



Office of the Auditor General
AUDIT OF FLEET SERVICES
2006 Report
Chapter 7

Table of Contents

EXECUTIVE SUMMARY	i
SOMMAIRE	xxiii
1 INTRODUCTION	1
2 BACKGROUND	1
3 SCOPE AND OBJECTIVES OF THE AUDIT	4
4 APPROACH AND METHODOLOGY	5
5 DETAILED OBSERVATIONS, FINDINGS AND RECOMMENDATIONS	14
5.1 Municipal Fleet Performance and Practices	14
5.2 Transit Fleet Performance and Practices	38
5.3 Compliance to Laws and Regulations	55
5.4 Financial Management	71
6 CONCLUSION	77
7 ACKNOWLEDGEMENT	77

EXECUTIVE SUMMARY

Introduction

The Audit of Fleet Services was included as part of the 2006 Audit Plan brought forward by the City's Auditor General to City Council on December 15, 2004.

Background

In 2005, Ottawa's combined municipal and transit fleet was approximately 3,875 units, including 907 transit buses. The 2005 expenses are approaching \$160 million and capital expenditure on fleet replacement is over \$50 million. Fleet Services is a Branch of Public Works and Services. It is structured as a Centre of Expertise charging back all its costs to user departments. The Fleet Services Branch has a total of 552 full time equivalents (FTEs).

The Fleet Services Branch offers three main services:

Fleet Maintenance – 47% of Fleet Services' costs

- Management of seven municipal maintenance facilities with a parts inventory of \$2.4 million and a staff of 84 mechanics and other maintenance employees supported and supervised by 23 people for a total of 107 FTEs.
- Management of three transit maintenance facilities with a parts inventory of \$11.3 million and a staff of 334 mechanics and other maintenance employees.

Life cycle Management – 4% of Fleet Services' costs

- Management of the vehicle replacement, acquisition and disposal processes as well as technical support for all of Fleet Services.

Operations – 49% of Fleet Services' costs

- Management of fuel provisioning, licensing, registration, information systems and overall administration processes.

Note: Other corporate services used and/or provided by Fleet Services are not part of the Fleet organization since they are shared with the rest of the City's departments. These services include Facilities Management and Materials Management for example. It should be noted that materials and supplies alone represented an expense of \$64 million for Fleet Services in 2005 but all the procurement processes as well as stores management are under the responsibility of the Materials Management units. These units dedicate 78 people to support Fleet Services (56 for Transit Fleet Maintenance and 22 for Municipal Fleet Maintenance). These additional resources are not counted in the

552 FTEs employed by Fleet Services but the cost of parts are accounted for in Fleet Services expenses.

Scope and Objective of the Audit

The objective of this audit was to review all aspects of the City of Ottawa's Fleet Services Branch, including fleet maintenance, life cycle management, and fleet operations. The scope of the audit included an examination of:

1. **Performance** (value-for-money) – to examine management practices, goals and objectives, controls and monitoring and reporting systems across the Branch to assess the economy, efficiency and effectiveness of current operations. This part included:
 - reviewing management structures
 - reviewing staff utilization
 - benchmarking against other municipalities and industry best practices
 - identifying opportunities for efficiencies
 - determining adequacy of performance measurement and reporting
 - determining adequacy of inventory controls and safeguarding of City assets.
2. **Compliance** – to determine if the Branch is conforming to all laws and regulations that govern its operations, including all relevant legislation and spending authorities contained in the annual budget.
3. **Financial Management** – to examine the financial results of operations against short- and long-term plans and validating the reliability of financial systems including revenue collection, cost recovery structure and controls.

Findings

As a general statement, it would be fair to mention that Fleet Services has adopted many of the industry's best practices, for example:

1. Business model

- Most public fleet managers in North America would recognize the virtues of a Municipal Enterprise, a Special Operating Agency or any other form of internal business unit with a chargeback mechanism and zero based budgets. Ottawa Fleet Services, with its Centre of Expertise concept, operates under a very similar mode.

2. Asset management

- Lifecycle management: Fleet understands the concept and apparently tries to apply the theory to its replacement programs

- Replacement funding: Fleet has implemented a replacement reserve concept to secure proper annual replacement funding
 - Remarketing: Professional auctioneer services (Adesa) handle all municipal remarketing transactions which normally represents a good way to maximize resale revenues
3. **Fuel management**
- Automated fuel terminals: Major project underway
4. **Maintenance management**
- Off-hour shifts: Some evening and night shifts in operation
5. **Parts management**
- Computerized inventory
6. **Systems**
- Data available for analysis
7. **Administration**
- Most process owners are clearly identified
 - Organization is well documented
 - Service Level Agreements are in place
 - Self insurance

Many of the best practices are still not implemented. Performance has to be measured and compared and finally, many issues were raised during our interviews and confirmed with our analyses. These issues are as follows:

Municipal Fleet Performance

- **Vehicle Standards:** Vehicle standards need to be established and deviation from low-cost standards should not be made.
- **Fleet size:** The overall number of vehicles used by Ottawa as well as their average annual utilization fall within expectations but up to 259 cars are used less than their economical break-even point.
- **Fleet age:** The average age of the fleet is 6.5 years for vehicles and 5.2 years for machinery. While this may seem old to laymen, municipal fleets are typically much older and the age of the fleet from our surveyed municipalities ranged between 8 - 12 years. Since municipal vehicles are typically of low usage and relatively customized with low resale values, total lifecycle costing models tend to

support long replacement cycles. Short replacement cycles might be economically sound but only if the extra amortization costs are offset by lower maintenance costs. Since the fleet is relatively younger, we expect lower maintenance costs.

- **Maintenance costs:** The maintenance costs are generally lower than average for most categories except medium and heavy trucks which are costing 15% more than our sample. This gap represents a potential savings of approximately \$574,000 per year compared to the benchmark.
- **Fuel costs:** A major project is underway for installing automated fuel sites across the City. Fuel is often the second largest fleet cost after depreciation so it needs to be tracked closely.
- **Vehicle abuse:** Over \$900,000 of expenses caused by misuse and abuse of equipment in 2005 without any specific actions undertaken to minimize this amount.
- **Preventive maintenance:** Breakdowns and operator reports represent 41% of the mechanics' workload. Only 46% of the maintenance expenses are of preventive nature whereas, ideally, up to 80% should be planned maintenance.
- **Outsourcing:** Ottawa outsources 32% of its fleet maintenance, which represents twice as much work as our benchmark survey, without any evidence of cost comparisons. Much of this outsourcing was done without a competitive procurement process.
- **Productivity:** Productivity of the mechanics is not measured even though the systems have the capacity to compile all the data.
- **Work Orders:** The work order system (M4 by Maximus) in place since 2001 is not fully utilized.
- **Inventory and parts management:** The inventory turnover is low at 1.2 times per year which is two to three times below the norm. Mechanics complain about waiting times at the counter. Mechanics have access to stores after hours and controls are weak, relying solely on self-reporting. Many parts are outside the inventory and outside control of stores.
- **Supervision and support:** The level of supervision and support is at 27%. This ratio is comparable with documented benchmarks.
- **Customer satisfaction:** Some customers are not satisfied with Fleet Services and have voiced their opinion during the audit, yet no means of collecting comments or measuring customer satisfaction are in place.
- **Accountability:** Accountability for fleet size and costs is shared between Fleet Services, its suppliers and its clients. Fleet Services perceives its role as a service provider serving clients' needs and relies mostly on chargeback as a self-

regulating mechanism. The result is a fleet that may be larger than required, a budget overrun of \$10 million for 2005 and no one is really accountable.

- **Information systems:** Fleet Services is still debating whether it should use SAP, the standardized municipal ERP system currently used to manage Transit's maintenance or M4, a specialized fleet management software used for Municipal fleet maintenance. Fleet Services uses the two systems in parallel. This issue was previously raised in a 2003 audit conducted by the former Audit and Consulting Services Branch at the City.

Transit Fleet Performance

Performance indicators are not tracked systematically. Nothing indicates a major performance gap in general but St. Laurent Depot (St. Laurent) may need more attention.

1. **Bus utilization:** Transit Fleet's average utilization, at over 61,000 km/year/bus, is 16% higher than our benchmark survey and is over 35% higher than the cities of Quebec or Montreal.
2. **Fleet age:** Transit Fleet's average age is comparable with other surveyed transit operators.
3. **Staff size:** The number of buses per employee, at 2.8, is comparable with other transit operators.
4. **Supervisor ratio:** The ratio of supervision at 6% is comparable to our survey.
5. **Kilometre per employee:** Transit Fleet is getting over 172,000 km/employee/year, which is 19% better than our survey.
6. **Shop space:** Transit has an average of 13.4 buses per bay, which is 30% higher than the norm.
7. **Parts-labour ratio:** A ratio of 44%-56% is in line with expectations.
8. **Cost/kilometre:** At \$0.85, Transit Fleet is higher than the global average of our survey but outperforms large operators like Quebec or Montreal cities.
9. **Labour rate:** At \$31.76 per internal labour hour, the rate is within standards.

Even though overall performance is good, our analyses nonetheless revealed a few problems:

1. **Missing data:** Data is not available to calculate downtime or reliability of the buses or productivity of the mechanics.
2. **Parts management:** Inventory may be twice as large as comparable jurisdictions at \$13.6 million. Also, approximately \$1 million worth of new parts and reconditioned

components lay around the St. Laurent shop and are outside of the official inventory.

3. **Parts management:** There is a variance of \$19.4 million between Transit Fleet and Material Management regarding annual spending on parts.
4. **Succession planning:** Lists of employees were not made available for analyses but interviews confirmed that the average age of mechanics is approaching 50 years and that succession has to be better prepared.
5. **Maintenance practices:** A number of practices differ from best practices, namely:
 - preventive maintenance programs for bodies;
 - engine failures and reconditioning;
 - re-occurring bus fires,
 - component reconditioning; and
 - bus refurbishing.
6. **Bus Fires:** The number of documented bus fires (33) is a major concern. There is no documented risk assessment strategy to address this issue.

Compliance Issues

The following issues have been identified:

- Some confusion on responsibilities of each party with respect to circle checks and repairs;
- Unclean and congested work environment at the St. Laurent facility;
- Array of legal issues arising from improper use of fleet facilities – All related to mechanics working on their personal vehicles;
- Statutory and regulatory interpretation – Employees accountable are not well versed on the meaning of the many regulations;
- Environmental Waste – Some confusion on who is responsible for what;
- Insufficient training, especially for equipment and heavy vehicle operators;
- Licensing requirements – Confusion on who is responsible for operator licensing;
- Driver abuse and accident management;
- Operating licenses for garages – Vast confusion on who is responsible; and
- Labour issues – Supervisors and mechanics belonging to the same union.

Financial Issues

Systems and processes in place certainly have the capacity to handle all financial aspects according to best practices. Yet, some issues were identified during analyses:

1. **Budget variance:** The final budget adopted by Council in February 2005 showed a variance of \$13.6 million. At year end 2005, Fleet Services actually exceeded its budget by \$10.6 million which represents a variance of 7%, significantly more than the benchmark of 2.5%. Numerous reasons are given to explain the variance but ultimately, Fleet Services is not held accountable and future overruns are likely to reoccur.
2. **External fuel:** Even though the City has a full network of on-site fueling stations, over \$3.4 million worth of fuel is being purchased at retail stations at a premium cost of 8 to 13 cents per liter. This practice is costing the City over \$459,000 in additional fuel cost.

Recommendations

Recommendation 1

That Fleet Services continue reporting vehicle utilization regularly but focus on identifying units that are used less than their respective break-even point. Specifically,

- (a) **Determine break-even points between owning a City vehicle and other transportation alternatives (minimum number of kilometres/year, number of days, etc.);**
- (b) **Fleet Services has determined thresholds for cars but that same exercise should be repeated with other vehicle categories;**
- (c) **That end users be held accountable to justify the identified low use vehicles directly to Council.**

Management Response

1(a)/(b): Management agrees with these recommendations. These practices have been followed since amalgamation.

1(c): Management agrees with the recommendation. Fleet Services will provide the appropriate information, to Deputy City Managers, to enable them to take appropriate action.

Recommendation 2

That Fleet Services:

- (a) **Revise its replacement criteria using total lifecycle costing, which may result in extended lifecycles;**
- (b) **Elaborate a sustainable replacement plan based on documented criteria instead of theoretical lifecycles; and**

(c) Quantify all impacts of delaying replacements.

Management Response

2(a)/(b): Management agrees with this recommendation. Management currently submits a sustainable vehicle replacement plan through the Long Range Financial Plan. Council determines affordable funding levels during annual budget cycles. Fleet Services vehicle lifecycles are based on industry standards; the City fleet is older than these standards as supported by independent analysis. There is a process of assessing replacement priority that considers age, usage, condition, cost and operational needs. Fleet Services will commence a process of determining economic life by implementing the equivalent annual cost (EAC) methodology through phases in 2007, starting with identifying the best opportunity for savings and priority identification by end of Q3 2007. This process may lead to shorter or longer lifecycles.

2(c): Management agrees with this recommendation. Since 2005 Fleet Services has identified impacts of delayed replacements in the annual replacement report to Council in advance of budget deliberations and will continue to do so.

Recommendation 3

That Fleet Services complete the implementation of its new fuel management system and start monitoring fuel consumption and identify and investigate vehicles consuming more than expected.

Management Response

Management agrees with this recommendation and this practice has been underway since 2005. As well, Fleet Services is currently in the process of completing the standardized fuel management system for all City owned fuel sites, which will automatically perform checks relating to fuel consumption. The target date for completion is Q4 2007.

Since 2002, fuel usage per vehicle has been recorded and included in the monthly billing. High fuel consumption is noted, tracked and reported.

Recommendation 4

That Fleet Services review its maintenance and repair cost performance for heavy and medium trucks.

Management Response

Management agrees with this recommendation. In 2007 Fleet Services will expand its benchmarking efforts. On top of the internal performance measures and those included in OMBI, Fleet Services is going to be searching across Canada for additional national benchmarks. Over the course of the past two years, Fleet Services has been leading the benchmarking initiative for the Canadian Association

of Municipal Fleet Managers (CAMFM). In the Q3 2007, CAMFM will mark its first year of comparing fleet measures across the nation.

Recommendation 5

That Fleet Services:

- (a) Establish benchmarks, Key Performance Indicators (KPIs) and target performance levels, identify key success factors, identify gaps and investigate exceptions;**
- (b) Should implement a dashboard or balanced scorecard system to track all KPI's on a regular basis and increase accountability of the organization;**
- (c) Document vehicle abuses and elaborate strategies to minimize the costs related to misuse; and**
- (d) Elaborate an action plan to reduce the number of breakdowns and operator reports by reviewing preventive maintenance programs and measuring work quality in terms of Mean Time Between Failures (MTBF) or downtime and drilling down per category, per garage or per user groups until the root causes are identified.**

Management Response

5(a)/(b): Management agrees with this recommendation and it has already been implemented. The branch has been and will continue to work with OMBI and CAMFM (Canadian Association Of Municipal Fleet Managers) to establish and report on fleet performance benchmarks. The branch presently reports on 17 performance measures with OMBI and 19 with CAMFM. Service performance is monitored and reported on a daily basis as part of our dashboard or scorecard system.

5(c): Management agrees with this recommendation and it has already been implemented. The branch has been reporting vehicle abuse to operating departments monthly since 2005, however it is the responsibility of the operating department to take corrective action. A new initiative is being launched in Q2 of 2007 by the Fleet Services branch to review monthly abuse statistics with client departments to find out the root cause of the abuse/misuse and take corrective action. Both the Fleet Maintenance and Fleet Operator Training divisions will participate in these reviews.

5(d): Management agrees with this recommendation. Fleet Services currently does failure analysis on a case-by-case basis to meet known problems. With the implementation of the new FMIS, a systematic review of mean times between failures will be established. Implementation is scheduled for end of Q2 2008.

Recommendation 6

That Fleet Services evaluate its level of outsourcing and undertake a comprehensive review of the workload of all the shops based on benchmarks and budgeted number of maintenance hours per year per vehicle categories. Even though that exercise may have

been done at amalgamation, the level of outsourcing as well as the number of mechanics per vehicle differ from comparable organizations, the situation has evolved since amalgamation and accurate data is now available to verify the original estimates. The use of activity based costing methods is highly recommended to determine which activity should remain in-house.

Management Response

Management agrees with this recommendation. The recommendation will be reviewed as part of the Branch Process Review scheduled to be undertaken in 2007.

Recommendation 7

That Fleet Services set productivity targets per mechanic in three ways:

- (a) Establish Vehicle Equivalent (VE) standards per mechanic based on NAFA's averages. Allocate annual hour budgets per vehicle based on the same VE method and track budget variances;**
- (b) Establish standard times per major activity based on Mitchell's OnDemand flat rate standards, American Trucking Association (ATA) standards or other recognized time estimating guides and track variances; and**
- (c) Record and compile all billable and non-billable hours on work orders and set a target of at least 60% of paid hours.**

Management Response

7(a): Management agrees with this recommendation. Fleet Services establishes the needs for mechanics based on an assessment of actual cost applied against growth equipment. This option will be examined for analysing our structure during the course of this year.

7(b): Management agrees with this recommendation. It was implemented in 2006.

7(c): Management agrees with this recommendation. Fleet Services has been recording billable/non-billable hours since 2001 and is well above the industry benchmark of 60%. The total 2006-year benchmark for this category is at 68%. No further action is required on this recommendation.

Recommendation 8

That Fleet Services, with Supply Management, optimize the supply chain and logistics of spare parts in order to increase the turnover ratio up to the standards.

Management Response

Management does not agree with this recommendation. The Auditor has correctly indicated that turnover rates are a controlling characteristic indicative of the performance of the supply chain process. However, Materials Management is concerned that the Auditor has too narrowly interpreted or misapplied the components of the equation yielding an incorrect turnover rate that would become a

standard going forward in evaluating inventory performance. This will have very real effects on service to the public if blindly implemented. Materials Management are of the opinion, that the rate should be evaluated against comparable sized fleets taking care to recognize clearly the fleet composition and characteristics.

Recommendation 9

That Fleet Services adopt a proactive approach and reduce interpretation by documenting the levels of service expected from each client and by measuring satisfaction levels more accurately.

Management Response

Management agrees with this recommendation and it is already the practice. Fleet Services management meets regularly with the management teams of their largest clients (Surface Operations, Fire Services, Transit Services and Paramedic Services). This presents a forum for discussion of upcoming issues as well as resolution or identification of the way forward for any ongoing issues. In addition, the Service Level Agreements (SLA's) clearly outline the responsibilities and accountabilities of each party as well as documenting escalation processes for any unresolved issues.

Recommendation 10

That Fleet Services assign an account manager to clients and produce accurate and timely reports measuring different parameters such as:

- (a) Days of downtime;**
- (b) Compliance to inspection schedules (preventive maintenance);**
- (c) Customer's survey and customer satisfaction levels; and**
- (d) List of complaints received and actions taken.**

Management Response

Management agrees with this recommendation. Fleet Services retained KPMG in 2003 to build a client relationship model and perform a customer satisfaction survey. While no specific account manager was necessarily assigned, each functional area in the branch has a person assigned to the appropriate level in the client's branch.

A multitude of reports are provided to clients, monthly, quarterly, and at the end of each year. The information contained in these reports include: actual expenditures, budget forecasting, training provided, collisions tracked, fuel consumed, kilometres travelled, vehicle under utilization, and much more. For participating clients, monthly management meetings are held where issues are raised, addressed, and the outcomes documented. Fleet Services agrees another customer satisfaction survey is warranted and will schedule for completion in Q4 2008.

Recommendation 11

That Fleet Services join Materials Management in a combined effort to:

- (a) Revise store staffing requirements;**
- (b) Improve training for storekeepers;**
- (c) Measure waiting times at the counter and set targets acceptable to Fleet Services;**
- (d) Document and eliminate clandestine inventory; and**
- (e) Introduce performance measures for stores and include them in a service level agreement with Fleet Services.**

Management Response

11(a): Management does not agree with this recommendation. Management agrees with the recommendation however it disagrees that it can be implemented within existing resources. Approval will be requested for an additional \$180K Operating Budget funding in 2008 in order to allow Municipal Materials Management to hire three (3) Purchasing Stores Clerks to support currently unattended technician shifts. Presently, there are not any available resources to transfer staff from a regular day shift to an evening or night assignment.

