelihood that vehicles will suffer a breakdown which may lead to increased repair costs and safety issues; and
- lower levels of services or an inability to deliver services.

Our review of active fleet inventory identified the following aged fleet that has exceeded its expected life:

- 141 of 1,229 units (11.5%) exceed life expectancy between 1 and 15 years.
- Departments with the most aged units include:

- 43 units - Roadways, Fleet and Support, aged units average nearly 3.6 years past expected life;
- 32 units – Saskatoon Police Service (SPS), aged units average nearly two years past expected life; and
- 17 units – Parks, aged units average nearly 3.5 years past expected life.

Our review of aged inventory found that out of the 141 aged fleet units, 61 units (43%) have exceeded the expected end of life by 24 months or more. These units are in active use and are not classified as spare or backup units. We understand that supply chain shortages experienced in the past two to three years due to the pandemic may have resulted in an increase of Extended Life units.

We reviewed fleet life extension practices of comparable municipalities. The municipalities apply a model similar to the Light Vehicle Replacement Guidelines suggested by the American Public Works Association, which considers factors such as age, usage, type of service, reliability, repairs and maintenance cost, and condition to formally assess the aged units for life extension.

The City of Calgary’s formal fleet extended life processes include scoring units to assess eligibility for extension, assigning an end date and extensions not longer than 24 months, recalculation of rental rates, and authorization and approval document signed by FS and user Groups.

3.5 Maintenance Costs over Useful Life



Lifetime Maintenance Costs thresholds have not been set for fleet.

Recommendation 3.5: We recommend that FS in collaboration with user groups should:

- 3.5.1 Define thresholds for Lifetime Maintenance Costs (LTMC) for all fleet categories to help identify the point at which a fleet unit should be replaced versus repaired;
- 3.5.2 Regularly review the LTMC for fleet categories to confirm usage thresholds are meeting expectations and adjust if appropriate to manage and plan vehicle replacement; and
- 3.5.3 In situations where the LTMC threshold has been reached before the fleet’s expected life, re-assess expected life for all fleet categories to determine suggested targets for potential replacement.

Administration Response and Action Plan

- Administration agrees with the recommendations.
- Maintenance costs and usage for all fleet categories have been used to make replacement decisions, as well as life cycle adjustments, however this process is not formally documented. FS management members have their Certified Public Fleet Professional designation through the American Public Works Association (APWA) and will use their methodology and best practices for fleet management to define thresholds for LTMC for all fleet categories.
- LTMC for all fleet categories will be formally defined by the end of Q2 2024, and future decisions will be documented to record the rationale for replacing as opposed to repairing a fleet unit.
- FS will regularly review and analyze LTMC and usage to ensure usage thresholds are meeting expectations. Based on this information, adjustments in expected life and unit retention for all fleet categories will be made, as required.

FS sets the fleet life expectancy and monitors the expected life and usage. Expected life and usage targets are set in the system for each category of vehicle and equipment. FS monitors vehicles and equipment based on the values in the system for expected life and usage to identify units for retirement.

A Lifetime Maintenance Cost threshold is a point that determines the cost-benefit of replacing versus repairing the fleet by identifying the optimum replacement interval. During our audit, we found that the LTMC thresholds have not been set in the system for the fleet. Therefore, it is difficult to assess whether the cost to maintain the oldest vehicles is excessive or aligns with expected costs and whether the fleet's expected useful life is appropriate. Instead of using LTMC, FS currently sets an arbitrary repair estimate of \$1,000 to trigger an ad hoc review at the time the unit requires maintenance.