11(b): Management does not agree with this recommendation. Management agrees with the recommendation, however it disagrees that it can be implemented within existing resources. Training is required in order to maximize the efficiencies of SAP and improve training in other areas of concern to Fleet Services. Approval is required for an additional \$100K in the 2008 Operating Budget in order to allow Materials Management to complete this training by January 2009.

11(c): Management does not agree with this recommendation. Management agrees with the recommendation however it disagrees that it can be implemented within existing resources. Materials Management will request approval for one-time Capital Budget funding of \$60K in order to purchase an electronic queuing system and an on-going Operating Budget increase of \$7K is required to cover the life cycle costs for the continued use of the system. It will be completed six (6) months after the receipt of the 2008 budget approval.

11(d): Materials Management agrees with this recommendation. Materials Management will continue to assist Fleet Services by cataloguing and restocking parts that are presented to Materials Management by Fleet Services to be held in inventory.

11(e): Materials Management agrees with this recommendation. Materials Management, in conjunction with Fleet Services, will review requirements and establish service level performance measures.

Recommendation 12**That Fleet Services:**

- (a) Ensure that vehicle log books are used especially for light passenger vehicles and perform random audits to determine how often the vehicle is required. Kilometres may not always represent a good indicator to validate whether a vehicle is justified or not. Unjustifiable vehicles should be reported to Council;**
- (b) Facilitate vehicle pooling by adapting the chargeback model and transferring as many vehicles as possible to a daily rental mode;**
- (c) Improve the “Fleet Analysis Reports” sent out to clients at each period. The reports should focus on performance indicators, identify benchmarks, highlight exceptions and require actions. Indicators may include: Fuel consumption, utilization statistics, misuse, accidents, etc.; and**
- (d) Establish vehicle standards per types of task and discourage deviations from the low cost standards by requiring approval from upper management or Committee of Council.**

Management Response

12(a): Management does not agree with this recommendation. Logbooks are a client responsibility. Fleet Services reports usage whereas the client determines the justification.

12(b): Management agrees with this recommendation. Fleet Services maintains a vehicle pool that clients can access for rental units.

12(c): Management agrees with this recommendation. Fleet Services has been providing reports to clients detailing all the indicators mentioned since 2002.

12(d): Management does not agree this recommendation. Fleet Services uses best practices by developing vehicle specifications based on operational requirements of the client department. The client department is responsible to determine the capability requirement and Fleet Services is responsible to prepare a specification to meet that requirement in a cost-effective manner. The standard specification is for a base model in each category. Options are added depending on specific application or as a result of departmental request with justification and authorization. Options not supported by Fleet Services are escalated to the Executive Management Team, and if necessary, Council for approval.

Recommendation 13

That Fleet Services perform a basic survey to evaluate the number of daily calls in and out of the help desk. After statistics are compiled, a business case should be made to acquire an appropriate phone system and adjust staffing to cover the evening and night shifts.

Management Response

Management agrees with this recommendation and it has been implemented. In conjunction with ITS, Fleet Services has investigated the number of calls to the City's

Call Centre and the possibility of a call management system. From the analysis made on the light traffic pattern on the call centre, it was determined that the system is adequately equipped to handle the volume of calls and that the investment of \$19K in a call management system is not economically justifiable. However the situation will be continually monitored and the necessary action will be taken should it become economically justifiable. No further action will be taken on this recommendation.

Recommendation 14

That Fleet Services make a decision between M4 and SAP as recommended in the 2003 audit.

Management Response

Management agrees with this recommendation. The decision has been made to move to a single Fleet Management Information System, M5. Implementation is currently underway and is planned to be completed by the end of Q4 2007.

Recommendation 15

That Fleet Services establish a series of performance indicators, track them systematically in a dashboard and be accountable for them.

Management Response

Fleet Services agrees with this recommendation. Fleet Services already has some established performance indicators, namely those that are part of OMBI (Ontario Municipal CAO's Benchmarking Initiative) and some that are strictly internal to the City of Ottawa (including one dashboard measure). Fleet Services is leading the development of other indicators with CAMFM (Canadian Association of Municipal Fleet Managers). With the arrival of a single Fleet Management Information System, Fleet Services will be in a position in 2008 to expand the dashboard indicators.

Recommendation 16

That Materials Management and Fleet Services reconcile their inventory numbers in terms of parts issued to Fleet and parts assigned to buses and municipal vehicles.

Management Response

Management agrees with this recommendation. An analysis of inventory issues against fleet receipts was completed in mid April 2007 that reconciled all variances between Materials Management and Fleet Services. In the course of the 2007 Audit of the Inventory Management Process, Management will provide additional analysis on specific items discussed in the variance reconciliation provided to the Auditor General.

Recommendation 17

That Materials Management consolidate and repatriate all parts, new, used and remanufactured, within the official inventory.

Management Response

Management does not agree with this recommendation. Management agrees with the recommendation, however it disagrees that it can be implemented within existing resources. Materials Management believes that the used and remanufactured material currently residing outside their span of control should be moved from Fleet Services control into a secure environment and recorded in the SAP system. The opportunity to create a secure and effective storage area will present itself with the opening of the Swansea Rebuild area under the Fleet CapaCity Optimization project. Three (3) new staff positions at a cost of \$183K were approved in the 2007 Operating Budget. Additional funding requests of \$140K are planned for 2008 for racking and equipment to create a clean, safe and controlled storage environment. Materials Management will assume control and movement of the materials in 2007, where appropriate, following a risk assessment and cost-benefit analysis. Full and secure control of the appropriate stock will occur by the end of 2008 following budget approval.

Recommendation 18

That Fleet Services and Employee Services develop a strategy for succession planning as Transit may have a shortage of qualified mechanics within a few years.

Management Response

Management agrees with this recommendation. This skill shortage is an industry-wide issue. The ongoing replacement of mechanics has already been identified as a component of the City's Succession Management/Talent Management Strategy. Fleet Services and Employee Services branches are currently working together on succession strategies including expansion of the apprenticeship program.

Recommendation 19

That Fleet Services implement a preventative maintenance program for bodies and structures.

Management Response

Fleet Services agrees with this recommendation.

A Materials/Mechanical engineer was hired in 2005 to develop a preventative corrosion protection program for bus chassis and structures. This program for all the transit bus fleet is under development, with support from other transit agencies such as STO (Gatineau) and STM (Montreal), as well as bus manufacturers.

In the interim, Fleet Services has implemented an inspection protocol for its newest transit bus models, D60LF (227 buses) and D40i (239+ buses). Inspections have been established in 2005 and updated in 2006, and meet the bus builder recommended preventative maintenance schedule.

Recommendation 20

That Fleet Services elaborate and implement a risk assessment strategy and a clear procedure in case of bus fires due to malfunction or poor design.

Management Response

Management agrees with this recommendation. The documentation of the risk assessment strategy will be completed by September 2007.

Recommendation 21

That Fleet Services and Supply Management determine the exact costs of reconditioning components (Activity Based Costing) and charge all the reconditioned parts to the inventory.

Management Response

Management agrees with this recommendation. However, costing the components is complex and needs further review by Supply Management, Accounting and Reporting and Fleet Services. This work will be completed by the end of 2008.

Recommendation 22

That Fleet Services elaborate and document its refurbishing program.

Management Response

Management agrees with this recommendation. A procedure is already in place for determining which buses will be reconditioned and on what frequency. A spreadsheet detailing past, present and future activity exists, however the process has not been documented. Fleet Services will undertake to complete this documentation of the process by Q3 2007.

Recommendation 23

That Fleet Services document the preventative maintenance program and train and inform the mechanics.

Management Response

Management agrees with this recommendation. Transit Fleet's Preventative Maintenance program is presently under review. Some changes have already been implemented and it is anticipated that further modifications will be introduced by Q3 2007. Training is being carried out as part of the review as is the use of working groups to optimize the programs. Also, the implementation of a new Fleet

Management Information System (FMIS) in the latter part of Q4 2007 will provide Transit Fleet Maintenance with the tool necessary to better manage the program.

Recommendation 24

That Fleet Services redirect resources to planned repairs and routine maintenance and review its procedures pertaining to circle checks and routine maintenance to ensure that the individuals responsible for performing said operations are properly versed with their responsibilities and make use of the training programs available.

Management Response

Management disagrees with this recommendation. Clear accountabilities already exist for operators for inspection and repair and they are documented and incorporated in training programs.

No further action needs to be taken on this issue.

Recommendation 25

That the St. Laurent shop be cleaned up.

Management Response

Management does not agree with this recommendation. Cleanliness in the garage is not the issue, however, the crowded work-space does contribute to the untidiness of the garage.

Daily shop maintenance routines performed by Transit Fleet maintenance staff include cleaning their work areas during and upon completion of each bus repair. Area cleaning is also done by Transit Fleet maintenance staff on an as-needed basis and equipment cleaning and maintenance is done on a scheduled basis by RPAM. The St. Laurent garages are well utilized and although crowding of buses and components is a challenge to work around, cleanliness is a priority.

Crowding of most areas will be significantly reduced by the end of 2007 when the major repair operation moves to another garage thereby providing additional storage space for components and cores presently stored in these bays. There will be an opportunity to improve the "area" cleaning component at that time, and action will be taken following this move.

Recommendation 26

That Fleet Services management direct staff to immediately stop any personal vehicle repairs from being carried out. That all employees be re-educated about the details of the City's Code of Conduct requirements and that strict adherence (zero tolerance) to the existing policy be enforced rigorously.

Management Response

Management agrees with this recommendation and it has been implemented. A directive was issued to all staff on July 6, 2006 detailing the prohibitions outlined in the Code of Conduct. Fleet Services has also been monitoring this to ensure ongoing compliance.

Recommendation 27

That Fleet Services commission an easy to read and updateable manual for the ease of reference of managers, mechanics and operators. As an alternative, we recommend that additional training be provided to managers and supervisors about the various regulations and the applicability of the federal and provincial statutes to Fleet Services.

Management Response

Management agrees with this recommendation. Applicability of federal and provincial statutes already forms part of the comprehensive training programs and is incorporated into Fleet's numerous procedures. While no single manual is planned (would be too large to be of use) Fleet will continue to leverage electronic access to up-to-date information. As part of Fleet's move to a single Fleet Management Information System, more information will be accessed via the web (i.e. procedures, vehicle specifications, parts listings, etcetera). In addition, we work directly with our clients to help inform them of changes at the federal/provincial levels and help build solutions to meeting new and changing legislation.

Recommendation 28

That Fleet Services ensure that all managers and senior staff understand their role as it relates to environmental waste disposal.

Management Response

Management agrees with this recommendation. As stated in the audit, this was simply a miscommunication between the staff interviewed and the Auditors. This issue was quickly sorted out and all senior staff and managers do understand the rules as it relates to environmental waste disposal. No further action is required.

Recommendation 29

That Fleet Services reallocate existing resources to the Fleet Driver Training Unit to ensure that all operators are provided with sufficient training. Operator supervisors (clients) should also recommend additional training whenever possible.

Management Response

Management agrees with this recommendation.

Fleet Services, as part of the annual budgeting process, aligns training resources to the client training needs. As a result, two trainers were added in 2006. Fleet

Services training programs are based on legislated and mandated requirements. Additional training resources are not required until 2008.

Recommendation 30

That Fleet Services educate all mechanics and operators regarding their responsibility as it relates to the loss and suspension of category G licenses. Operator education must be strengthened in the following areas:

- **operating a vehicle without a valid license;**
- **consequences for violating the Code of Conduct are severe when compared to reporting a temporary loss of license; and**
- **liability of operating a City vehicle without a valid license relating to personal liability.**

Management Response

Management does not agree with this recommendation. Fleet Services does not have the authority for providing this type of education. Employee orientation at hire, which is the responsibility of the supervisor, is the appropriate place to both review the code of conduct (which is given to each new hire) and all other related issues (including discipline) specific to the job the employee is being hired into.

Recommendation 31

That Fleet Services implement strategies and document a process to reduce the expenses related to misuse and/or repairs caused by abnormal utilization.

Management Response

Management agrees with this recommendation and it has been implemented. The branch has been reporting vehicle misuse to operating departments on a monthly basis since 2005, however it is the responsibility of the operating department to take corrective action. A new initiative is being launched by the Fleet Services to review monthly abuse statistics with client departments to find out the root cause of the misuse and take corrective action. Both the Fleet Maintenance and Fleet Operator Training divisions will participate in these reviews. In addition to the above, Fleet Service reports misuse information annually, at the year-end, customer reports which are provided to the branch Directors as well as the Deputy City Managers to enable them to take appropriate action.

Recommendation 32

That one specific individual be put in charge of all Ministry issued licenses, or as an alternative, have one person responsible for dealing with the Ministry on behalf of Fleet Services.

Management Response

Management agrees with this recommendation and it has been implemented. Fleet Services has consolidated all garage and technician licensing under one (1) person in

Transit Fleet Maintenance (for transit garages) and under one (1) person in Municipal Fleet Maintenance (for municipal garages).

Recommendation 33

That the management members of the unions be bargained out of the existing collective bargaining unit and into a separate unit when the contract is renegotiated in the future.

Management Response

Management does not agree with the recommendation. The Transit Fleet garage supervisors belong to a CUPE local and the staff they supervise belong to an ATU local, therefore a conflict does not exist since supervisory staff are in a different Union. The best-case scenario occurs when any level of supervisory staff is either non-union or from a bargaining unit different than the bargaining unit to which staff belong.

Arbitral jurisprudence allows functional supervisors to be from within the same bargaining unit. Functional supervision can include scheduling and assigning work, as it does in this case. These are not true management responsibilities. The management staff from the MPE group or the garage supervisor's bargaining unit is responsible for the management of disciplinary issues.

Recommendation 34

- (a) That Fleet Services' budgeting process be reviewed to:**
- (b) Reassess its process for informing the appropriate client/business unit of expected budget overruns;**
- (c) Reassess the accountability of each business unit (Fleet Services, Supply Management or Fleet Services' clients) over expenses incurred by Fleet Services;**
- (d) Identify the cost drivers for each of Fleet Services' expenses;**
- (e) Develop tools to measure and track each cost driver; and**
- (f) Allocate each cost driver's responsibility to the appropriate business unit, and incorporate performance measures to the budget of each business units controlling these cost drivers.**

Management Response

Management agrees with the recommendation. The current billing system of charging actual costs to clients does not accurately reflect the allocation of responsibilities for cost drivers. A lease-based system would more accurately reflect these cost drivers, including usage, workshop efficiencies, accident damage and misuse. Fleet Services will investigate the opportunity of moving to a lease-based system by the end of 2008.

Recommendation 35

That Municipal Fleet promotes the use of the City's fuelling stations, review the reasons why some vehicles are being fuelled outside the City's stations, and approve or rectify such practice.

Management Response

Management agrees with the principle of this recommendation. Fleet Services actively promotes the use of City owned fuelling stations. Fleet communicates with drivers via the use of pamphlets provided in all City owned vehicles and by the use of corporate e-mail (for those who have access). City management is also apprised of the benefits of using City owned sites via e-mail, monthly client billing (which shows City vs. retail fuel usage), and quarterly/year end reports which identify the amount of dollars which could have been saved had City-owned fuel stations been used. However, it must be recognized that there are valid operational reasons why the use of City fuelling facilities is not always practical. Further the decision to use City owned fuelling stations is at the discretion of the operating department.

Recommendation 36

That Municipal Fleet renews its standing offers to lock in discounts on fuel purchases.

Management Response

Management agrees with this recommendation. Supply Management has already been working with Fleet Services on this initiative. As well, this past February, a draft of the proposed standing offer was circulated to the fleet group for further input. The RFSO will set-up authorized retail fuel outlets based on set criteria, and a firm discount from the pump price, in relation to urban and rural districts stipulated in the document. The RFSO will be issued on the internet based Merx site during Q2 2007, and it is anticipated that the call-up list will be approved in time for use during the latter part of 2007.

Conclusion

During our analyses conducted during the audit, some important gaps were identified mostly in the application of certain policies as well as in performance measurements. These gaps prompted a total of 36 recommendations. We believe that all the recommendations contained in this report can be implemented without the requirement of additional funds. In fact, implementation of those recommendations should generate savings of over \$1.3 million annually as well as make Ottawa's Fleet Services comparable to the best in class.

Ottawa Fleet Services is an organization that is well documented, it has reached a level that makes it comparable in size with the largest public fleets in North America, and it has all the resources needed to make it comparable in terms of performance as well.

Acknowledgement

We wish to express our appreciation for the cooperation and assistance afforded the audit team by Management.

SOMMAIRE

Introduction

La vérification de Services du parc automobile d'Ottawa était prévue au Plan de vérification de 2006 du vérificateur général de la Ville présenté au Conseil municipal le 15 décembre 2004.

Contexte

En 2005, le parc automobile municipal et le parc de véhicules de transport en commun comptent environ 3 875 unités, dont 907 autobus. Les dépenses de l'année s'élèvent à près de 160 millions de dollars et les dépenses d'immobilisation engagées pour remplacer les véhicules dépassent 50 millions de dollars. Services du parc automobile (SPA) fait partie de Services et Travaux publics et représentent un centre d'expertise qui facture tous ses frais aux services usagers. La Direction des services du parc automobile compte 552 équivalents temps plein (ETP).

La Direction des services du parc automobile offre trois principaux services :

Entretien du parc - 47 p. 100 des dépenses du parc automobile.

- Gestion de sept dépôts d'entretien municipaux qui comptent un inventaire de pièces détachées valant 2,4 millions de dollars ainsi que 84 mécaniciens et autres employés chargés de l'entretien encadrés par 23 personnes, soit un total de 107 ETP.
- Gestion de trois dépôts d'entretien du parc de véhicules de transport en commun qui comptent un inventaire de pièces détachées évalué à 11,3 millions de dollars ainsi que 334 mécaniciens et autres employés chargés de l'entretien.

Gestion de la durée utile du parc automobile : 4 p. 100 des coûts de Services du parc automobile

- Gestion du remplacement, de l'achat et de la cession des véhicules et soutien technique pour l'ensemble de Services du parc automobile.

Opérations : 49 p. 100 des dépenses du parc automobile

- Gestion du ravitaillement en carburant, de l'immatriculation, de l'enregistrement, des systèmes d'information et des procédures administratives générales.

Remarque : D'autres services généraux utilisés ou fournis aux Services du parc automobile ne sont pas intégrés à sa structure même. Ces services comprennent, entre

autres, la gestion des installations et la gestion du matériel. Il convient de noter que le matériel et les fournitures représentaient, à eux seuls, une dépense de 64 millions de dollars pour Services du parc automobile en 2005, mais tous les achats ainsi que la gestion des magasins relèvent des unités de gestion du matériel, où 78 personnes soutiennent les Services du parc automobile (56 pour l'entretien du parc de véhicules de transport en commun et 22 pour l'entretien du parc automobile municipal). Ces ressources complémentaires ne sont pas comptées dans les 552 ETP employés par les Services du parc automobile, mais le coût des pièces détachées est inclus dans les dépenses de SPA.

Portée et objectif de la vérification

Cette vérification avait pour but d'examiner tous les aspects de la Direction des services du parc automobile de la Ville d'Ottawa, y compris l'entretien, la gestion de la durée utile et l'exploitation du parc. La vérification s'étendait aux éléments suivants :

1. **Rendement** (optimisation des ressources) : examiner les méthodes de gestion, buts et objectifs, la réglementation ainsi que les systèmes de suivi et de rapport dans toute la direction afin d'évaluer l'économie, l'efficacité et l'efficacité des opérations actuelles. Il fallait notamment pour ce faire :
 - examiner les structures de gestion;
 - analyser l'utilisation du personnel;
 - établir des comparaisons avec d'autres municipalités et les pratiques exemplaires dans le domaine;
 - définir des opportunités d'améliorer l'efficacité;
 - déterminer la pertinence de la mesure du rendement et du mode de présentation des rapports connexes;
 - déterminer la pertinence du mécanisme de contrôle des stocks et de protection des actifs de la Ville.
2. **Conformité** : déterminer si la direction se conforme à toutes les lois et à tous les règlements qui régissent ses opérations, y compris toute loi applicable et pouvoir de dépenser que renferme le budget annuel.
3. **Gestion financière** : examiner les résultats financiers des opérations par rapport aux plans à court terme et à long terme et valider la fiabilité des systèmes financiers, y compris la perception des recettes ainsi que la structure et les mesures de récupération des coûts.

Constatations

Généralement parlant, on peut dire que Services du parc automobile a adopté un grand nombre des pratiques exemplaires de l'industrie, par exemple :

1. Modèle de gestion

- La plupart des gestionnaires de parcs automobiles publics d'Amérique du Nord reconnaissent les avantages que présente une entreprise municipale, un organisme de service spécial ou toute autre forme d'entité commerciale interne doté d'un mécanisme de facturation interne et d'un budget base zéro. Services du parc automobile d'Ottawa exerce ses activités sous un régime très similaire à partir d'un centre d'expertise.

2. Gestion de l'actif

- Gestion de la durée de vie utile du matériel : Services du parc automobile comprend le concept en question et essaie apparemment d'appliquer cette théorie à ses programmes de remplacement.
- Fonds de remplacement : Services du parc automobile a créé une réserve de remplacement afin d'obtenir la capitalisation annuelle nécessaires au remplacement des véhicules.
- Remise en marché : Des services d'enchères professionnels (Adesa) traitent toutes les transactions municipales de remise en marché qui normalement représentent un bon moyen d'augmenter le plus possible les recettes de revente.

3. Gestion du carburant

- Postes de ravitaillement en carburant automatisés : important projet en cours.

4. Gestion de l'entretien

- Quarts de travail en dehors des heures normales de travail : certains quarts sont travaillés le soir et la nuit.

5. Gestion des pièces détachées

- Inventaire informatisé

6. Systèmes

- Données disponibles pour analyse

7. Administration

- La plupart des maîtres du processus sont clairement identifiés.
- La structure est bien documentée.
- Des accords sur les niveaux de service existent.
- Un mécanisme d'autoassurance existe.

Bon nombre de pratiques exemplaires n'ont toujours pas été mises en œuvre. Le rendement doit être mesuré et comparé; enfin, de nombreux problèmes ont été soulevés au cours de nos entrevues et confirmés après analyse. Ces problèmes sont les suivants :

Rendement du parc automobile municipal

1. **Normes régissant les véhicules :** Des normes régissant les véhicules doivent être établies et aucune dérogation aux normes à faible coût ne devrait être permise.
2. **Taille du parc :** Le nombre total de véhicules utilisés par la Ville ainsi que leur taux d'utilisation annuel moyen respectent les prévisions, mais au moins 259 véhicules sont utilisés à un taux inférieur à leur seuil de rentabilité.
3. **Âge du parc automobile :** L'âge moyen est de 6,5 ans pour les véhicules et de 5,2 ans pour l'équipement. Alors que cet âge peut paraître avancé aux yeux d'un profane, les parcs automobiles municipaux sont en général plus âgés, la vérification ayant révélé que l'âge moyen de ces parcs se situait entre 8 et 12 ans dans d'autres municipalités. Comme les véhicules municipaux sont généralement peu utilisés, adaptés aux besoins de leurs acquéreurs et assortis de faibles valeurs de revente, les modèles de prévision des coûts pendant toute la durée utile ont tendance à favoriser de longs cycles de remplacement. Sur le plan économique, les cycles de remplacement courts sont peut-être meilleurs, mais uniquement si les frais d'amortissement supplémentaires sont compensés par des coûts d'entretien plus faibles. Comme le parc automobile est relativement récent, les frais d'entretien devraient être peu élevés.
4. **Dépenses d'entretien :** Les frais d'entretien sont en règle générale inférieurs à la moyenne dans la plupart des catégories de véhicules, exception faite des camions poids moyen et poids lourd qui coûtent 15 p. 100 de plus que ceux compris dans notre échantillon. Cet écart représente une économie potentielle d'environ 574 000 \$ par an par rapport au point de référence.
5. **Coûts du carburant :** Un projet d'installation de postes de ravitaillement en carburant automatisés dans la Ville est en cours. Le carburant est souvent le deuxième poste au budget du parc automobile après l'amortissement, d'où l'importance de suivre de près ce poste de dépense.
6. **Utilisation abusive des véhicules :** La mauvaise utilisation et l'utilisation abusive de véhicules ont coûté plus de 900 000 \$ en 2005 sans qu'aucune mesure précise n'ait été prise pour réduire cette somme.

7. **Entretien préventif** : Les pannes et les rapports des chauffeurs représentent 41 p. 100 de la charge de travail des mécaniciens. Seules 46 p. 100 des dépenses d'entretien sont de nature préventive alors qu'au moins 80 p. 100 devraient l'être idéalement.
8. **Sous-traitance** : La Ville d'Ottawa sous-traite 32 p. 100 des travaux d'entretien de son parc, ce qui représente deux fois plus de travail par rapport à notre étalonnage alors qu'il n'y a eu aucune comparaison de coût d'après ce que nous avons pu constater. Une grande partie de cette sous-traitance est effectuée sans appel d'offres.
9. **Productivité** : La productivité des mécaniciens n'est pas mesurée même si les systèmes existants permettent de compiler toutes les données.
10. **Bons de travail** : Le système de bons de travail (M4 de Maximus) qui existe depuis 2001 n'est pas utilisé à son plein potentiel.
11. **Gestion des stocks et des pièces détachées** : Le taux de rotation des stocks est faible puisqu'il est à 1,2 fois par an, taux de deux à trois fois inférieur à la norme. Les mécaniciens se plaignent des temps d'attente au comptoir. Ils ont accès aux magasins après les heures de travail et les systèmes de contrôle sont faibles, puisque les mécaniciens se contentent de déclarer eux-mêmes ce qu'ils ont pris. Un grand nombre de pièces détachées ne font pas partie de l'inventaire et ne sont pas placées sous le contrôle des magasins.
12. **Encadrement et aide** : Le niveau d'encadrement et d'aide se situe à 27 p. 100, pourcentage comparable aux étalonnages établis.
13. **Satisfaction de la clientèle** : Certains clients ne sont pas satisfaits de Services du parc automobile et ont exprimé leur opinion au cours de la vérification; il n'existe pourtant aucun moyen permettant de recueillir des observations ou de mesurer la satisfaction du client.
14. **Responsabilisation** : La responsabilité de la taille et des coûts du parc automobile incombe à Services du parc automobile, à ses fournisseurs et à ses clients. Services du parc automobile estime que son rôle est celui de fournisseur de services répondant aux besoins de ses clients et recourt essentiellement à la facturation interne comme mécanisme d'autoréglementation. Il en résulte un parc automobile sans doute plus important que nécessaire, un dépassement de budget de 10 millions de dollars en 2005 et sans que personne en assume la responsabilité.
15. **Systèmes d'information** : Services du parc automobile se demandent toujours s'ils devraient utiliser le système SAP, système de gestion intégrée des ressources (GIR) municipal normalisé servant actuellement à gérer l'entretien des véhicules de transport en commun ou encore le système M4, logiciel de gestion de parc automobile spécialisé utilisé pour l'entretien du parc automobile municipal. Services du parc automobile utilise ces deux systèmes en parallèle. Cette question avait déjà été soulevée lors d'une vérification en 2003 effectuée par l'ancienne Direction des services de vérification et de consultation de la Ville.

Rendement du parc de véhicules de transport en commun

Les indicateurs de rendement ne sont pas analysés systématiquement. Si rien ne permet de déceler un gros écart de rendement en général, l'entrepôt St-Laurent (St-Laurent) devrait, lui, faire l'objet d'une attention plus soutenue.

1. **Utilisation des autobus :** L'utilisation moyenne des véhicules de transport en commun s'établit à plus de 61 000 km par an par autobus, soit 16 p. 100 de plus que pour les véhicules de notre étalonnage et au-delà de 35 p. 100 de plus que les villes de Québec ou de Montréal.
2. **Âge du parc automobile :** L'âge moyen des véhicules de transport en commun est comparable à celui relevé chez les compagnies de transport en commun étalonnées.
3. **Taille de l'effectif :** Le nombre d'autobus par employé, établi à 2,8, est comparable à celui d'autres compagnies de transport en commun.
4. **Coefficient de supervision :** Le coefficient de supervision, qui est de 6 p. 100, est comparable à celui de notre étalonnage.
5. **Kilométrage par employé :** Chaque année, chaque employé effectue plus de 172 000 km, ce qui est supérieur de 19 p. 100 aux données de notre étalonnage.
6. **Superficie des ateliers :** Le parc de véhicules de transport en commun compte en moyenne 13,4 autobus par travée, soit 30 p. 100 de plus que la norme.
7. **Coefficient pièces détachées main-d'œuvre :** Le coefficient qui se situe entre 44 et 56 p. 100 correspond à la norme.
8. **Coût au kilomètre :** À 0,85 \$, le parc de véhicules de transport en commun coûte plus cher que la moyenne globale de notre étalonnage, mais surclasse de grands transporteurs comme ceux des villes de Québec ou de Montréal.
9. **Taux horaire de la main-d'œuvre :** À 31,76 \$ l'heure de main-d'œuvre interne, ce taux correspond à la norme.

Même si le rendement global est bon, nos analyses ont cependant décelé quelques problèmes :

1. **Données manquantes :** Les données permettant de calculer la durée d'indisponibilité, la fiabilité des autobus ou la productivité des mécaniciens ne sont pas disponibles.
2. **Gestion des pièces détachées :** Il se peut que les stocks, évalués à 13,6 millions de dollars, soient deux fois plus importants que ceux d'autres transporteurs comparables. De plus, de nouvelles pièces détachées et des pièces remises à neuf d'une valeur d'environ un million de dollars traînent dans le dépôt St-Laurent et ne font pas partie de l'inventaire officiel.

3. **Gestion des pièces détachées :** Il existe un écart de 19,4 millions entre les dépenses annuelles en pièces détachées citées par les gestionnaires du parc de véhicules de transport en commun et les responsables de l'unité de gestion du matériel.
4. **Planification de la relève :** La liste des employés ne nous a pas été communiquée pour que nous puissions effectuer des analyses, mais les entrevues ont confirmé que l'âge moyen des mécaniciens était d'environ 50 ans et que la relève devrait être mieux préparée.
5. **Opérations d'entretien :** Un certain nombre d'opérations diffèrent des pratiques exemplaires, notamment :
 - les programmes d'entretien préventif des carrosseries;
 - les pannes et la remise à neuf de moteurs;
 - les incendies récurrents dans les autobus;
 - la remise à neuf des pièces détachées;
 - la remise à neuf des autobus.
6. **Incendies dans les autobus :** Le nombre d'incendies attestés dans les autobus (33) est préoccupant. Il n'existe aucune stratégie d'évaluation des risques établie pour régler ce problème.

Problèmes de conformité

Les problèmes suivants ont été recensés :

- La responsabilité de chaque partie en ce qui concerne les tours d'inspection et les réparations est floue.
- Le milieu de travail à l'entrepôt St-Laurent est malpropre et encombré.
- L'utilisation inappropriée des installations du parc automobile soulève de nombreuses questions d'ordre juridique, toutes rattachées au fait que les mécaniciens effectuent des réparations sur leur propre véhicule.
- Interprétation des lois et des règlements – Les employés responsables ne connaissent pas bien la signification de nombreux règlements.
- Déchets dangereux – La confusion règne relativement aux responsabilités de chacun.
- La formation est insuffisante, en particulier celle donnée aux chauffeurs de poids lourds et de véhicules servant à déplacer du matériel.
- Exigence de permis – La confusion règne en ce qui concerne l'instance responsable des exigences des permis de chauffeur.
- Agression contre les chauffeurs et gestion des accidents.

- Permis d'exploitation des garages – Une grande confusion règne en ce qui concerne l'instance responsable.
- Questions syndicales – Les superviseurs et les mécaniciens appartiennent au même syndicat.

Problèmes financiers

Les systèmes et processus existants peuvent indéniablement traiter tous les aspects financiers selon les pratiques exemplaires. Certains problèmes ont cependant été décelés au cours des analyses effectuées :

1. **Écart budgétaire** : Un écart de 13,6 millions de dollars figurait au budget adopté par le Conseil municipal en février 2005. À la fin de l'année 2005, Services du parc automobile a en fait dépassé son budget de 10,6 millions de dollars, ce qui représente un écart de 7 p. 100, chiffre bien supérieur l'étalonnage de 2,5 p. 100. De nombreuses raisons nous ont été données pour expliquer cet écart mais au bout du compte, Services du parc automobile n'en est pas tenu responsable et des dépassements de budget risquent de se reproduire.
2. **Ravitaillement externe en essence** : Alors que la Ville possède un réseau complet de postes de ravitaillement en essence sur place, plus de 3,4 millions de dollars d'essence sont achetés auprès de détaillants à un prix supérieur de 8 à 13 cents le litre. Cette pratique coûte à la Ville plus de 459 000 \$ en essence supplémentaire.

Recommandations

Recommandation 1

Que Services du parc automobile continue de communiquer le taux d'utilisation des véhicules régulièrement, mais s'attache à recenser les véhicules qui sont utilisés en dessous de leur seuil de rentabilité. À cette fin :

- (a) **Services du parc automobile doit établir les seuils de rentabilité entre la possession d'un véhicule municipal et d'autres moyens de transport (nombre minimum de kilomètres par an, nombre de jours, etc.);**
- (b) **Services du parc automobile, qui a établi des seuils pour les voitures, doit faire cet exercice pour d'autres catégories de véhicules;**
- (c) **l'utilisateur final doit être tenu de justifier le faible taux d'utilisation des véhicules directement auprès du Conseil municipal.**

Réponse de la direction

1(a)/(b) : La direction est d'accord avec ces recommandations. Ces procédés sont utilisés depuis la fusion.

1(c) : La direction est d'accord avec cette recommandation. Services du parc automobile transmettra les renseignements indiqués aux directeurs municipaux adjoints pour leur permettre de prendre les mesures voulues.

Recommandation 2

(a) Que Services du parc automobile révise ses critères de remplacement au profit d'un calcul des coûts totaux durant la vie utile, ce qui pourrait prolonger cette durée.

(b) Que Services du parc automobile établisse un plan de remplacement durable fondé sur des critères établis et non sur des cycles de vie théoriques.

(c) Que Services du parc automobile quantifie tous les effets qu'aurait le report de remplacements.

Réponse de la direction

2(a)/(b) : La direction est d'accord avec ces recommandations. La direction présente actuellement un plan de remplacement de véhicules durable dans le cadre du Plan financier à long terme. Le Conseil municipal établit les niveaux de financement abordable au cours des cycles budgétaires annuels. La durée utile des véhicules de Services du parc automobile est fondée sur les normes de l'industrie; selon une analyse externe, le parc automobile de la Ville est plus ancien que ce que prévoient ces normes. Un processus permet d'établir la priorité des remplacements, processus qui tient compte de l'âge, du taux d'utilisation et de l'état des véhicules, de leur coût de remplacement et des besoins opérationnels. Services du parc automobile commencera à déterminer la durée économique de ces véhicules en adoptant progressivement en 2007 la méthode des frais annuels équivalents (FAÉ), ce qui supposera de recenser d'abord les économies les plus importantes à réaliser pour ensuite établir des priorités d'ici la fin du troisième trimestre de 2007. Il se peut que ce processus mène à une durée utile plus courte ou plus longue.

2(c) : La direction est d'accord avec cette recommandation. Depuis 2005, Services du parc automobile a calculé les effets d'un report des remplacements dans le rapport annuel présenté à ce sujet au Conseil municipal avant les délibérations sur le budget et continuera de le faire.

Recommandation 3

Que Services du parc automobile mène à bien la mise en œuvre de son nouveau système de gestion du carburant, commence à surveiller sa consommation d'essence et recense et examine les véhicules consommant plus d'essence que prévu.

Réponse de la direction

La direction est d'accord avec cette recommandation qui est appliquée depuis 2005. Services du parc automobile est également en train de mettre la dernière main au système de gestion de carburant normalisé qui s'appliquera à tous les postes d'essence municipaux, ce qui permettra de vérifier automatiquement la

consommation d'essence. Ce projet devrait être terminé d'ici au quatrième trimestre de 2007.

Depuis 2002, la consommation d'essence par véhicule est notée et intégrée à la facturation mensuelle. Une consommation élevée est notée, suivie et fait l'objet de rapport.

Recommandation 4

Que Services du parc automobile examine l'évolution du coût des réparations et de l'entretien des poids lourds et des camions moyens.

Réponse de la direction

La direction est d'accord avec cette recommandation. En 2007, Services du parc automobile étoffera ses efforts d'analyse comparative. Outre les mesures de rendement interne et celles que comporte l'IACSM, Services du parc automobile examinera d'autres mesures d'étalonnages à travers le Canada. Ces deux dernières années, Services du parc automobile a été le chef de file de l'initiative d'analyse comparative pour l'Association canadienne des directeurs municipaux de flotte (CAMFM). Au troisième trimestre de 2007, la CAMFM aura comparé les parcs automobiles du pays depuis un an.

Recommandation 5

Que Services du parc automobile :

- (a) établisse des repères, des indicateurs de rendement clés (IRC) et des niveaux de rendement cibles, recense les principaux facteurs de succès, définisse les lacunes et examine les exceptions;**
- (b) crée un tableau de bord ou un système de fiche d'évaluation équilibré afin de suivre les IRC régulièrement et d'augmenter la reddition de comptes;**
- (c) établisse un dossier des véhicules utilisés abusivement et élabore des stratégies pour réduire les coûts liés à cette utilisation abusive;**
- (d) élabore un plan d'action afin de réduire le nombre de pannes et de rapports de chauffeurs en revoyant les programmes d'entretien préventif et en mesurant la qualité du travail en temps moyen entre défaillances (MTBF) ou en durée d'indisponibilité et en progressant, en mode descendant, par catégorie, garage ou groupe d'utilisateurs jusqu'à ce que les causes profondes soient découvertes.**

Réponse de la direction

5(a)/(b) : La direction est d'accord avec cette recommandation qui a déjà été appliquée. Services du parc automobile collabore, et continuera de collaborer, avec l'IACSM et avec la CAMFM (association canadienne des directeurs municipaux de flotte) afin d'établir des tests de performance du parc automobile et d'en faire rapport. SPA effectue actuellement des rapports sur 17 mesures de rendement avec

l'IACSM et 19 avec la CAMFM. La qualité du service est suivie et notée quotidiennement au moyen de notre système de tableau de bord ou de fiches d'évaluation.

5(c) : La direction est d'accord avec cette recommandation qui a déjà été appliquée. La direction de Services du parc automobile signale l'utilisation abusive des véhicules aux services d'exploitation mensuellement depuis 2005, mais il appartient au service d'exploitation en cause de prendre les mesures qui s'imposent. Une nouvelle initiative vient d'être lancée par la Direction des services du parc automobile en vue d'examiner les statistiques mensuelles relatives à l'utilisation abusive des véhicules avec les services clients afin de découvrir la cause profonde de ces utilisations abusives et d'adopter les mesures correctives qui s'imposent. La Division de l'entretien du parc automobile et les Services de formation des chauffeurs du parc automobile participent à ces examens.

5(d) : La direction est d'accord avec cette recommandation. Services du parc automobile analyse actuellement les défaillances au cas par cas pour régler les problèmes décelés. Lorsque le nouveau système d'information pour la gestion du parc automobile (SIGPA) sera opérationnel, un examen systématique des temps moyens entre deux pannes sera mené. La mise en œuvre de ce système devrait avoir lieu à la fin du deuxième trimestre de 2008.

Recommandation 6

Que Services du parc automobile évalue son niveau de sous-traitance et entreprenne un examen exhaustif de la charge de travail de tous les ateliers, en fonction des étalonnages et du nombre prévu d'heures d'entretien par an et par catégorie de véhicule. Même si cet exercice a pu être fait lors de la fusion, le niveau de sous-traitance ainsi que le nombre de mécaniciens par véhicule diffèrent selon les organismes comparables; la situation a évolué depuis la fusion et des données précises permettent maintenant de vérifier ce qui avait été prévu à l'origine. Le recours à la comptabilité par activité est hautement recommandé afin d'établir les activités qui devraient demeurer à l'interne.

Réponse de la direction

La direction est d'accord avec cette recommandation qui sera analysée dans le cadre de l'examen des processus en vigueur dans les directions devant être entrepris en 2007.