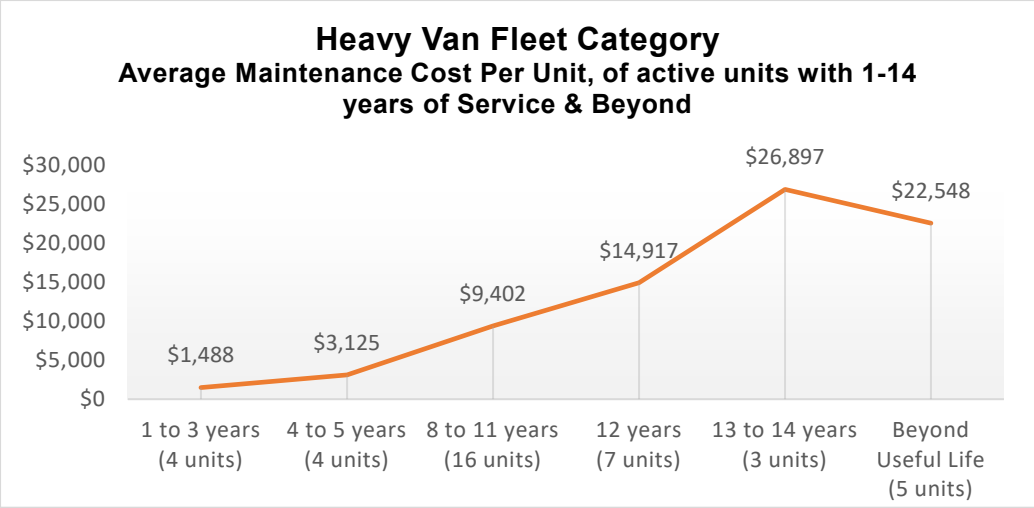
To understand the cost of maintaining fleet units, we reviewed the Lifetime Total Maintenance Costs for certain fleet categories in comparison with their life expectancy and age. The following table shows the four most commonly leased fleet categories, along with their expected life and usage:

Fleet Category	Number of Fleet Units	Expected Life	Number of Units at or Exceeding Expected Life	Usage Limit (Kilometers)	Number of Units Exceeding Usage Limit
SPS SUV	76 Units	5 Years	22 (29%)	200,000	15
Minivan	45 Units	12 Years	11 (24.4%)	230,000	0
Heavy Van	39 Units	14 Years	7 (17.9%)	220,000	1
¼ Ton Truck	36 Units	12 Years	7 (19.4%)	200,000	0

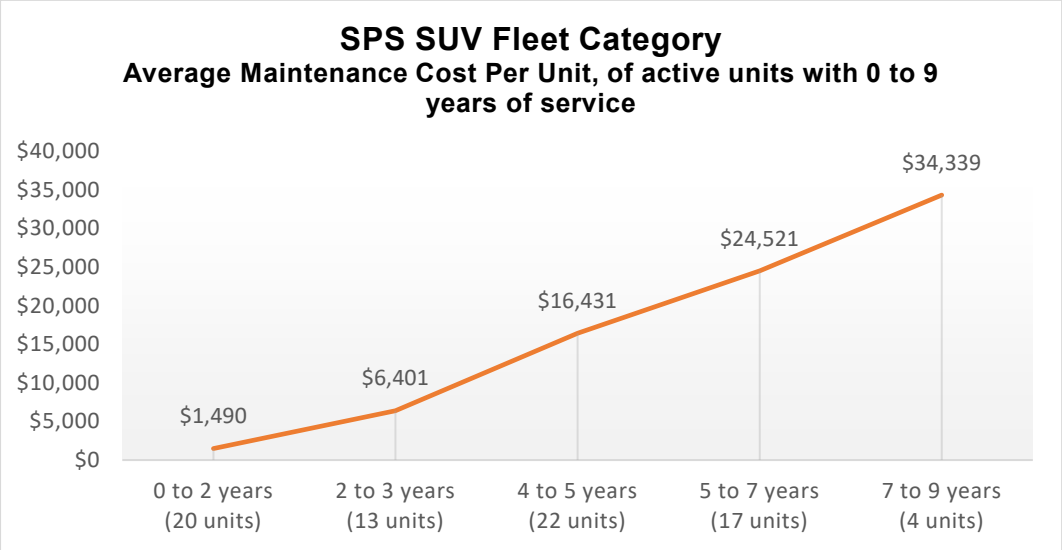
As shown in the table above, although a number of fleet vehicles are in-service past their expected life, their usage rarely exceeds the maximum limit set in the system, with the exception of SPS Vehicles.