Recommandation 7

Que Services du parc automobile établisse des objectifs de productivité par mécanicien de trois manières différentes :

(a) en établissant des équivalents véhicules par mécanicien en fonction des moyennes dictées par la NAFA, en allouant des budgets annuels horaires par véhicule basés sur ces mêmes équivalents véhicules et en suivant de près les écarts budgétaires;

(b) en établissant un nombre d'heures par activité principale basé sur les tarifs fixes du service *Mitchell's OnDemand*, sur les normes de l'ATA (American Trucking Association) ou sur tout autre guide d'évaluation du temps accrédité et en suivant de près les écarts;

(c) en consignait et en compilant toutes les heures facturables et non facturables sur les bons de travail et en fixant un objectif d'au moins 60 p. 100 d'heures payées.

Réponse de la direction

7(a) : La direction est d'accord avec cette recommandation. Services du parc automobile établit les besoins en mécaniciens après avoir effectué une évaluation des coûts réellement engagés imputés aux équipements de croissance. Cette option sera étudiée lorsque nous examinerons notre structure au cours de l'année.

7(b) : La direction est d'accord avec cette recommandation qui a été appliquée en 2006.

7(c) : La direction est d'accord avec cette recommandation. Services du parc automobile consigne les heures facturables et non facturables depuis 2001 et dépasse de loin le taux repère qui est de 60 p. 100 dans l'industrie. Pour cette catégorie, le taux repère en 2006 est de 68 p. 100. Aucune autre suite ne sera donnée à cette recommandation.

Recommandation 8

Que Services du parc automobile, en collaboration avec la Division de la gestion de l'approvisionnement, utilise au mieux la chaîne d'approvisionnement et la logistique des pièces détachées afin que le taux de rotation corresponde aux normes établies.

Réponse de la direction

La direction n'est pas d'accord avec cette recommandation.

Le vérificateur a correctement indiqué que les taux de rotation constituaient un élément de contrôle reflétant le rendement de la chaîne d'approvisionnement. La Division de la gestion du matériel craint cependant que le vérificateur n'ait interprété trop étroitement ou n'ait mal appliqué les éléments de l'équation, donnant ainsi un taux de rotation inexact qui risque de devenir la norme à respecter au moment d'évaluer le taux de rendement des stocks. Dans le cas où cette mesure serait mise en œuvre aveuglement, des implications réelles pourraient se manifester par rapport au service au publique. La Division de la gestion du matériel est d'avis que le taux de rotation devrait être évalué contre des parcs automobiles de taille comparable en prenant soin d'identifier clairement les caractéristiques et composantes de ceux-ci.

Recommandation 9

Que Services du parc automobile adopte une approche proactive et réduise les tentatives d'interprétation en documentant les niveaux de service attendus de chaque client et en mesurant de façon plus exacte les niveaux de satisfaction.

Réponse de la direction

La direction est d'accord avec cette recommandation qui a déjà été mise en pratique. La direction de Services du parc automobile rencontre déjà régulièrement les équipes de gestion de ses plus grands clients (Opérations de surface, Service des incendies, Services de transport en commun et Service paramédic), ce qui permet de discuter des problèmes à venir et de régler ou de trouver le moyen de régler les problèmes qui continuent de se poser. De plus, les ententes de niveau de service (ENS) décrivent clairement les responsabilités et les obligations de chacun et définissent la voie hiérarchique à suivre lorsque des questions demeurent en suspens.

Recommandation 10

Que Services du parc automobile affecte un gestionnaire des comptes aux clients et produise des rapports exacts et ponctuels qui mesurent différents paramètres tels que :

- **les journées d'indisponibilité;**
- **le respect des calendriers d'inspection (entretien préventif);**
- **les sondages réalisés auprès des clients et les niveaux de satisfaction des clients;**
- **la liste des plaintes reçues et des mesures prises.**

Réponse de la direction

La direction est d'accord avec cette recommandation.

En 2003, la direction de Services du parc automobile a fait appel à KPMG pour mettre sur pied un système de gestion des relations avec la clientèle et réaliser un sondage sur la satisfaction des clients. Même si aucun chargé de compte spécifique n'a été nécessairement affecté à cette tâche, chaque domaine d'activité de la Direction compte une personne de niveau indiqué qui assume cette tâche chez le client.

Une multitude de rapports sont fournis aux clients, soit des rapports mensuels, trimestriels et de fin d'année. Ces rapports renferment, entre autres, les renseignements suivants : les dépenses réellement engagées, les prévisions budgétaires, la formation donnée, le nombre de collisions, la consommation de carburant, le nombre de kilomètres parcourus, le taux de sous-utilisation des véhicules et bien plus. Pour les clients participants, des réunions mensuelles entre gestionnaires permettent de discuter des problèmes, de les régler et de noter les résultats. Services du parc automobile estime qu'un autre sondage de satisfaction auprès du client est justifié et en prévoira un au quatrième trimestre de 2008.

Recommandation 11

Que Services du parc automobile s'associe à l'Unité de la gestion du matériel pour :

- (a) revoir les besoins en dotation des magasins;**

- (b) améliorer la formation donnée aux magasiniers;**
- (c) mesurer les temps d'attente au comptoir et fixer des objectifs pouvant être acceptés par la direction de Services du parc automobile;**
- (d) exposer et éliminer les stocks clandestins;**
- (e) d'introduire des mesures de rendement pour les magasins et les inclure dans une entente de niveau de service avec Services du parc automobile.**

Réponse de la direction

11(a) : La direction n'est pas d'accord avec cette recommandation. Elle approuve la recommandation, mais elle ne pense pas qu'elle puisse être mise en œuvre à même les ressources existantes. La direction demandera 180 000 \$ supplémentaires à inscrire au budget de fonctionnement de 2008 afin que la Division de la gestion du matériel puisse embaucher trois commis magasiniers pour prêter main-forte aux techniciens qui sont seuls pendant leurs quarts de travail. À l'heure actuelle, les ressources ne permettent pas de transférer le personnel d'un quart de travail normal en journée à un quart de travail en soirée ou la nuit.

11(b) : La direction n'est pas d'accord avec cette recommandation. Elle l'approuve, mais estime qu'elle ne peut pas être mise en œuvre à même les ressources existantes. Une formation doit être donnée en vue de porter au maximum les efficacités du système SAP et d'améliorer la formation dans d'autres domaines qui préoccupent Services du parc automobile. La direction demandera 100 000 \$ supplémentaires dans le budget de fonctionnement de 2008 pour que la Division de la gestion du matériel puisse donner cette formation d'ici janvier 2009.

11(c) : La direction n'est pas d'accord avec cette recommandation. Elle l'approuve, mais estime qu'elle ne peut pas être mise en œuvre à même les ressources existantes. La Division de la gestion du matériel demandera un crédit unique de 60 000 \$ tirés du budget des immobilisations afin d'acheter un système de mise en file d'attente électronique, ainsi qu'une augmentation permanente de 7 000 \$ à tirer du budget de fonctionnement pour couvrir les coûts de durée utile compte tenu de l'utilisation constante de ce système qui sera mis en place six mois après réception de l'approbation du budget de 2008.

11(d) : La Division de la gestion du matériel approuve cette recommandation. Elle aidera Services du parc automobile à rapatrier le matériel clandestin détenu actuellement par SPA.

11(e) : La Division de la gestion du matériel est d'accord avec cette recommandation. En collaboration avec Services du parc automobile, elle reverra les exigences et établira les mesures de rendement des niveaux de service.

Recommandation 12

Que Services du parc automobile :

- (a) s'assure que les carnets de route des véhicules sont utilisés, en particulier pour les véhicules légers, et effectue des vérifications aléatoires afin de déterminer la fréquence d'utilisation du véhicule. Le kilométrage ne représente pas toujours un bon moyen de valider un véhicule. Les véhicules pour lesquels aucune justification ne peut être donnée devraient être signalés au Conseil municipal;
- (b) facilite l'établissement d'un parc commun de véhicules en adaptant le modèle de facturation interne et en transférant le plus grand nombre de véhicules possible à un système de location journalier;
- (c) améliore les « rapports d'analyse du parc automobile » envoyés aux clients à la fin de chaque période. Ces rapports devraient s'intéresser aux indicateurs de rendement, cerner les repères, mettre en évidence les exceptions et demander que des mesures soient prises. Au chapitre des indicateurs, citons : la consommation d'essence, les taux d'utilisation, l'utilisation abusive, les accidents, etc.;
- (d) établit des normes sur les véhicules par type de tâche et décourage les dérogations aux normes peu coûteuses en exigeant l'autorisation de la haute direction ou d'un comité du Conseil municipal.

Réponse de la direction

12(a) : La direction n'est pas d'accord avec cette recommandation. Les carnets de route sont à la charge du client. Services du parc automobile note l'usage fait des véhicules alors qu'il appartient au client de fournir la justification requise.

12(b) : La direction est d'accord avec cette recommandation. Services du parc automobile dispose d'un parc commun de véhicules que les clients peuvent louer.

12(c) : La direction est d'accord avec cette recommandation. Services du parc automobile fournit depuis 2002 des rapports aux clients, accompagnés de tous les indicateurs cités.

12(d) : La direction n'est pas d'accord avec cette recommandation. Services du parc automobile a recours aux pratiques exemplaires en élaborant des spécifications pour véhicules fondés sur les besoins du service client. Il appartient à ce dernier de déterminer les besoins en capacité et à Services du parc automobile de préparer un devis répondant à ces besoins de manière rentable. La spécification standard est un modèle de base dans chaque catégorie. D'autres éléments sont ajoutés en fonction de la demande spécifique présentée ou si le service en fait la demande accompagnée d'une justification et d'une autorisation. Les options non financées par Services du parc automobile sont transférées à l'équipe de la haute direction et, au besoin, au Conseil municipal pour approbation.

Recommandation 13

Que Services du parc automobile effectue un sondage de base pour évaluer le nombre d'appels quotidiens reçus au centre de dépannage. Après compilation des statistiques, une analyse de rentabilisation devrait être faite pour acquérir un système téléphonique approprié et pour affecter du personnel aux quarts de travail en soirée et la nuit.

Réponse de la direction

La direction est d'accord avec cette recommandation qui a déjà été appliquée. En collaboration avec Services de technologie de l'information, Services du parc automobile a déjà examiné le nombre d'appels faits au Centre d'appels de la Ville d'Ottawa ainsi que la possibilité de créer un système de gestion des appels. Comme l'analyse effectuée a permis de constater que le nombre d'appels était peu élevé, il a été décidé que le système actuel était en mesure de traiter le volume d'appels et qu'il n'était pas justifié sur le plan économique d'investir 19 000 \$ dans un nouveau système de gestion des appels. La situation sera cependant régulièrement revue et les mesures qui s'imposent seront prises si cette dépense venait à être justifiée. Aucune autre suite ne sera donnée à cette recommandation.

Recommandation 14

Que Services du parc automobile choisisse entre le système M4 et le système SAP, comme le recommande la vérification de 2003.

Réponse de la direction

La direction est d'accord avec cette recommandation. Il a été décidé d'adopter un système intégré d'information sur la gestion du parc automobile, le M5. Sa mise en œuvre est en cours et devrait être terminée d'ici à la fin du quatrième trimestre de 2007.

Recommandation 15

Que Services du parc automobile établisse une série d'indicateurs de rendement, les mesure régulièrement au moyen d'un tableau de bord et soit tenu de rendre des comptes à leur égard.

Réponse de la direction

La direction de Services du parc automobile est d'accord avec cette recommandation. Services du parc automobile a déjà établi quelques indicateurs de rendement, notamment ceux qui font partie de l'IACSM (Initiative d'analyse comparative des services municipaux de l'Ontario) et d'autres qui sont strictement internes à la Ville d'Ottawa (y compris un tableau de bord). Services du parc automobile gère l'élaboration d'autres indicateurs en collaboration avec la CAMFM (association canadienne des directeurs municipaux de flotte). Avec l'arrivée d'un système intégré d'information sur la gestion du parc automobile, Services du parc automobile sera en mesure, en 2008, de renforcer les indicateurs de rendement.

Recommandation 16

Que Gestion du matériel et Services du parc automobile fassent un rapprochement de leur inventaire en signalant le nombre de pièces détachées allouées au parc automobile et celles allouées aux autobus et aux véhicules municipaux.

Réponse de la direction

La direction est d'accord avec cette recommandation. Une analyse comparative des pièces livrées et des stocks est en cours et la mise en concordance sera terminée d'ici la fin du troisième trimestre de 2007.

Recommandation 17

Que Gestion du matériel rapatrie et regroupe dans l'inventaire officiel toutes les pièces détachées, qu'elles soient neuves, d'occasion ou remises à neuf.

Réponse de la direction

La direction n'est pas d'accord avec cette recommandation. La direction est d'accord avec cette recommandation, mais elle ne croit pas qu'elle puisse être mise en œuvre à même les ressources existantes. Gestion du matériel estime que les pièces usagées et remises à neuf qui échappent à son contrôle à l'heure actuelle devraient être transférées de Services du parc automobile à un endroit sûr et consignées dans le système SAP. L'occasion d'aménager un entrepôt sûr et efficace se présentera lorsque le garage de Swansea remis à neuf dans le cadre du projet d'optimisation de la capacité du parc automobile deviendra fonctionnel. La création de trois postes, à un coût de 183 000 \$, a été approuvée dans le budget de fonctionnement de 2007. Une demande de crédit supplémentaire de 140 000 \$ est prévue pour 2008 afin d'acheter des supports et du matériel pour créer un entrepôt propre, sûr et à accès contrôlé. Gestion du matériel assurera le contrôle et le transfert du matériel en 2007, le cas échéant, après analyse des risques et des coûts et avantages. Le contrôle intégral et sûr de l'inventaire en cause sera assuré d'ici la fin 2008, une fois que le budget aura été approuvé.

Recommandation 18

Que Services du parc automobile et la Direction des services aux employés définissent une stratégie de relève pour prévenir la pénurie de mécaniciens qualifiés qui risque de se produire d'ici quelques années au sein du parc des véhicules de transport en commun.

Réponse de la direction

La direction est d'accord avec cette recommandation. Le problème de pénurie de main-d'œuvre se pose à l'échelle de l'industrie entière. Le remplacement systématique des mécaniciens est déjà un élément de la Stratégie de gestion de la relève et du développement de la main-d'œuvre de la Ville d'Ottawa. Services du parc automobile et la Direction des services aux employés s'emploient actuellement à établir des stratégies de relève, notamment par l'expansion du Programme d'apprentissage.

Recommandation 19

Que Services du parc automobile mette en œuvre un Programme d'entretien préventif s'appliquant aux carrosseries et aux châssis.

Réponse de la direction

Services du parc automobile est d'accord avec cette recommandation.

Un ingénieur mécanicien spécialiste des matériaux a été embauché en 2005 pour mettre sur pied un programme préventif de protection contre la rouille des châssis et carrosseries d'autobus. Ce programme, qui s'appliquera à l'ensemble du parc d'autobus, est en cours d'élaboration, avec l'aide de fabricants d'autobus et d'autres sociétés de transport en commun comme la STO (Gatineau) et la STM (Montréal).

Entre-temps, Services du parc automobile a adopté un protocole d'inspection de ses modèles d'autobus les plus neufs, le D60LF (227 autobus) et le D40i (plus de 239 autobus). Un programme d'inspection établi en 2005 et mis à jour en 2006 se déroule selon le calendrier d'entretien préventif recommandé par le constructeur d'autobus.

Recommandation 20

Que Services du parc automobile élabore et mette en œuvre une stratégie d'évaluation des risques ainsi qu'une procédure claire en cas d'incendie dans les autobus attribuable à des défaillances ou à une mauvaise conception.

Réponse de la direction

La direction est d'accord avec cette recommandation. La documentation sur la stratégie d'évaluation des risques sera compilée d'ici septembre 2007.

Recommandation 21

Que Services du parc automobile et Gestion de l'approvisionnement déterminent les coûts exacts des éléments remis à neuf (comptabilité par activité) et les imputent à l'inventaire.

Réponse de la direction

La direction est d'accord avec cette recommandation. Il est cependant difficile d'établir le coût des éléments et cette question devra être examinée de manière plus approfondie par la Division de la gestion de l'approvisionnement, Comptabilité et Rapports et Services du parc automobile. Ce travail sera achevé d'ici la fin de 2008.

Recommandation 22

Que Services du parc automobile élabore et documente un programme de remise en état.

Réponse de la direction

La direction est d'accord avec cette recommandation. Une procédure permet déjà de connaître les autobus à remettre en état et la fréquence à laquelle cette intervention doit se faire. Un chiffrier montrant les activités antérieures, actuelles et futures existe, mais ce processus n'a pas été documenté. Services du parc automobile préparera cette documentation d'ici au troisième trimestre de 2007.

Recommandation 23

Que Services du parc automobile documente le Programme d'entretien préventif et forme et informe les mécaniciens.

Réponse de la direction

La direction est d'accord avec cette recommandation. Le Programme d'entretien préventif du parc de véhicules de transport en commun est en cours de révision. Certaines modifications ont déjà été mises en œuvre et d'autres devraient être introduites d'ici au troisième trimestre de 2007. Une formation est en cours dans le cadre de cet examen et il est prévu de faire appel à des groupes de travail pour optimiser les programmes. De plus, la mise en place d'un système intégré d'information sur la gestion du parc automobile (SIGPA) vers la fin du quatrième trimestre de 2007 devrait donner aux Services d'entretien du parc de véhicules de transport en commun les outils nécessaires pour mieux gérer ce programme.

Recommandation 24

Que Services du parc automobile réoriente les ressources vers des services d'entretien systématique ou de réparation planifiée et revoie ses procédures concernant les tours d'inspection et l'entretien périodique pour veiller à ce que les personnes qui sont chargées d'effectuer ces opérations connaissent bien leurs responsabilités et aient recours aux programmes de formation qui existent.

Réponse de la direction

La direction n'est pas d'accord avec cette recommandation. Les responsabilités des chauffeurs relativement aux inspections et aux réparations sont claires, documentées et prises en compte dans les programmes de formation.

Aucune autre mesure ne doit être prise à ce sujet.

Recommandation 25

Que l'entrepôt St-Laurent soit nettoyé.

Réponse de la direction

La direction n'est pas d'accord avec cette recommandation. La propreté du garage n'est pas en cause, mais l'espace de travail encombré contribue effectivement à l'aspect désordonné du garage.

L'entretien systématique et quotidien du garage effectué par le personnel de la Division de l'entretien du parc de véhicules de transport en commun comprend le nettoyage des postes de travail pendant et après la réparation des autobus. Le nettoyage de l'espace est également effectué au besoin par le personnel d'entretien du parc de véhicules de transport en commun et le matériel est nettoyé et entretenu régulièrement par la Direction de la gestion des biens immobiliers. Les garages du boulevard Saint-Laurent sont bien utilisés et quoiqu'il soit difficile de travailler

autour d'un si grand nombre d'autobus et de pièces détachées, la propreté est une priorité.

L'encombrement de la plupart des postes de travail sera réduit de façon non négligeable d'ici la fin de 2007 lorsque les principales réparations seront faites dans un autre garage, ce qui permettra de libérer de l'espace pour les pièces détachées et les cylindres qui sont entreposés à l'heure actuelle dans ce garage. Il sera alors possible d'améliorer le nettoyage du « secteur » à ce moment-là et des mesures seront prises après le déménagement.

Recommandation 26

Que la direction de Services du parc automobile interdise immédiatement toute réparation de véhicule personnelle. Que tous les employés soient informés à nouveau des détails du Code de conduite de la Ville et que ce code soit appliqué rigoureusement (tolérance zéro).

Réponse de la direction

La direction est d'accord avec cette recommandation qui a déjà été appliquée. Une circulaire a été distribuée à l'ensemble du personnel le 6 juillet 2006 dans laquelle les interdictions citées dans le Code de conduite sont énoncées. Services du parc automobile suit également cette question de près pour assurer le respect de la directive.

Recommandation 27

Que Services du parc automobile fasse établir un manuel facile à lire et pouvant être mis à jour, manuel que les gestionnaires, mécaniciens et chauffeurs pourront facilement consulter. Autrement, nous recommandons qu'une formation supplémentaire soit donnée aux gestionnaires et aux superviseurs à propos des divers règlements existants et de l'applicabilité des mesures législatives fédérales et provinciales aux Services du parc automobile.

Réponse de la direction

La direction est d'accord avec cette recommandation. L'applicabilité des mesures législatives fédérales et provinciales est déjà traitée dans les nombreux programmes de formation offerts et est intégrée aux diverses procédures des Services du parc automobile. La préparation d'un manuel unique n'est pas prévue (le document serait trop volumineux pour être utile), mais Services du parc automobile continuera d'exploiter l'accès électronique pour mettre les données à jour. Dans le cadre du passage de Services du parc automobile à un système intégré d'information sur la gestion du parc automobile, de plus amples données seront tirées du Web (c.-à-d. procédures, spécifications des véhicules, listes de pièces détachées et ainsi de suite). Nous travaillons aussi directement avec nos clients pour les informer des modifications apportées aux échelons fédéral et provincial et pour les aider à trouver des solutions en réponse aux nouvelles lois et aux lois modifiées qui sont adoptées.

Recommandation 28

Que Services du parc automobile veille à ce que tous les gestionnaires et cadres supérieurs comprennent bien leur rôle en ce qui concerne l'élimination des déchets dangereux.

Réponse de la direction

La direction est d'accord avec cette recommandation. Comme la vérification l'a fait valoir, les entrevues ont permis de constater que tout le monde ne traitait pas les déchets de la même façon. Ce problème a été rapidement réglé et tous les cadres supérieurs et gestionnaires comprennent désormais les règles qui s'appliquent à l'élimination des déchets.

Recommandation 29

Que Services du parc automobile réaffecte les ressources existantes à l'Unité de formation des chauffeurs du parc d'auto pour s'assurer que tous les chauffeurs reçoivent une formation suffisante. Les superviseurs des chauffeurs (les clients) devraient également recommander une formation complémentaire, dans la mesure du possible.

Réponse de la direction

La direction est d'accord avec cette recommandation. Dans le cadre du processus annuel d'établissement du budget, Services du parc automobile adapte les ressources en formation aux besoins en formation du client. C'est ainsi que deux instructeurs ont été ajoutés en 2006. Les programmes de formation de Services du parc automobile sont établis en fonction des besoins prescrits par la loi. Aucune autre ressource de formation ne sera nécessaire d'ici 2008.

Recommandation 30

Que Services du parc automobile informe tous les mécaniciens et chauffeurs de leurs responsabilités s'ils perdent leur permis de catégorie G ou si ce dernier est suspendu. La sensibilisation des chauffeurs devrait être renforcée dans les domaines suivants :

- la conduite d'un véhicule sans détenir de permis valide;
- les conséquences graves auxquelles ils s'exposent pour avoir enfreint le Code de conduite alors qu'il aurait été plus facile de signaler la perte temporaire du permis;
- la responsabilité personnelle dont ils sont passibles s'ils conduisent un véhicule municipal sans détenir le permis requis.

Réponse de la direction

La direction n'est pas d'accord avec cette recommandation. Services du parc automobile n'est pas habilité, selon le modèle du centre d'expertise, à offrir ce type de sensibilisation. Il appartient au superviseur, au moment de l'embauchage des employés, de passer en revue le Code de conduite (qui est remis à tout nouvel employé) et d'aborder toute autre question connexe (discipline comprise) s'appliquant au poste pour lequel l'employé est embauché.

Recommandation 31

Que Services du parc automobile mette en œuvre des stratégies et définisse un processus permettant de réduire les dépenses liées à une utilisation abusive des véhicules ou aux réparations causées par leur utilisation anormale.

Réponse de la direction

La direction est d'accord avec cette recommandation qui a déjà été appliquée.

Services du parc automobile signale l'utilisation abusive de véhicules une fois par mois aux services exploitants depuis 2005, mais il appartient à ces services d'adopter les mesures qui s'imposent. Une nouvelle initiative est en train d'être instituée par Services du parc automobile en vue d'examiner les statistiques mensuelles sur l'utilisation abusive de véhicules avec les services clients pour découvrir la cause profonde de ces abus et pour prendre des mesures correctives. La Division de l'entretien du parc automobile et les Services de formation des chauffeurs du parc automobile participeront à cet examen. Outre ce qui précède, Services du parc automobile transmet des rapports sur l'utilisation abusive des véhicules une fois par an, en fin d'année, aux responsables de directions ainsi qu'aux directeurs municipaux adjoints pour leur permettre de prendre les mesures qui s'imposent.

Recommandation 32

Qu'une personne soit chargée de tous les permis délivrés par le ministère ou, sinon, qu'une personne soit chargée de traiter avec le ministère au nom de Services du parc automobile.

Réponse de la direction

La direction est d'accord avec cette recommandation qui a déjà été appliquée. Services du parc automobile a confié tous les permis de garage et de techniciens à une personne de la Division de l'entretien du parc de véhicules de transport en commun (pour les garages servant au transport en commun) et à une personne de la Division de l'entretien du parc automobile municipal (pour les garages municipaux).

Recommandation 33

Que les gestionnaires membres du syndicat soient exclus de l'unité de négociation existante pour relever d'une unité distincte lorsque la nouvelle convention collective sera négociée.

Réponse de la direction

La direction n'est pas d'accord avec cette recommandation. Les superviseurs du garage des véhicules de transport en commun appartiennent à une section locale du SCFP et le personnel qu'ils supervisent à une section locale du SUT, si bien qu'il n'existe aucune contradiction puisque le personnel d'encadrement est membre d'un syndicat différent. Le scénario de la meilleure éventualité survient lorsque le personnel d'encadrement est soit non syndiqué soit membre d'une unité de négociation différente de celle à laquelle appartient le personnel.

La jurisprudence arbitrale permet aux superviseurs des services fonctionnels d'appartenir à la même unité de négociation. La supervision fonctionnelle peut, comme c'est le cas ici, inclure la programmation et l'affectation du travail, qui ne sont pas de pures responsabilités de gestion. Ce sont les cadres du GEDP ou de l'unité de négociation du superviseur de garage qui sont chargés de gérer les questions disciplinaires.

Recommandation 34

Que le processus budgétaire de Services du parc automobile soit réexaminé en vue :

- **de réévaluer le processus permettant d'informer le client ou la division opérationnelle indiquée des dépassements de budget prévus;**
- **de réévaluer l'obligation donnée à chaque division opérationnelle (Services du parc automobile, Gestion de l'approvisionnement ou les clients de Services du parc automobile) de rendre compte des dépenses engagées par Services du parc automobile;**
- **de recenser les inducteurs de coût de chacune des dépenses de Services du parc automobile;**
- **d'élaborer des mécanismes permettant de mesurer et de suivre de près chaque inducteur de coût;**
- **d'attribuer la responsabilité de chaque inducteur de coût à la division opérationnelle appropriée et d'incorporer des mesures de rendement au budget de chaque division opérationnelle responsable de ces inducteurs de coût.**

Réponse de la direction

La direction est d'accord avec cette recommandation. Le système actuel de facturation qui consiste à imputer les coûts réellement engagés aux clients ne donne pas une image exacte de l'attribution des responsabilités en ce qui a trait aux inducteurs de coût. Un système de concession exprimerait davantage ces inducteurs de coût, y compris le taux d'utilisation, l'efficacité des ateliers, les collisions et l'utilisation abusive. Services du parc automobile étudiera l'éventuel passage à un système de concession d'ici la fin 2008.

Recommandation 35

Que Services du parc automobile municipal encourage l'utilisation des pompes à essence de la Ville, examine les raisons pour lesquelles certains véhicules ne sont pas ravitaillés dans les stations de la Ville et approuve ou redresse cette pratique.

Réponse de la direction

La direction est d'accord avec cette recommandation dans son principe. Services du parc automobile encourage activement les chauffeurs à utiliser les pompes à essence municipales. Services du parc automobile communique avec les chauffeurs au moyen de dépliants placés dans tous les véhicules de la Ville et par courriel (pour ceux qui y ont accès). La haute direction est également informée des avantages que présente l'utilisation des pompes à essence municipales par courriel, à la faveur des

factures mensuelles des clients (qui établissent une comparaison entre le carburant au détail et le carburant municipal) et des rapports trimestriels ou de fin d'année qui indiquent les économies qui auraient pu être réalisées si les pompes à essence municipales avaient été utilisées. Il faut cependant reconnaître qu'il existe des raisons opérationnelles valides pour lesquelles il n'est pas toujours pratique d'utiliser les installations municipales. De plus, la décision d'utiliser ces installations revient au service exploitant.

Recommandation 36

Que Services du parc automobile municipal renouvelle ses offres permanentes afin d'obtenir les rabais consentis sur les achats de carburant.

Réponse de la direction

La direction est d'accord avec cette recommandation.

La Division de la gestion de l'approvisionnement se penche déjà sur cette initiative avec Services du parc automobile. De plus, en février dernier, une version préliminaire de l'offre permanente projetée a été remise aux différents services du parc automobile pour obtenir leur opinion. La demande d'offre à commandes (DOC) établira des points de ravitaillement au détail autorisés en fonction de critères établis ainsi qu'un rabais ferme à la pompe, pour les districts urbains et ruraux stipulés dans le document. La DOC sera affichée sur le réseau de diffusion de soumissions en ligne MERX au cours du deuxième trimestre de 2007 et la commande subséquente devrait être approuvée en temps voulu vers la fin 2007.

Conclusion

Les analyses menées au cours de la vérification ont permis de déceler des lacunes importantes ayant trait principalement à l'application de certaines politiques et aux mesures du rendement. Ce sont ces lacunes qui ont donné lieu à 36 recommandations. Nous estimons que toutes ces recommandations pourraient être mises en œuvre sans engager de dépenses supplémentaires. En fait, elles pourraient entraîner des économies de plus de 1,3 million de dollars par an et faire de Services du parc automobile d'Ottawa une entité comparable à la meilleure de sa catégorie.

Services du parc automobile d'Ottawa est une entité bien documentée, a atteint un niveau qui la place parmi les plus grands parcs automobiles publics en Amérique du Nord et dispose de toutes les ressources voulues pour que son rendement soit aussi comparable.

Remerciement

Nous tenons à remercier la direction de sa collaboration et de l'aide qu'elle a apportée à l'équipe de vérification.

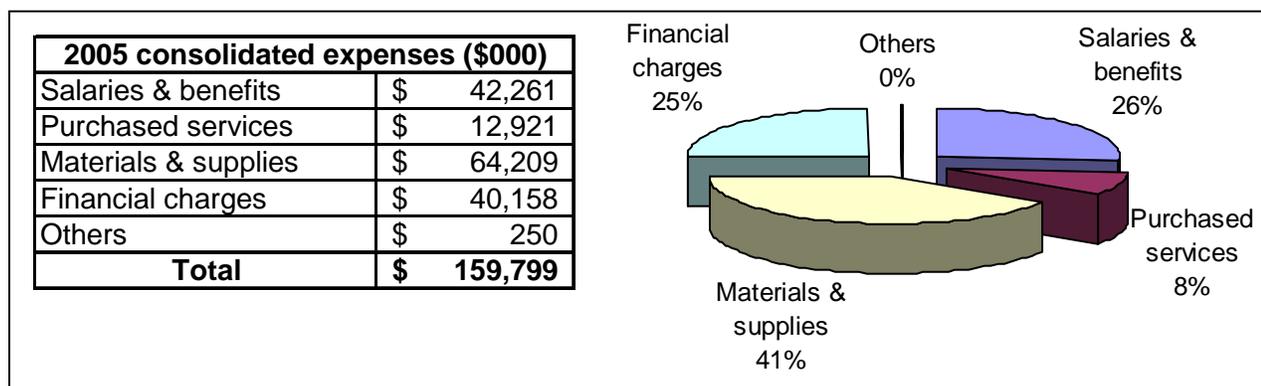
1 INTRODUCTION

The Audit of Fleet Services was included as part of the 2006 Audit Plan brought forward by the City's Auditor General to City Council on December 15, 2004.

2 BACKGROUND

The City of Ottawa operates a large Fleet of varied types of units including: the "regular" car / small truck, heavy trucks (often equipped with special attachments such as cranes etc.), off-road vehicles such as loaders, graders and various types of turf and parks maintenance tractors, as well as a large number of transit buses for public transport.

In 2005, Ottawa's fleet has 3,875 units, including 907 transit buses. The 2005 expenses are approaching \$160 million as can be seen in the following figure:



In 2005 the capital expenditure on fleet replacement was over \$50 million:

Project	2005 Capital Budget (\$000)	
900292 Bus Equipment Replacement Program	\$	2,380
900297 Bus Refurbishment	\$	1,100
900525 Revenue Bus Replacement Program	\$	35,190
900721 Fire Vehicle & Equipment Replacement Program	\$	3,200
900722 Heavy Vehicle & Equipment Repl. Program	\$	5,094
900723 Light Vehicle & Equipment Repl. Program	\$	1,700
902245 Paramedic Vehicle Replacement Program	\$	1,430
902269 Municipal Equipment Replacement Program	\$	665
	\$	50,759

Fleet Services (although under one single management) is segmented in two major groups, Municipal Fleet and Transit Fleet. Each of these two currently operates on a different management system: Municipal fleet on the Maximus M4 management system, while Transit utilizes a SAP solution. Replacement and rejuvenation of the fleet takes place based on a schedule established by Technical Services Division within Fleet Services Branch. A total of 552 FTEs are employed by Fleet Services.

Fleet Services Branch has four main objectives, namely:

1. Support equipment needs of the City through cost-effective and efficient equipment management services and advice to City departments to make more efficient use of existing equipment and infrastructure.
2. Build the Fleet Services team and provide training and development to unify efforts and motivate members in support of the City's mission.
3. Recognize accountability in support of customers and develop mutual respect to build first class working relationships.
4. Foster the safest, cleanest, most modern working environment achievable.

The Fleet Services Branch offers three main services:

1. Fleet Maintenance

- Provide clients with safe, reliable vehicles and equipment by maintaining units according to industry standards.
- Perform legislated preventive maintenance inspections in accordance with the Commercial Vehicle Operator's Registration requirements under the Ontario Highway Traffic Act.
- Minimize client expense due to downtime and/or cost overruns by repairing vehicles and equipment along industry standards.

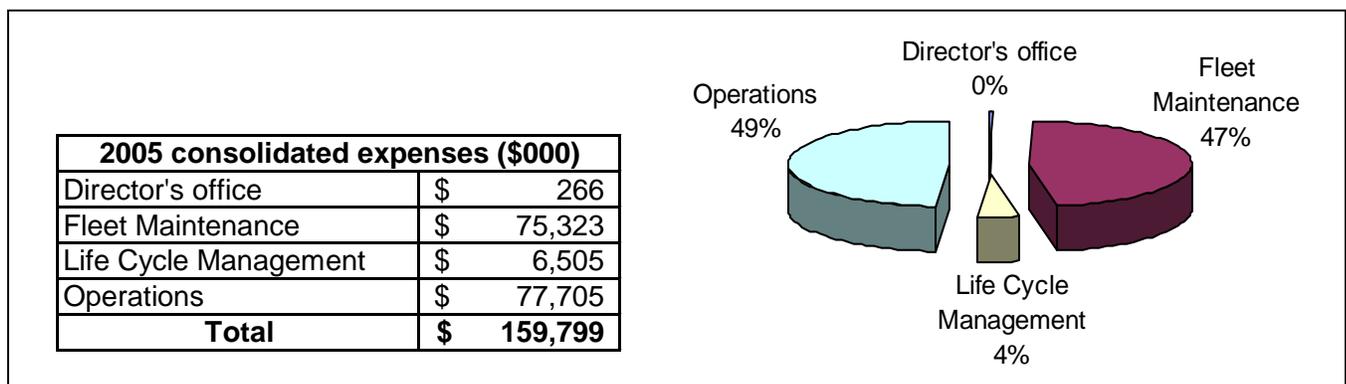
2. Life Cycle Management

- Assess technological improvements, regulatory requirements and clients' needs to develop cost-effective vehicle and equipment acquisition plans and support programs.
- Manage leasing and renting of vehicles and equipment to meet clients' needs where ownership of a vehicle is not cost-effective.
- Develop acquisition strategies (lease, buy, standardize) and optimize the replacement cycle for 3,875 units (including 907 transit buses) to ensure best value to taxpayers.
- Develop new vehicles and equipment specifications based on industry best practices and sound technical solutions.
- Ensure vehicle safety through monitoring adherence to standards and perform safety investigations including plans for corrective action.
- Develop in-service modifications and product improvements to vehicles and equipment to increase performance and reduce cost.
- Dispose of surplus units for maximum financial benefit.
- Coordinate initiatives to reduce emissions (such as Fleet Emission Reduction Strategy) and the environmental impact of the City vehicle and equipment pool.

3. Operations

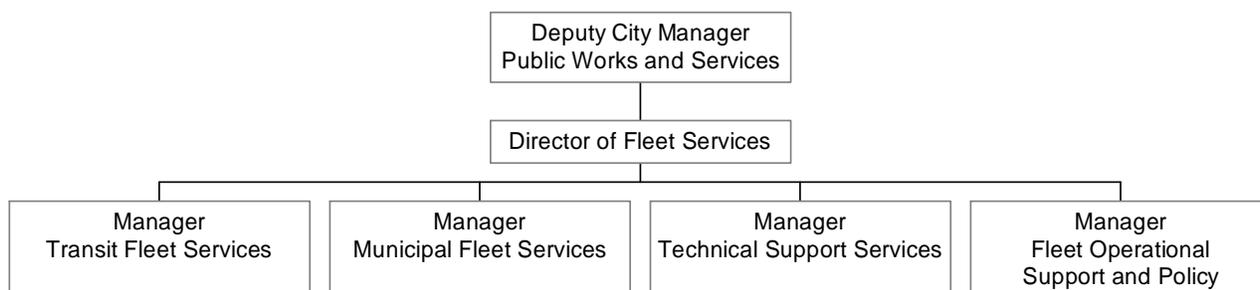
- Manage the City's Commercial Vehicle Operator's Registration Certificate Program in compliance with the Highway Traffic Act and ensure an effective driver training program.
- Ensure all City-owned vehicles and equipment are properly licensed.
- Ensure accessibility of fuel on a routine and emergency operations basis.
- Operate and manage an integrated vehicle and equipment management information system for over 160 users representing \$146 million in transactions.
- Provide a governance framework through consistent development of City policy.
- Conduct internal business performance reviews to assess service costs against other organizations to ensure program is competitive.
- Provide monthly billing for all vehicles and equipment to provide clients with understanding and accountability for costs.
- Develop vehicle charge-out rates to provide adequate long-term funding for vehicle and equipment replacements, repairs and maintenance.
- Provide for vehicle and equipment replacement reserves contributions.
- Monitor and control fuel usage and consumption to ensure timely preventive maintenance of vehicles.

Cost allocation to the different services is shown in the following figure:



2.1 Organizational Structure

The responsibility for managing Ottawa's fleet of vehicles falls under the Director of Fleet Services Branch and is shared by 4 Divisions as illustrated below:



The Branch is structured as a Centre of Expertise charging back all its costs, approximately \$160 million/year, directly to vehicle user departments.

3 SCOPE AND OBJECTIVES OF THE AUDIT

The objective of this audit was to review all aspects of the City of Ottawa's Fleet Services Branch, including fleet maintenance, life cycle management, and fleet operations. The scope of the audit included an examination of:

1. **Performance** (value-for-money) – to examine management practices, goals and objectives, controls and monitoring and reporting systems across the Branch to assess the economy, efficiency and effectiveness of current operations. This part included:
 - reviewing management structures
 - reviewing staff utilization
 - benchmarking against other municipalities and industry best practices
 - identifying opportunities for efficiencies
 - determining adequacy of performance measurement and reporting
 - determining adequacy of inventory controls and safeguarding of City assets.
2. **Compliance** – to determine if the Branch is conforming to all laws and regulations that govern its operations, including all relevant legislation and spending authorities contained in the annual budget.
3. **Financial Management** – to examine the financial results of operations against short and long-term plans and validating the reliability of financial systems including revenue collection, cost recovery structure and controls.

4 APPROACH AND METHODOLOGY

4.1 Global Approach

Because Fleet Services is a relatively large organization with over 500 employees working in 10 different service centres, the audit team decided to narrow down the scope of the audit by first doing a survey of the organization to identify the critical elements. The team conducted thorough interviews with key employees and visited seven service centres. That approach allowed the team to identify some issues that helped focus the audit.