To further understand the cost of maintaining units up to and exceeding expected life, we reviewed Lifetime Total Maintenance Costs for Heavy Vans and SPS SUVs fleet categories. We noted that fleet remaining in-service past its expected life when grouped by age, results in average LTMC increasing significantly towards the end of expected life.

For example, Heavy Van Fleet Category that is near or exceeding expected life (14 years) had an LTMC of \$26,897 at the end of expected life compared to \$9,401 for units that are three to four years younger.

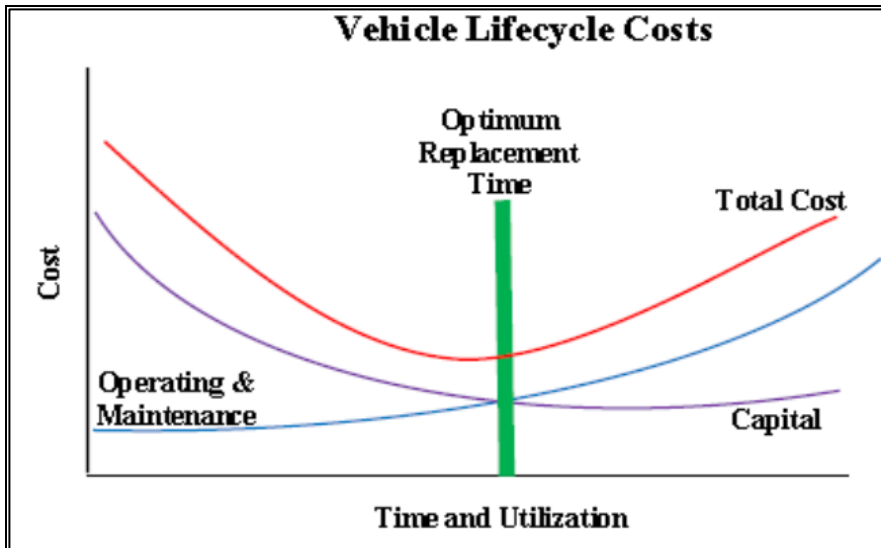


SPS SUV Fleet Category has an expected useful Life of five years. Units that are exceeding expected life by two years (i.e., five to seven years service life) had an LTMC average of \$24,521, and this increases to \$34,339 when the unit is two-four years past its Expected Life (i.e., seven to nine years service life).



The analysis shows that the average lifetime maintenance cost per unit significantly increases as the fleet is nearing or exceeding its expected life. As a result, it is critical that LTMC thresholds are established and closely monitored for potential vehicle replacement to save costs.

The following graph shows an economic model suggested by the American Public Works Association for the timely replacement of fleet assets. According to the model, as the unit ages, average maintenance and operating costs increase, and the investment cost decreases. There is an optimal point in the fleet's life at which the total average cost is the lowest, which is the optimum economic life or replacement point.



https://www.apwa.net/library/position-stmts/FL_Guidance-Timely_Replacement_of_Fleet_Assets.pdf

4. Compliance with Regulations



4.1 Operator License Checks:

Recommendation 4.1: FS should strengthen the operators' license check process by:

- 4.1.1 Conducting regular follow-up checks on the out of province operators' licenses status;
- 4.1.2 Implement a feedback loop which provides confirmation to FS that the operators with invalid license status have been removed from operating the City's vehicle; and
- 4.1.3 Consider cancelling the fuel cards assigned to unlicensed operators to deter operators driving the City's vehicle without a valid license.