4.2 Methodology for Performance Audit

The methodology relied on three major phases as detailed below.

4.2.1 Step 1 – Baseline – Document the current situation

Before starting any evaluation, a credible baseline and an accurate portrait of the current situation had to be established. In order to do that, three types of information were required:

1. Data – Budgets, master files, inventory lists, lists of suppliers, master files of vehicles, work orders, etc...
2. Documentation on current processes, methods and practices
3. Perceptions – Satisfaction levels, problems, opportunities, suggestions, opinions, culture, rationale...

Therefore, three different means of compiling the baseline information were used:

1. Specification sheets for all the data we needed.
2. Structured interviews to determine how relevant fleet management processes are managed.
3. Open discussions with key players to understand the informal environment, the organization's culture.

The current situation was then documented in a way that facilitated analyzing, diagnosing and benchmarking. A good understanding of the current situation is fundamental before determining what changes need to take place.

4.2.2 Step 2 – Benchmarking and Diagnosis

The team then proceeded to compare methods, processes, procedures and systems with other jurisdictions. Proprietary databanks of comparative studies as well as secondary

data were used to identify performance targets. Organizations like NAFA (National Association of Fleet Administrators) and others were used as a source of comparison.

When appropriate, the team used results from previous comparative studies performed by the consultants. Among the different organizations and jurisdictions used for specific comparisons were the following:

- Public and municipal sector:
 - Gatineau
 - Blainville
 - Granby
 - Shawinigan
 - Lévis
 - Sept-Îles
 - Baie-Comeau
 - Winnipeg
 - North Vancouver
 - Montreal
 - CGER (Quebec's fleet management agency)
 - Manitoba's VMA (Vehicle Management Agency)
 - Others for known management practices: Toronto, Calgary, Quebec City
- Transit:
 - Montreal's STM
 - Quebec's RTC
 - Sherbrooke's STS
 - Keolis (One of Europe's largest transit operators)
 - ATUQ (Quebec's association of public transit)
 - CUTA (Canadian Urban Transit Association)
 - Others for known management practices: Toronto's TTC,

Based on the conclusions of the benchmarking exercise, the team compared current practices and performance levels with recognized best practices and industry benchmarks. Those comparisons highlighted some gaps that could then be addressed in the recommendations.

4.2.3 Step 3 – Recommendations

Each improvement opportunity was identified based on gap analyses and is directly addressed in the recommendations.

4.3 Approach and Methodology – Financial Management

4.3.1 Approach

A two-step approach was used for examining the financial results of operations against short-term and long-term plans and validating the reliability of financial systems for revenue collection, cost recovery structure and controls.

4.3.2 Methodology

In order to efficiently meet the auditing needs, the following methodology was developed for each phase:

Step 1: Budgeting process analysis

1.1 - Knowledge of the process

In this step, we developed a process review plan, collected information and met with key personnel of the City of Ottawa's Fleet Services Branch to obtain an understanding of the short and long-term budgeting process.

1.2 - Appraise the adequacy of the budgeting process and identify value-added opportunities

Using an appraisal tool developed by PricewaterhouseCoopers called Global Best Practices®, we established a high level diagnosis of the Fleet Services Branch's budgeting process. Once Fleet had completed the questionnaire on the budgeting process, we compared the Branch's budgeting process to best practices and identified value-added opportunities.

As the Fleet Services Branch strives for operational excellence throughout its organization and accountability in support of customers, PwC's Global Best Practices® online knowledge base helped achieve this by providing process-level best practices and benchmarking tools that have been implemented in other organizations. Global Best Practices® provided a common framework to define the key business processes that every organization performs, regardless of whether it is private or public, its industry, region, size, or service category. The framework outlined 13 core business processes and more than 200 sub-processes to help us define and focus process reviews and improvement initiatives.

Our benchmarking tools captured quantitative and qualitative operational data to benchmark Ottawa's performance to best practices. Through benchmarking, we identified tendencies relating to strengths and weaknesses, identified opportunities, and prioritized the actions most important in helping the Fleet Services Branch achieve excellence.

1.3 - Variance analysis on significant deviations

By discussing with budget owners and key personnel, we documented the reasons for significant variances against both the short and long-term plans, and reported and addressed separately any unjustified difference.

Step 2: Financial systems analysis

2.1 - Knowledge of the processes

In this step, we developed a process-mapping plan and met with revenue collection and cost recovery process owners to obtain a clear understanding of each process flow, its inputs and outputs, and how internal transfer prices are determined. We also consulted documents, such as system descriptions, to facilitate our identification of financial risks in each process. Finally, we identified key controls in place to mitigate the identified risks.

2.2 - Perform walkthrough on each process

For the revenue collection and cost recovery collection processes, we performed a system walkthrough. This procedure consisted in selecting a specific transaction used as the input in a process, and re-performing each step of the process, either manual or computer-assisted, until the output of the process is generated. While performing system walkthroughs, we assessed the adequacy of controls in place, and we determined if these controls were effectively applied throughout the revenue recognition and cost recovery processes.

4.4 Approach and Methodology – Compliance

In order to determine if the Branch is conforming to all laws and regulations that govern its operations, including all relevant legislation and spending authorities contained in the annual budget, the auditors have undertaken a seven-step methodology. This methodology ensured that the City of Ottawa not only meets the level of legal threshold required for fleet management but meets the demands of public expectations that major municipalities face:

1. Provide high-level survey of all existing relevant legislation at the federal, provincial and municipal levels. Special emphasis was placed on legislative provisions that are typically problematic for fleet operations.
2. Undertake an extensive inventory and summary of all internal rules and regulations affecting fleet management. This inventory would strategically target areas that are impacted by legislation and regulation.
3. Provide a detailed inventory of all internal activities subject to legislation or regulations.
4. Summarize best practices of other Ontario fleet managers based on interviews with relevant select comparisons.
5. Undertake interviews with City of Ottawa personnel as related to conformity of practices of ongoing fleet operations.
6. Detailed written analysis of conformity to laws and regulations including analysis of areas of conformity, and highlighting areas of concern.
7. Provide written recommendations for improving legislative and regulatory conformity and specific recommendations for following fleet industry best practices.

4.5 High Level Assessment

After a first series of interviews, the audit team was able to get a much better understanding of the Fleet Services organization. As a general statement, we noted that Fleet Services seems to have adopted some of the industry's best practices, for example:

- Business model
Most public fleet managers in North America would recognize the virtues of a Municipal Enterprise, a Special Operating Agency or any other form of internal business unit with a chargeback mechanism. Ottawa Fleet Services, with its Centre of Expertise concept, seems to operate under a very similar mode.
- Asset management
 - Lifecycle management: Fleet seems to understand the concept and tries to apply the theory to its replacement programs
 - Replacement funding: Fleet seems to have implemented a replacement reserve concept to secure proper annual replacement funding
 - Remarketing: Professional auctioneer services (Adesa) handle all municipal remarketing transactions which could represent a good way to maximize resale revenues
- Fuel management
 - Automated fuel terminals: Major project underway

- Maintenance management
 - Preventive maintenance programs: May have to be improved but a program is in place
 - Off-hour shifts: Some evening and night shifts in operation
- Parts management
 - Computerized inventory
- Systems
 - Fleet management systems implemented
 - Data available for analysis
- Administration
 - One single organization accountable for whole process
 - Most process owners are clearly identified
 - Organization well documented
 - Service level agreements in place
 - Self insurance
 - Some customer-focused culture

Many of the best practices still appeared to not have been implemented. Performance has to be measured and compared and finally, many issues were raised during our interviews. These issues are identified in the following sections.

4.6 Narrowing Down the Issues

The audit team identified numerous areas of concern that needed to be documented and analyzed further.

4.6.1 Municipal Fleet Performance

Based on the data received from Fleet Services, the following performance indicators had to be measured and compared with other jurisdictions:

- Size of the fleet
- Utilization of vehicles
- Average age
- Annual investment in replacement
- Fuel cost
- Fuel consumption
- Maintenance cost
- Number of mechanics
- Productivity of mechanics

- Size of repair shops
- Level of outsourcing
- Level of spare parts inventory
- Level of supervision and support

Some current practices were also compared with industry's best practices.

A few issues were identified during the planning phase:

- Customer satisfaction level
- Responsibility for Police vehicles
- Parts management and inventory issues
- Mechanics' productivity
- Accountability for fleet size and costs
- Customer service
- Information systems

These issues will be analyzed further in Section 5 of the report.

4.6.2 Transit Fleet Performance

Based on the data received from Fleet Services, it was determined that the following performance indicators had to be measured and compared with other jurisdictions:

- Utilization of the fleet
- Average age
- Downtime (number of spare or dead buses)
- MTBF - Mean time between failures (km)
- Number of buses per employee
- Supervisor ratio
- Kilometers per employee
- Number of buses per repair bays
- Ratio parts-labour in maintenance expenses
- Productivity ratio
- Maintenance cost ratios
- Fuel cost ratios

Current practices also had to be compared in detail with industry's best practices.

Aside from indicators and practices, a few issues were identified during the planning phase:

- Parts management and inventory issues

- Span of control for supervisors
- Succession planning for mechanics
- Numerous maintenance issues

These issues will also be analyzed further in Section 5 of the report.

4.6.3 Compliance

After our first survey, the following issues have been identified as requiring more investigation:

- Negligence implications/liability for breakdowns
- Unclean and congested work environment at the St. Laurent facility
- Array of legal issues arising from improper use of fleet facilities
- Statutory and Regulatory Interpretation
- Environmental Waste
- Purchasing bylaw and Adesa Auctions
- Compliance officer
- Insufficient training
- Code of Conduct and licensing requirements
- Driver Abuse and accident management
- Operating Licenses for the Garages
- Defective Equipment
- Vehicle Licenses
- Miscellaneous Labour Issues

These compliance issues will also be analyzed further in Section 5 of the report.

4.6.4 Financial Management

After our first survey, the following financial issues have been identified as requiring more investigation:

- Billing process
- Procurement process

These financial issues will also be analyzed further in Section 5 of the report.

4.7 Approach for Conducting the In-depth Analyses

Approach to address the performance issues:

- Formally request data from Ottawa Fleet Services
- Gather all pertinent data
- Review all data submitted

- Calculate performance indicators
- Compare performance levels with other jurisdictions
- Compare current practices with best practices
- Confirm or negate identified issues through in-depth interviews
- Review management responses to 2003 audit of the Implementation of the M4 Fleet Management System. Review any management action taken with regards to the recommendations of the 2003 audit.

Approach to address the compliance issues:

- Review all data submitted
- Establish who is responsible for circle checks
- Interview operator representative to ascertain role of drivers in doing circle checks.
- Identify who is responsible for maintaining safety in the workspace, and who is responsible for ensuring tidy workplaces. Who is responsible to make sure that emission vacuums are operational.
- Interview RPAM officials to examine what is done with air quality control and what allowances for new storage space can be allotted. Comparison to very clean and efficient sites at Elgin/Swansea.
- Interview officials to examine what policy allows for personal work to be done on City property and what safeguards are in place to protect against liability.
- Interview random sample of mechanics and technical affairs staff to ascertain the source of law for inspections. Review manuals, if any, that guide inspections and tender process.
- Identify who is responsible for environmentally sensitive waste and how is it dealt with. Interview RPAM officials to ascertain their mandate. Re-interview site managers to ensure that there is no contradiction.
- Interview finance official for complete determination of by-law application as pertaining to Adesa Auctions.
- Collate all applicable laws and regulations and explain how onerous this role can be and show that by admission many officials recognize that there is a shortage of expert knowledge that is readily accessible.
- Confirm who is responsible for licensing and enforcing the Code of Conduct.
- Determine what the licensing requirements are for each type of garage and who is responsible for ensuring they are in compliance. Interview RPAM and find out what their role is for licenses. Ascertain what role individual managers have for each site.
- Ascertain what protocols are in place to train staff and ensure that sensitive documents are protected adequately. Interview City officials to discuss existing policy on educating individuals on personal information protection.

- Interview technical services staff and mechanics responsible for MTO inspections. Ascertain penalties for non-compliance with MTO licensing guidelines.
- Interview union officials to ascertain if the fact that supervisors and mechanics belong to the same union is an issue. Inform City HR managers of issue for next round of collective bargaining review.

Approach to address the Financial issues:

Perform a detailed walkthrough of the following transactions:

- Test a monthly billing for Municipal Fleet
- Test the accounting process for a purchase transaction for Municipal Fleet
- Test the accounting process for a purchase transaction for Transit Fleet

5 DETAILED OBSERVATIONS, FINDINGS AND RECOMMENDATIONS

5.1 Municipal Fleet Performance and Practices

5.1.1 Municipal Performance Indicators

Issue

At first, there was no evidence of relevant performance measures being tracked and communicated on a regular basis. After verification, Fleet has undertaken two benchmarking initiatives recently:

1) Fleet has retained Bronson Consulting to assist them in a benchmarking exercise with the Canadian Association of Municipal Fleet Managers (CAMFM). This initiative is still at the point where members are refining both their vehicle classification coding structure as well as the exact constitution of each of the seven (7) agreed upon performance measures. These measures will be:

- count of vehicles by class
- average age by vehicle class
- utilization by vehicle class (kilometre or hour)
- fuel consumption by vehicle class
- maintenance cost per kilometre by vehicle class
- productive hours per mechanic
- door rate

Members were aiming for middle of October of 2006 to finalize both the classes and benchmark definitions. The ultimate goal of CAMFM is that by the end of the first quarter of 2007 to have in place 2006 benchmarking data for those CAMFM members who chose to participate.

2) Fleet also officially submitted 2004 and 2005 data to the Ontario Municipal CAO's Benchmarking Initiative (OMBI) and the results were released in December 2006.

Even though some benchmarking activities are underway, no detailed comparative data was made available for analysis. The auditors therefore had to measure and compare some performance indicators of their own.

Analysis

A) Fleet Size

Global information:

During 2005, the municipal fleet size was 2,968 units.

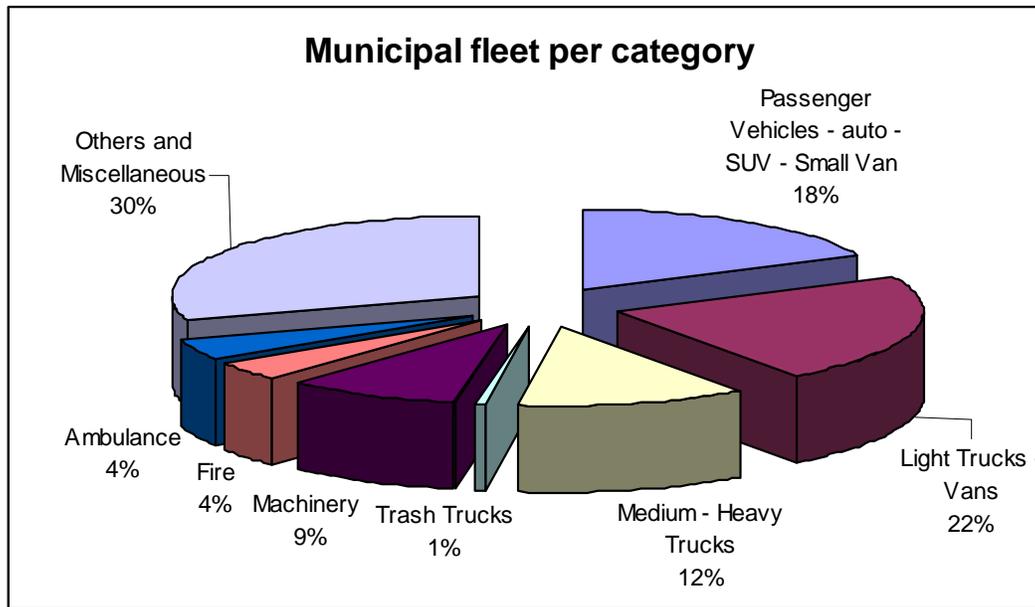
- There are 124 different categories of vehicles.
- 761 pieces of machinery.
- 2,207 vehicles.

We regrouped all the units into 8 categories to simplify the fleet profile.

Categories information:

	Quantity
Passenger Vehicles - auto - SUV - Small Van	531
Light Trucks - Vans	656
Medium - Heavy Trucks	363
Trash Trucks	20
Machinery	271
Fire	113
Ambulance	125
Others and Miscellaneous	889
Total	2.96

(Information source: vehicle master file/ Municipal)



The population of Ottawa represents 865,500 people. Therefore, we have a ratio of 1:292 (one vehicle for 292 inhabitants). A high ratio indicates a number of vehicles relatively lower than the other municipalities.

Comparison with other cities:

The average ratio is 1:288 vehicles in Canada based on a sample of 15 municipalities of various sizes. The variance is quite high though with ratios as low as 1:234 for cities like Quebec to 1:581 for Toronto. Many factors are influencing that ratio, such as the number of employees, the size of the jurisdiction, population density, percentage of work outsourced, etc... Winnipeg and Edmonton are probably the two most comparable cities and their ratios are respectively at 1:249 and 1:240.

Note that the number of vehicles includes all the registered vehicles used by the City. It includes Public Works, Police and Fire Services but not Transit.

To summarize, the City of Ottawa seems to have about the same number of vehicles as our sample of Canadian municipalities but over twice as many as Toronto and approximately 20% less than the most comparable jurisdictions (Winnipeg and Edmonton). That comparison is not particularly conclusive and measuring utilization shall give us a better indication of potential fleet optimization.

B) Utilization of vehicles

Utilization statistics by category:

	Average	Average hour
Passenger Vehicles - auto - SUV - Small Van	32,978	
Light Trucks - Vans	17,983	
Medium - Heavy Trucks	14,367	
Trash Trucks	28,714	
Machinery		777
Fire	6,858	
Ambulance	20,307	

(Information source: 2005 usage data.xls)

Comparison with other jurisdictions:

Average annual utilization of the sampled municipalities is:

- 688 hours/year for the machinery
- 14,827 km/year for the vehicles

Other issue identified:

1,114 units without kilometres/hour utilization data (includes equipment such as plough attachments, trailers, boats, etc...).

Comparing average utilization, Ottawa's vehicles seem more utilized than other municipalities. Considering that Ottawa's geographical area is quite vast, higher utilization should be expected.

Fleet Services has determined that reimbursing employees for using their personal vehicles is cheaper than owning a City vehicle if the annual utilization is lower than 15,000 to 21,000 km/year depending of vehicle size. Yet, according to average utilization data, up to 259 cars might be underutilized:

- 26 % of subcompacts (8 cars) are used less than their BEP (Break-Even Point) of 15,000 km/year
- 83% of compact cars (50 cars) are used less than their BEP of 17,000 km/year
- 51% of intermediate cars (112 cars) are used less than their BEP of 19,000 km/year
- 38% of full size cars (89 cars) are used less than their BEP of 21,000 km/year

With Ottawa's Centre of Expertise (COE) model, final accountability for vehicle utilization rests with the end users. Fleet does provide regular information on odometer

readings or hour meters but the users are expected to determine by themselves whether their vehicles are justified or not.

Recommendation 1

That Fleet Services continue reporting vehicle utilization regularly but focus on identifying units that are used less than their respective break-even point. Specifically,

- (a) Determine break-even points between owning a City vehicle and other transportation alternatives (minimum number of kilometres/year, number of days, etc.);**
- (b) Fleet Services has determined thresholds for cars but that same exercise should be repeated with other vehicle categories;**
- (c) That end users be held accountable to justify the identified low use vehicles directly to Council.**

Management Response

(a)/(b): Management agrees with these recommendations. These practices have been followed since amalgamation.

(c): Management agrees with the recommendation. Fleet Services will provide the appropriate information, to Deputy City Managers, to enable them to take appropriate action.

C) Age of the vehicles

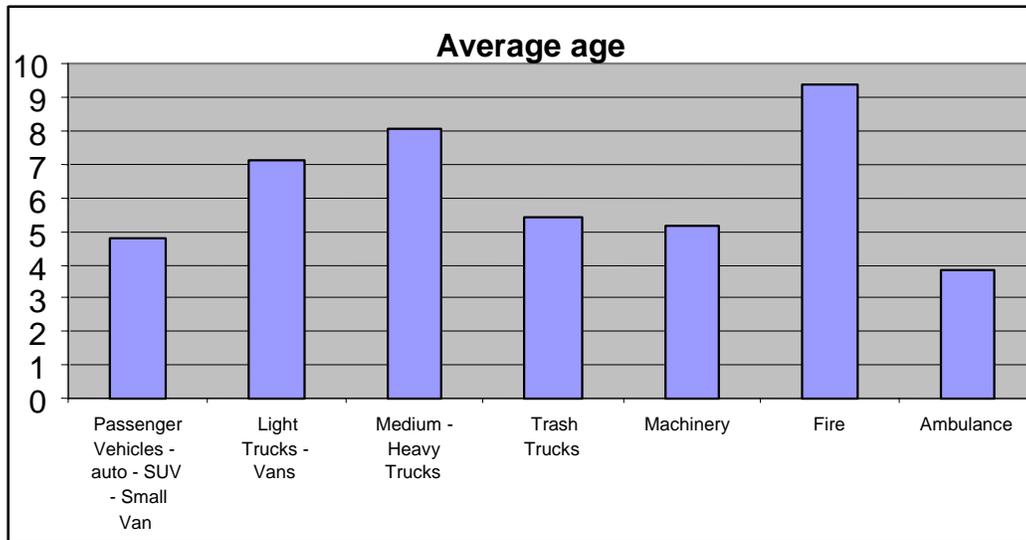
Global information:

The municipal fleet average age in general is:

- Average age for the machinery: 5.2 years.
- Average age for the vehicles: 6.5 years.

Breakdown by categories:

	Quantity	Average age
Passenger Vehicles - auto - SUV - Small Van	531	4.8
Light Trucks - Vans	656	7.15
Medium - Heavy Trucks	363	8.09
Trash Trucks	20	5.41
Machinery	271	5.19
Fire	113	9.43
Ambulance	125	3.9



The average age of municipal fleets typically varies from 8 to 12 years. Ottawa's fleet seems relatively younger than our sample of municipal fleets.

D) Annual investment in vehicle replacements

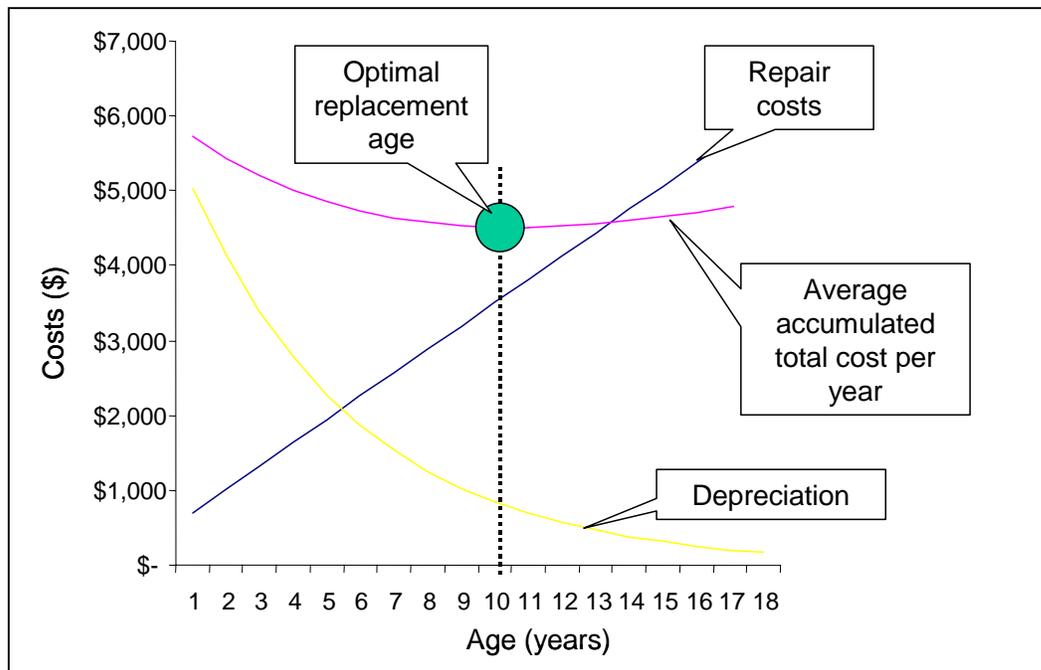
For 2005, the annual investment in replacement was \$11.4 million. (source: 2006 vehicle replacement plan.doc), 93 units were replaced in 2005.

The weighted average lifecycle as suggested by Ottawa is 8.8 years:

- 54 months for ambulances
- 84 months for light cars, vans and trucks
- 120 months for heavy trucks
- 180 months for fire engines and heavy equipment

Ottawa's theoretical life cycles are comparable with other jurisdictions, but seem particularly short in comparison with real life replacement cycles. The City would need to replace over 303 units per year to respect that cycle. So the fleet appears to be aging as compared with Fleet's targets. In fact, Fleet Services estimates that there is a vehicle replacement backlog of 779 vehicles with a replacement value of \$84 million. Now, since the fleet is relatively younger (for a municipal fleet) and may have a different pattern of utilization and cost structure, aging could, in fact, be economical in some cases. Determining optimal lifecycles, costing the impacts of aging and determining the ideal amount of annual investments seems like a pre-requisite. Best practices dictate that a model based on total lifecycle costing should be used to calculate the exact replacement ages of each major category of vehicles.

Best practice: Total Lifecycle Costing (TLCC) Model: Example of the impact of using TLCC vs. benchmarks for determining replacement age (Based on a real case for a municipality with 300 vehicles).



The fleet is relatively young but significant backlogs have been accumulated compared to the aggressive and theoretical replacement criteria. Since good quality data is now available, a plan based on real costs would offer much more precision and better chances of optimizing annual costs.

Systematically applying this model to Ottawa's municipal fleet could change the whole basis of the replacement plan. Benchmarks can always be used as a guideline but real costs should be used to elaborate an optimal plan. As an example, the following table illustrates how another municipality (confidential) extended its lifecycle by two full years after calculating its real costs and basing its replacement provisions on optimum age instead of benchmark.

Recommendation 2

That Fleet Services:

- (a) revise its replacement criteria using total lifecycle costing, which may result in extended lifecycles;**
- (b) elaborate a sustainable replacement plan based on documented criteria instead of theoretical lifecycles; and**
- (c) quantify all impacts of delaying replacements.**

Management Response

(a)/(b): Management agrees with this recommendation. Management currently submits a sustainable vehicle replacement plan through the Long-Range Financial Plan. Council determines affordable funding levels during annual budget cycles. Fleet Services vehicle lifecycles are based on industry standards; the City fleet is older than these standards as supported by independent analysis. There is a process of assessing replacement priority that considers age, usage, condition, cost and operational needs. Fleet Services will commence a process of determining economic life by implementing the equivalent annual cost (EAC) methodology through phases in 2007, starting with identifying the best opportunity for savings and priority identification by end of Q3 2007. This process may lead to shorter or longer lifecycles.

(c): Management agrees with this recommendation. Since 2005, Fleet Services has identified impacts of delayed replacements in the annual replacement report to Council in advance of budget deliberations and will continue to do so.

E) Fuel costs and consumption

Fleet Services has undertaken a major project of modernizing its bulk fuel installations and systems to enable them to capture all the pertinent information.

Recommendation 3

That Fleet Services complete the implementation of its new fuel management system and start monitoring fuel consumption and identify and investigate vehicles consuming more than expected.

Management Response

Management agrees with this recommendation and this practice has been underway since 2005. As well, Fleet Services is currently in the process of completing the standardized fuel management system for all City owned fuel sites, which will automatically perform checks relating to fuel consumption. The target date for completion is Q4 2007.

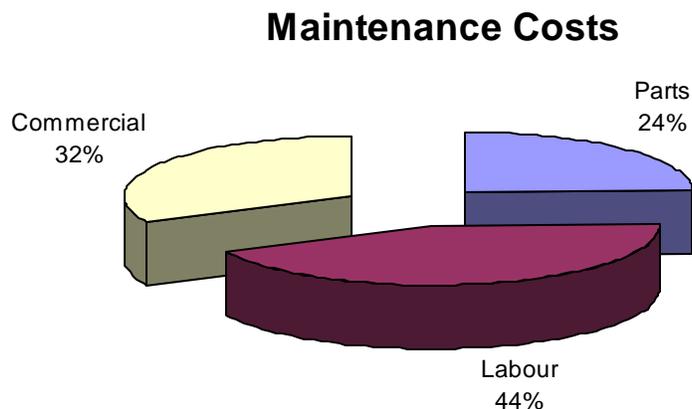
Since 2002, fuel usage per vehicle has been recorded and included in the monthly billing. High fuel consumption is noted and tracked.

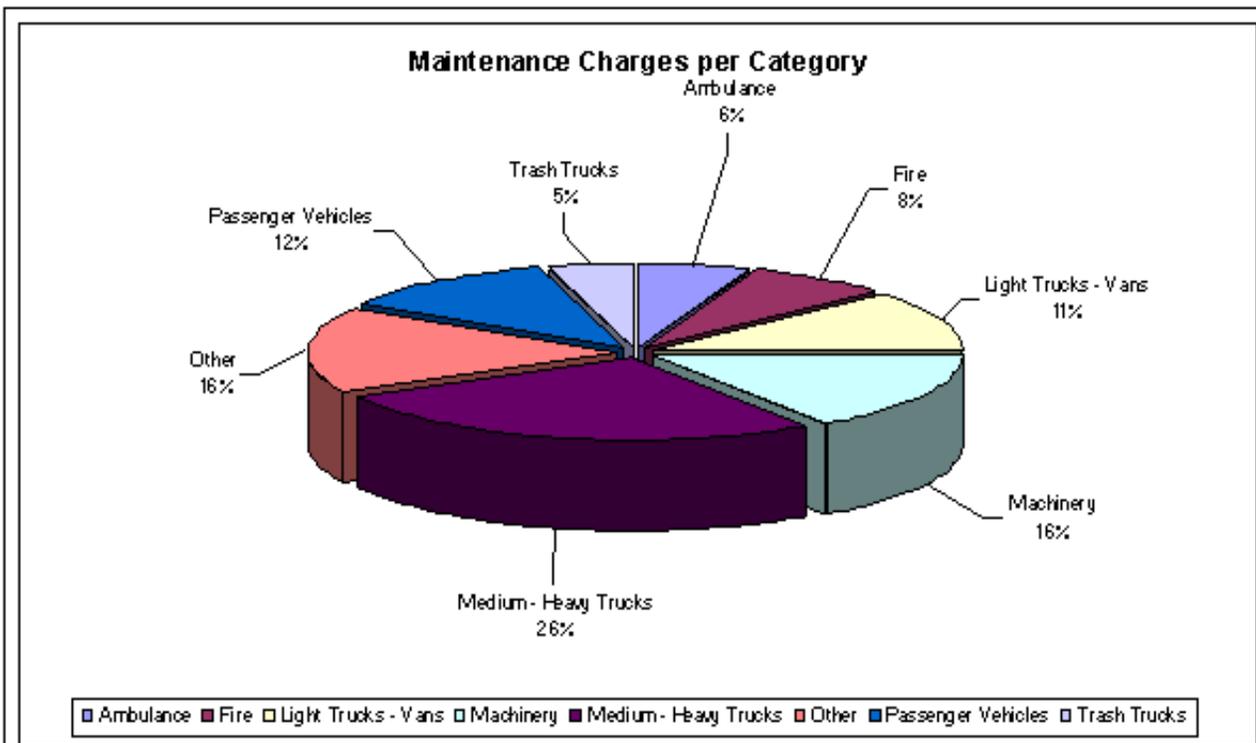
F) Maintenance costs Municipal Fleet spends \$17.9 million on maintenance as can be seen in the following table.

Categories	Parts	Labor	Commercial repairs	Total
Ambulance	\$ 255,056	\$ 298,322	\$ 157,463	\$ 710,841
Fire	\$ 334,905	\$ 693,682	\$ 646,139	\$ 1,674,725
Light Trucks - Vans	\$ 504,348	\$ 973,199	\$ 549,706	\$ 2,027,252
Machinery	\$ 687,904	\$ 1,038,477	\$ 1,275,718	\$ 3,002,099
Medium - Heavy Trucks	\$ 1,166,805	\$ 2,287,063	\$ 1,024,425	\$ 4,478,294
Other	\$ 735,543	\$ 1,246,039	\$ 395,267	\$ 2,376,848
Passenger Vehicles	\$ 508,017	\$ 769,920	\$ 1,229,457	\$ 2,507,394
Trash Trucks	\$ 197,821	\$ 458,067	\$ 515,574	\$ 1,171,463
Grand Total	\$ 4,390,400	\$ 7,764,768	\$ 5,793,749	\$ 17,948,917

(Information source: vehicle master file/ Municipal)

In-house work (parts and labour) represents \$12.1 million whereas external work represents \$5.8 million, so outsourced work is 32% of the total maintenance and repair costs which is more than 2 times as much as is usually seen in the municipal sector.





Cost per categories:

Categories	Main. Total	Total Usage (Kms or Hours)	Cost/kilometer (hour)
Ambulance	710,841	2,538,432	\$ 0.28
Fire	1,674,725	774,925	\$ 2.16
Light Trucks - Vans	2,027,252	11,797,059	\$ 0.17
Machinery	3,002,099	210,614	\$ 14.25
Medium - Heavy Trucks	4,478,294	5,215,387	\$ 0.86
Other	2,376,848	NA	NA
Passenger Vehicles	2,507,394	17,511,333	\$ 0.14
Trash Trucks	1,171,463	574,286	\$ 2.04
Grand Total	17,948,917	38,622,036	\$ 0.40

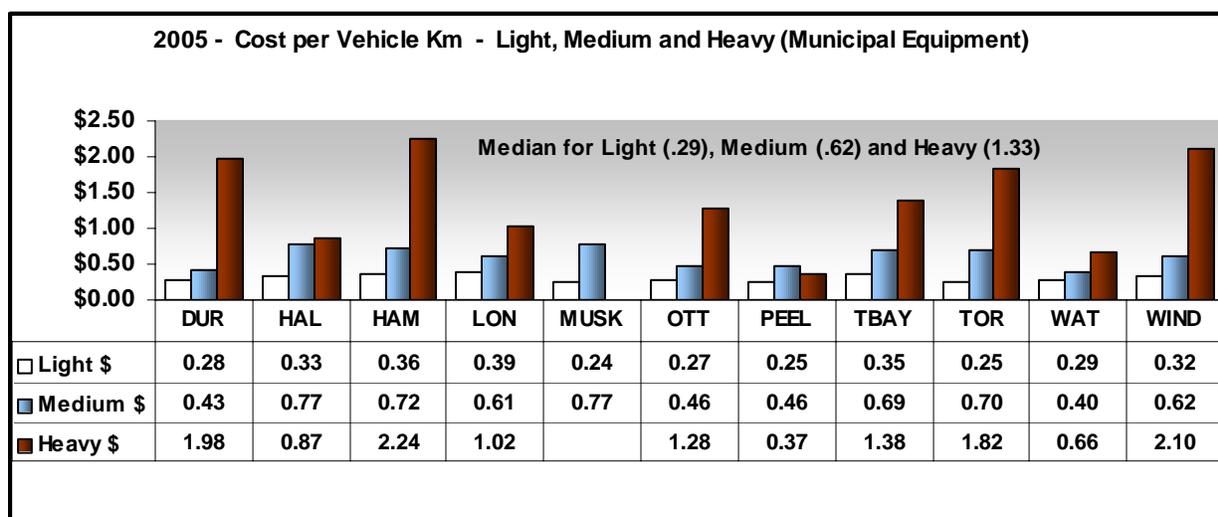
Comparison with other cities:

We compared the City of Ottawa's cost per kilometre for major categories of vehicles to those of other municipalities. Although there are limitations to such comparisons, it serves to highlight areas for improvement and areas where the City is faring well. The global average cost per kilometer is lower in our sampled municipalities but it depends on the fleet mix. By comparing major categories individually, Ottawa's performance for light vehicles (passenger vehicles and light trucks) can be seen as areas where Ottawa is exhibiting good performance; whereas improvements can be made in the area of heavy

and medium trucks where it is costing up to 15% more than average. This gap represents potential savings of approximately \$574,000 per year.

Vehicle	Ottawa cost/km	Comparative cost/km	Difference
Passenger vehicles (cars, minivans, SUV..)	\$ 0.14	\$ 0.18	-22%
Light trucks	\$ 0.17	\$ 0.21	-19%
Heavy & Medium trucks	\$ 0.86	\$ 0.75	15%

Note that OMBI (Ontario Municipal Benchmarking Initiative) issued a report in December 2006 in which Ottawa was compared to its peers in terms of costs per kilometer (see table below)



According to that report, Ottawa's costs per kilometer are better than the Ontario average in general but the variance for the "heavy trucks" category is so high that the average (or median) can hardly be considered a benchmark. For example, Peel has the lowest cost per kilometer at 37 cents whereas Hamilton has the highest cost at \$2.24 allowing us to question the statistical validity of that exercise. So even though, OMBI's results appear to contradict our analyses, we still recommend to review the costs of heavy and medium trucks.

Recommendation 4

That Fleet Services review its maintenance and repair cost performance for heavy and medium trucks.

Management Response

Management agrees with this recommendation. In 2007 Fleet Services will expand its benchmarking efforts. On top of the internal performance measures and those included in OMBI, Fleet Services is going to be searching across Canada for

additional national benchmarks. Over the course of the past two years, Fleet Services has been leading the benchmarking initiative for the Canadian Association of Municipal Fleet Managers (CAMFM). In the Q3 2007, CAMFM will mark its first year of comparing fleet measures across the nation.

Machinery's cost per hour:

Category	Parts Total	Labour Total	Commercial Repairs	Total M&R costs	Average cost per vehicle per year	Hours	Cost per hour
Machinery	\$ 687,904	\$1,038,477	\$1,275,718	\$3,002,099	\$9,500	210,614	\$14.25

Ottawa's global cost per hour of \$14.25 is considered good and better than the average of sampled municipalities which is around \$19.

Other information on the maintenance costs: The maintenance costs are segregated into different types of repair which is good.

Categories	Total	Percent
COLLISION	741,137	4%
BREAKDOWN	4,053,773	23%
CAPITALIZATION	414,624	2%
OPERATOR REPORT	3,311,648	18%
MODIFICATIONS	18,708	0%
ABUSE OF EQUIP	908,669	5%
PRE-DELIVERY	807	0%
PREVENTIVE MAINTENANCE	3,418,431	19%
REWORK	55,723	0%
THEFT	21,601	0%
WARRANTY	65,511	0%
DECOMMISSIONED/SOLD	30,811	0%
ROUTINE	4,907,996	27%
TOTAL	17,948,438	

Vehicle abuse is of particular interest since it represents over \$900,000 per year and no specific actions seem to be planned to address the issue. This issue is discussed in further detail in Section 5.3.10, Driver Abuse and Accident Management.

Preventive and routine maintenance are also another area of concern. Together, they represent 46% of the workload whereas breakdowns and operator reports represent 41%. Ideally, planned maintenance should be as high as 80%.

Recommendation 5

That Fleet Services:

- (a) Establish benchmarks, Key Performance Indicators (KPIs) and target performance levels, identify key success factors, identify gaps and investigate exceptions;**
- (b) Should implement a dashboard or balanced scorecard system to track all KPI's on a regular basis and increase accountability of the organization;**
- (c) Document vehicle abuses and elaborate strategies to minimize the costs related to misuse; and**
- (d) Elaborate an action plan to reduce the number of breakdowns and operator reports by reviewing preventive maintenance programs and measuring work quality in terms of Mean Time Between Failures (MTBF) or downtime and drilling down per category, per garage or per user groups until the root causes are identified.**

Management Response

(a)/(b): Management agrees with this recommendation and it has already been implemented. The branch has been and will continue to work with OMBI and CAMFM (Canadian Association Of Municipal Fleet Managers) to establish and report on fleet performance benchmarks. The branch presently reports on 17 performance measures with OMBI and 19 with CAMFM. Service performance is monitored and reported on a daily basis as part of our dashboard or scorecard system.