Administration Response and Action Plan

- Administration agrees with the recommendations.
- New steps will be added to the procedure for checking Driver's Abstracts for out of province operators' licenses. This procedure is in place for in province operators' licenses. The new steps will allow for follow up checks of the out-of-province licensees to confirm that their licenses are valid. The follow up checks will include a feedback loop from user groups that that the operators with invalid license status have been removed from operating the City's vehicle. These new steps and strengthened process will be developed in conjunction with the HR Department and User Groups by the end of 2023.
- Based on monthly checks, FS is currently not aware of any employees with potentially invalid licenses. If they are discovered, FS will consider cancelling fuel cards assigned to employees with invalid licenses, after a prior discussion with the user group. A new more defined process for the management of employee fuel cards will be developed in collaboration with the City's HR Department and other internal stakeholders by the end of 2023.

licenses by independently confirming validity with the Saskatchewan Government Insurance (SGI) database. Any exceptions (licenses with invalid, removed, or expired status) are tracked and communicated to user groups indicating revocation of permission to operate City vehicles and instructions to provide documentation for reinstatement.

We noted that FS does not require user groups to provide confirmation that the operators have been removed from operating the vehicle. In addition, FS does not suspend the fuel cards of unlicensed operators to further deter any operator from driving the City vehicle without a valid license.

We also noted that operators licensed in other provinces are excluded from the SGI database. FS relies on the out-of-province licensees to provide proof of valid licenses at the start of employment; however, follow-up checks are not conducted to confirm that their licenses are valid.

Unlicensed operators are a violation of policy and provincial traffic laws resulting in safety, legal, and reputational risks for the City.

4.2 Vehicle Inspections



No process exists to identify missing or incomplete Daily Vehicle Inspection Reports.

Recommendation 4.2: We recommend that FS, in coordination with Operations Support and other user groups, should design and implement a process to monitor compliance with the Daily Vehicle Inspection Reports requirement. This would include periodic review of inspection forms, raise awareness of report requirements and expectations; and formal mechanisms to address instances of non-compliance.

Administration Response and Action Plan

- Administration agrees with the recommendation.
- A new process for monitoring compliance with the Daily Vehicle Inspection Reports will be implemented in conjunction with the development of a Fleet Handbook by the end of Q3 2024. This process will be communicated to the user groups through the Fleet Handbook, SLAs as well as training sessions. The work will include development of a plan for periodic review of inspection forms, raising awareness of report requirements and expectations, and formal mechanisms for user groups to address instances of non-compliance, in accordance with the SLAs.

In accordance with provincial regulation, Periodic Motor Vehicle Inspection (PMVI) is conducted once every 12 months for vehicles operated within Saskatchewan. We conclude that the process for annual PMVI is effective.

The provincial regulations also require that daily trip reports are completed prior to operating a commercial vehicle on a public highway. In case of violation, fines could be levied, as well as negative impacts on carrier ratings.

The City operators receive training to properly complete the Daily Vehicle Inspection Reports (DVIR), either manually or in electronic form, for every operator's shift. We reviewed DVIRs for a sample of 12 fleet vehicles over a 14-day period and found that in six cases the DVIRs were either missing or were not properly completed (missing odometer readings and no signatures). These exceptions were related to manual DVIRs, while electronic DVIRs were accurately completed.

We also noted there is no process in place to monitor operators' compliance with the DVIR requirements. There are safety and reputational risks associated with non-compliance with the provincial regulations related to daily trip reports.

4.3 Training Capacity



There are resource constraints to meet additional operator training requirements.

Recommendation 4.3: We recommend that Training regularly assess the current and future operator training requirements against the existing training resources and ensure that sufficient resources are available to meet the user demand for operator training.

Administration Response and Action Plan

- Administration agrees with the recommendations.
- Operations Support team will assess the current and future operator training requirements against the existing training resources and request sufficient resources to meet the user demand for operator training, by the end of Q3 2023 prior to City Council's 2024/25 budget deliberations.
- Operations Support team will continue to conduct regular future assessments to ensure that sufficient resources are available to meet the user demand for operator training.

Training within the Operations Support section of Roadways, Fleet and Support Department is responsible for delivering timely and effective training to operate vehicles and equipment. The training plan for 2023 and going forward is at risk due to additional demands for training services and resource constraints.

A sufficient number of properly trained operators are required to deliver City services while operating City's vehicles and equipment in a safe and appropriate manner to reduce safety incidents and costs related to preventable damage to City's equipment and property.

Between December 2021 and October 2022, Training delivered 471 training events to 145 operators. Throughout 2022, there were three full-time trainers and one training supervisor. Currently, the resources are fully utilized, and there is no capacity to deliver additional training events.

We noted Training does not have sufficient resources to meet the growing demands from user groups for operator training. For example, Saskatoon Water has recently requested operator training for approximately 50 employees. To address this new request, Training requires additional resources to provide 200 additional training days with a total of approximately 150 training events.

Implementation of Autonomous and Electric Vehicles

FS is currently working with Sustainability to develop plans for corporate fleet electrification to reduce fuel usage and greenhouse gas emissions. We evaluated Electric Vehicles (EV) light fleet usage among other municipalities in Western Canada and noted that EV inventory varies between small-scale pilot projects to the acquisition of 8-10% of the light vehicle fleet. Some challenges experienced by other municipalities include insufficient charging infrastructure and heated garages to improve charge retention during cold weather events.

We reviewed the City's plans to implement autonomous and EV fleet and noted the following:

- The City's Sustainability Department has completed Green Fleet Assessments for units in Transit, Waste & Collections, and the City's light fleet.
- A report on the City's EV Pilot will be presented to City Council in Quarter 2, 2023. The EV Pilot project included four light fleet vehicles.
- A consultant has been engaged to conduct an EV Roadmap for the City's fleet, which is expected to complete by the end of 2023.

We compared these steps with the framework set out by the Municipal Climate Change Action Centre (MCCAC - a collaborative initiative of Alberta Municipalities, Rural Municipalities of Alberta, and the Government of Alberta¹). The MCCAC recommended that a feasibility study be completed, by a qualified consultant, to explore the potential economic and environmental impacts of transitioning to an electric fleet. The City of Saskatoon's measured and cautious approach aligns with EV assessment activities recommended by the MCCAC and the Green Fleet Assessments.

Renting Fleet to user groups

Fleet is funded through revenue generated from rental rates charged to user groups. The vehicles and equipment are rented to user groups at a rate that covers the capital cost of the unit, licenses and certifications, maintenance, and disposal. Rental Rates are proportionally determined to fund the following cost components:

- Department overhead,
- Vehicle repairs and maintenance, and
- Vehicle replacement reserve.

Between January 2020 and November 2022, FS internal rental billings to the user groups were \$54.58 million. We reviewed FS's calculation to determine the monthly rental rate and confirmed it is appropriately calculated to fund the cost allocations as stated above.

¹ [Electric Vehicles for Municipalities Funding Program | Municipal Climate Change Action Centre \(mccac.ca\)](https://mccac.ca)

Appendix: Risk Rating Guide

The Independent Office of the City Auditor has introduced a risk rating to prioritize the audit recommendations in the report. The benefits of the rating are to:

- Help Administration and the City Council to assess results quickly.
- Help Administration to prioritize implementation of the recommendations.
- Provides the basis for prioritizing audit follow-up.
- Makes cross-organizational comparison easier.

Criteria	Risk Rating
Corporate level loss, material reporting misstatement, critical reputation, or financial impact; critical impact on operational performance, the occurrence of fraudulent activities, critical unethical conduct, or a critical breach in laws and regulations/policies and procedures. Remediation of the finding should be immediately prioritized.	Critical
Significant impact on the achievement of objectives. Significant risk of service disruption, a threat to timely and effective service delivery affecting clients or a high possibility of occurrence of fraud. High-risk impact on reputation, financial, or operations. A significant breach in laws and regulations and policies and procedures.	High
Moderate impact on the achievement of objectives. Moderate risk of service disruption, a threat to timely and effective service delivery affecting clients or occurrence of fraud. Moderate risk impact on reputation, financial, or operations. A moderate breach in laws and regulations/policies and procedures. Requiring process change/improvement to reduce the likelihood or impact of the risk in the future.	Medium