(c) Management agrees with this recommendation and it has already been implemented. The branch has been reporting vehicle abuse to operating departments monthly since 2005, however it is the responsibility of the operating department to take corrective action. A new initiative is being launched in Q2 of 2007 by the Fleet Services branch to review monthly abuse statistics with client departments to find out the root cause of the abuse/misuse and take corrective action. Both the Fleet Maintenance and Fleet Operator Training divisions will participate in these reviews.

(d) Management agrees with this recommendation. Fleet Services currently does failure analysis on a case-by-case basis to meet known problems. With the implementation of the new FMIS, a systematic review of mean times between failures will be established. Implementation is scheduled for end of Q2 2008.

G) Number of mechanics

There are 84 mechanics working in the 7 Municipal Fleet Services garages.

Garage	Swansea	Moodie	Clyde	Manotick	Elgin	Maple Grove	Belfast	TOTAL
Number of Mechanics	45*	11	7	5	3	7	6	84

*Note: Includes mechanics, minor mechanics and welders who perform mechanical work.

At 84 mechanics for 2,968 active units, the workload represents 35 vehicles per mechanic. That ratio is almost twice as high as the sampled municipalities but these municipalities outsource 3 times less.

At first glance, the number of mechanics seems lower than other jurisdictions when measured in units per employee. But staffing and headcount seem to be based only on budget constraints and observations which may explain why more work is outsourced. In conjunction with reviewing the level of outsourcing, staffing should be revised using methods like MRU's per mechanic (Maintenance and Repair Units) and VE's (Vehicle Equivalents), both commonly used in the industry and promoted by NAFA (National Association of Fleet Administrators). That method simply consists of converting each vehicle in the number of sedans it represents in terms of workload. NAFA's average, based on a sample of 75,000 vehicles, is 125 sedans per mechanic plus 15% outsourcing. For example, a tandem snow fighter truck represents about 20 sedans which translates to over 184 hours of internal maintenance and repair workload.

Recommendation 6

That Fleet Services evaluate its level of outsourcing and undertake a comprehensive review of the workload of all the shops based on benchmarks and budgeted number of maintenance hours per year per vehicle categories. Even though that exercise may have been done at amalgamation, the level of outsourcing as well as the number of mechanics per vehicle differ from comparable organizations, the situation has evolved since amalgamation and accurate data is now available to verify the original estimates. The use of activity based costing methods is highly recommended to determine which activity should remain in-house.

Management Response

Management agrees with this recommendation. The recommendation will be reviewed as part of the Branch Process Review scheduled to be undertaken in 2007.

H) Productivity of the mechanics

No productivity measures seem to be compiled for the mechanics. Section 5.1.4 will also address that issue.

Recommendation 7

That Fleet Services set productivity targets per mechanic in three ways:

- (a) Establish Vehicle Equivalent (VE) standards per mechanic based on NAFA's averages. Allocate annual hour budgets per vehicle based on the same VE method and track budget variances;**
- (b) Establish standard times per major activity based on Mitchell's OnDemand flat rate standards, American Trucking Association (ATA) standards or other recognized time estimating guides and track variances; and**
- (c) Record and compile all billable and non-billable hours on work orders and set a target of at least 60% of paid hours.**

Management Response

(a): Management agrees with this recommendation. Fleet Services establishes the needs for mechanics based on an assessment of actual cost applied against growth equipment. This option will be examined for analysing our structure during the course of this year.

(b) Management agrees with this recommendation. It was implemented in 2006.

(c): Management agrees with this recommendation. Fleet Services has been recording billable/non-billable hours since 2001 and is well above the industry benchmark of 60%. The total 2006-year benchmark for this category is at 68%. No further action is required on this recommendation.

I) Size of repair shops

	Swansea	Moodie	Clyde	Manotick	Elgin	Maple Grove	Belfast	Total
Number of bays	44	10	8	5	6	6	10	89
Total surface (Sq feet)	17160	8805	1800	2000	4400	860	860	35,885

With 2,968 units, Ottawa has a ratio of 33 vehicles per bay but only 403 square feet of floor space per bay.

Comparison with others cities:

The sampled municipalities: Average of 19 vehicles per bay and approx 2,350 sq feet/bay

The sampled utility fleets: Average of 38 vehicles per bay.

Ottawa has almost twice as many vehicles to maintain per bay and each bay is almost 6 times smaller so garage capacity might be an issue. As seen elsewhere in this report, Ottawa outsources more work than the average though and the vehicles are somewhat younger. Should a detailed cost analysis determine that more work should be repatriated internally and staff increased accordingly, shop size would have to be re-evaluated.

J) Level of outsourcing

As we saw under point F, the commercial side represents nearly 32% of the maintenance cost.

Comparison with others cities:

The sampled municipalities: 16%.

The sampled utilities fleets: average of 25%.

At 32%, Ottawa outsources twice as much work as the sampled municipalities. Recommendation no. 5 already covered that issue.

K) Parts inventory

Municipal fleet carries an inventory of over 18,000 items representing 240,000 parts and over \$2.3 million as illustrated in the following table.

Location	Number of item numbers	Quantity on hand	2005 volume (quantity)	Value	Inventory turnovers
Clyde	2459	23512	29666	\$ 142,705	1.3
Elgin	394	2762	11597	\$ 40,800	4.2
Moodie	3055	23070	24793	\$ 223,353	1.1
Manotik	2549	24089	27603	\$ 277,030	1.1
Maple Grove 1	2552	23548	25774	\$ 250,300	1.1
Maple Grove 2	655	9780	5950	\$ 41,217	0.6
Belfast	329	2	0	\$ 23	0.0
Swansea	6010	132921	169423	\$ 1,383,891	1.3
Total	18003	239684	294806	\$ 2,359,319	1.2

Municipal fleet's inventory represents:

- \$795 per vehicle
- 13% of annual maintenance costs
- Less than 1% of the fleet's original purchase value
- 1.2 turnovers per year

Comparison with other jurisdictions:

The sampled municipalities carry inventories representing:

- \$400 to \$4,000 per vehicle. Avg: \$1,427
- 2% to 33% of maintenance costs. Avg: 17%
- 0.1% to 3.3% of the fleet's original purchase value. Avg: 1.7%
- 3 to 4 turnovers per year is the norm

Even though most ratios fall within expected range, Municipal Fleet outsources 2 to 3 times as much as the sampled fleets so the inventory level would be expected to be much lower to increase the turnover ratio up to the standards. Note that Materials Management has contradicting numbers and seems to issue more parts to Fleet than Fleet is assigning to its vehicles. This will be reviewed during our 2007 audit of Inventory Management.

Recommendation 8

That Fleet Services, with Supply Management, optimize the supply chain and logistics of spare parts in order to increase the turnover ratio up to the standards.

Management Response

Management does not agree with this recommendation. The Auditor has correctly indicated that turnover rates are a controlling characteristic indicative of the performance of the supply chain process. However, Materials Management is concerned that the Auditor has too narrowly interpreted or misapplied the components of the equation yielding an incorrect turnover rate that would become a standard going forward in evaluating inventory performance. This will have very real effects on service to the public if blindly implemented. Materials Management are of the opinion, that the rate should be evaluated against comparable sized fleets taking care to recognize clearly the fleet composition and characteristics.

L) Level of supervision and support

Municipal Fleet mechanics are supported and supervised by 23 people giving a ratio of 27%

- 84 mechanics and other crafts people

Comparison with other jurisdictions:

The sampled municipalities: 30% (21% to 40%)

The sampled utilities: 43%

Municipal Fleet Services compares favourably with averages and has initiated benchmarking activities but should benchmark its activities with with OMBI, CAMFM and other selected partners or associations to identify further areas of improvement.

5.1.2 Customer Satisfaction

Issue

Some clients were surveyed and seem to be dissatisfied with Fleet Services, Fire Services and Surface Operations in particular.

Analysis

Interviews with Deputy Chief of Fire Department, Surface Operations Manager and Fleet Managers revealed that customer dissatisfaction may be due to a lack of trust in the Fleet maintenance group and to the lack of mechanics competency but also to the fact that work shifts of the garages are not matched with users requirements.

The Fleet maintenance group recognizes the concerns of customers but does not necessarily agree with these specific allegations. Since customer satisfaction is not measured systematically, Fleet is exposed to interpretation, disputes and voiced opinions that may wrongly affect Fleet's reputation and employees morale.

Recommendation 9

That Fleet Services adopt a proactive approach and reduce interpretation by documenting the levels of service expected from each client and by measuring satisfaction levels more accurately.

Management Response

Management agrees with this recommendation and it is already the practice. Fleet Services management meets regularly with the management teams of their largest clients (Surface Operations, Fire Services, Transit Services and Paramedic Services). This presents a forum for discussion of upcoming issues as well as resolution or identification of the way forward for any ongoing issues. In addition, the Service Level Agreements (SLA's) clearly outline the responsibilities and accountabilities of each party as well as documenting escalation processes for any unresolved issues.

Recommendation 10

That Fleet Services assign an account manager to clients and produce accurate and timely reports measuring different parameters such as:

- **Days of downtime;**
- **Compliance to inspection schedules (preventive maintenance);**
- **Customer's survey and customer satisfaction levels; and**
- **List of complaints received and actions taken.**

Management Response

Management agrees with this recommendation. Fleet Services retained KPMG in 2003 to build a client relationship model and perform a customer satisfaction survey. While no specific account manager was necessarily assigned, each functional area in the branch has a person assigned to the appropriate level in the client's branch.

A multitude of reports are provided to clients, monthly, quarterly, and at the end of each year. The information contained in these reports include: actual expenditures, budget forecasting, training provided, collisions tracked, fuel consumed, kilometres travelled, vehicle under utilization, and much more. For participating clients, monthly management meetings are held where issues are raised, addressed, and the outcomes documented. Fleet Services agrees another customer satisfaction survey is warranted and will schedule for completion in Q4 2008.

5.1.3 Parts Management

Issue

- Quality of service: Mechanics complain that the waiting times are too long at the counter
- Security: Mechanics have access to stores after hours and control is based on self-reporting in a logbook
- Clandestine inventory: Many parts found outside the control of stores and not part of the inventory. Inventories of tools, equipment and bulk fluids will be reviewed as part of our 2007 audit of Inventory Management.
- Slow parts turnover ratio: Seems to be approximately 1.2 times per year.

Analysis

Interviews with stakeholders revealed that there are two main causes of complaints from the users perspective:

1. Material attendants are not covering mechanics' shifts. No evening and night shifts. It is a self-service mode of operation so security is loose.
2. Most material attendants are not familiar with fleet parts. They lack mechanical expertise. So mechanics wait longer and they tend to accumulate parts outside of the store rooms.

This may result in:

- Loss of productivity.
- Lack of controls after hours and increased risk of theft.
- Clandestine inventories will continue because mechanics want to save time at the counter.
- Inventory levels may not be appropriate which is reflected in the low turnover ratio.

- Theft of inventory has occurred in the past. During the summer of 2006, Police arrested an employee of the Municipal Fleet for stealing parts. Therefore it is important that inventory be adequately controlled whether the parts are in the stores or already charged out to a vehicle.

Recommendation 11

That Fleet Services join Materials Management in a combined effort to:

- (a) Revise store staffing requirements;**
- (b) Improve training for storekeepers;**
- (c) Measure waiting times at the counter and set targets acceptable to Fleet Services;**
- (d) Document and eliminate clandestine inventory; and**
- (e) Introduce performance measures for stores and include them in a service level agreement with Fleet Services.**

Management Response

(a): Management does not agree with this recommendation. Management agrees with the recommendation however it disagrees that it can be implemented within existing resources. Approval will be requested for an additional \$180K Operating Budget funding in 2008 in order to allow Municipal Materials Management to hire three (3) Purchasing Stores Clerks to support currently unattended technician shifts. Presently, there are not any available resources to transfer staff from a regular day shift to an evening or night assignment.

(b): Management does not agree with this recommendation. Management agrees with the recommendation, however it disagrees that it can be implemented within existing resources. Training is required in order to maximize the efficiencies of SAP and improve training in other areas of concern to Fleet Services. Approval is required for an additional \$100K in the 2008 Operating Budget in order to allow Materials Management to complete this training by January 2009.

(c): Management does not agree with this recommendation. Management agrees with the recommendation, however it disagrees that it can be implemented within existing resources. Materials Management will request approval for one-time Capital Budget funding of \$60K in order to purchase an electronic queuing system and an on-going Operating Budget increase of \$7K is required to cover the life cycle costs for the continued use of the system. It will be completed six (6) months after the receipt of the 2008 budget approval.

(d): Materials Management agrees with this recommendation. Materials Management will continue to assist Fleet Services by cataloguing and restocking parts that are presented to Materials Management by Fleet Services to be held in inventory.

(e): Materials Management agrees with this recommendation. Materials Management, in conjunction with Fleet Services, will review requirements and establish service level performance measures.

5.1.4 Mechanics' Productivity

Issue

Seems to be no standard time per activity or productivity measures for the mechanics.

Analysis

The issue was confirmed during the interviews. Productivity measurement is considered important but was never identified as a priority. As a result, productivity may be low but measured only by observations. Opinions are difficult to defend without supporting measurements. Productivity will be very difficult to improve if Fleet can't measure it. All pertinent data seems to be compiled now and productivity measures can be introduced gradually. The current M4 system offers that capacity and so does SAP. Ottawa has reached a size where managers can no longer rely on observations and opinions to determine their mechanics' productivity. That issue was already addressed in recommendation no. 7.

5.1.5 Accountability

Issue

Vehicles seem to be justified only at acquisition. No one validates the needs once vehicles are integrated in the fleet. Fleet Services perceives its role as a supplier and trusts the chargeback mechanism to regulate users' needs. Customers now receive some performance reports helping them to control/reduce their costs like fuel consumption, misuse charges, accidents and utilization statistics. Interpretation of those reports is not always easy and follow up is virtually non existent. Vehicle log books are also non existent so it becomes very difficult to demonstrate that the current fleet size and mix is optimized.

Analysis

Fleet believes that their role is limited to supplying vehicles to users. The current Service Level Agreements (SLA) define clearly the roles and responsibilities of Fleet as a COE (Centre Of Expertise) vs its clients, the different Managers and Directors. One of Fleet's roles is to help obtain and justify funding when a vehicle is acquired or replaced and develop the appropriate chargeback mechanism to recuperate all its costs. The COE/chargeback model, therefore, relies on the users to determine their optimal fleet size and mix. The premise being that users will allocate their resources the most efficiently by themselves and by paying a monthly rate for their vehicles, users will determine whether their fleet is optimized.

The problems with that underlying assumption are that:

1. User departments operate within budget parameters and budgets are mostly allocated based on historical data. Since user departments are likely to get similar budgets year over year, there is little pressure on them to analyze “all” their expenses and even less to revisit past decisions.
2. Most vehicles are dedicated to either one or very few users (employees). Since headcount is quite stable and virtually a fixed cost for the City, so is vehicle cost.
3. Viewed at a micro level, from the users perspective, alternative transportation modes would procure very insignificant savings. For example, reducing the number of cars by reimbursing employees for the use of their personal vehicles might only represent a few hundred dollars per year per vehicle for the users. Taken at a macro level, Municipal Fleet is responsible for almost 3,000 vehicles and implementing vehicle pools, daily rentals or other types of fleet rationalization strategies might show total savings potential of hundreds of thousands and provide more incentives to rationalize if Fleet was made more accountable.

Another example is the fleet mix. One user might not see a significant advantage in downsizing its 12-vehicle fleet and use compact pick-up trucks instead of full-size vehicles. Taken on a larger scale, Fleet would see it as a more material initiative. Fleet may want to revise its chargeback model and include more persuasive incentives like charging a premium for larger or energy inefficient vehicles over and above the extra amortization or maintenance costs.

The current model is considered best practice by most public fleet managers but is not perfect. After discussing with vehicle users, other observations were confirmed, for example:

- The current chargeback model does not encourage vehicle sharing. Users have a feeling of ownership and are reluctant to share their vehicle since they end up paying whether the vehicle is used or not. Even if clients were receptive to sharing, no system is in place to facilitate the process like a list of vehicles available or a list of vehicles required or a reservation system.

Finally, while this model encourages Fleet to provide competitive services to its clients by charging back all its costs to a theoretically “non captive” client base, it makes Fleet accountable only for the bottom line instead of total City Fleet costs. For example, even though Fleet balances revenues and expenses to \$0, we found out that they are charging back \$10 million more than expected to the clients in 2005. Even though, it’s the client’s responsibility to justify individual expense increases, and some of these extra costs came from fuel price increases which were difficult to predict, the City still ends up paying \$10 million more than expected and no single organization seems to be held accountable.

Yet another aspect of the COE model is the consulting role in vehicle acquisition. As long as end users are able to justify and pay for the vehicles they are asking for, they will normally get it. Fleet typically uses a questionnaire to understand the users' needs and recommend the optimal vehicle for a specific task. The result is that most vehicles are somewhat personalized and users get a sense of ownership. Best practices would normally dictate that Fleet elaborates a standard vehicle per type of task to facilitate sharing and pooling, discourage customization and optimize costs. For example, our scanning of the fleet database found 75 sport utility vehicles, 80 passenger vans, 79 crew cab pickup trucks, 56 station wagons, 5 buses, 11 golf carts, 3 jet skis, rather unusual categories that should correspond only to very specific requests.

To summarize, the current COE model is in line with best practices and offers significant advantages. The major drawback is that it transfers most accountability to vehicle users who have low expertise in fleet management and poor information so some improvements must be made to optimize the model.

Recommendation 12

That Fleet Services:

- (a) Ensure that vehicle log books are used especially for light passenger vehicles and perform random audits to determine how often the vehicle is required. Kilometres may not always represent a good indicator to validate whether a vehicle is justified or not. Unjustifiable vehicles should be reported to Council;**
- (b) Facilitate vehicle pooling by adapting the chargeback model and transferring as many vehicles as possible to a daily rental mode;**
- (c) Improve the “Fleet Analysis Reports” sent out to clients at each period. The reports should focus on performance indicators, identify benchmarks, highlight exceptions and require actions. Indicators may include: Fuel consumption, utilization statistics, misuse, accidents, etc.; and**
- (d) Establish vehicle standards per types of task and discourage deviations from the low cost standards by requiring approval from upper management or Committee of Council.**

Management Response

(a): Management does not agree with this recommendation. Logbooks are a client responsibility. Fleet Services reports usage whereas the client determines the justification.

(b): Management agrees with this recommendation. Fleet Services maintains a vehicle pool that clients can access for rental units.

(c): Management agrees with this recommendation. Fleet Services has been providing reports to clients detailing all the indicators mentioned since 2002.

(d): Management does not agree this recommendation. Fleet Services uses best practices by developing vehicle specifications based on operational requirements of

the client department. The client department is responsible to determine the capability requirement and Fleet Services is responsible to prepare a specification to meet that requirement in a cost-effective manner. The standard specification is for a base model in each category. Options are added depending on specific application or as a result of departmental request with justification and authorization. Options not supported by Fleet Services are escalated to the Executive Management Team, and if necessary, Council for approval.

5.1.6 Call Centre for Fleet Services (Swansea)

Issue

The call centre at Swansea Garage is the main point of contact for Fleet Maintenance customers. They receive numerous calls on a daily basis from different groups of users asking for repairs, maintenance, towing, technical assistance. After hours, the calls are re-directed to the main call centre of Ottawa, and eventually to the Fleet Supervisor on duty. This call centre is a key element for Fleet customers, yet there seems to be no statistics available. The centre is not equipped with a phone system to track calls and no statistics can be compiled like the number of calls, waiting time, lost calls, peak periods etc.

Analysis

The issue was confirmed during the interviews. Due to the importance of this help desk and the volume of calls (based on interviews), the probability of losing or mismanaging calls is high and consequences on customer service can be quite harmful for Fleet. Without a proper phone system or data, it becomes difficult to size the amplitude of the problem but the impact can be customer dissatisfaction, frustration and unresolved fleet issues.

Recommendation 13

That Fleet Services perform a basic survey to evaluate the number of daily calls in and out of the help desk. After statistics are compiled, a business case should be made to acquire an appropriate phone system and adjust staffing to cover the evening and night shifts.

Management Response

Management agrees with this recommendation and it has been implemented. In conjunction with ITS, Fleet Services has investigated the number of calls to the City's Call Centre and the possibility of a call management system. From the analysis made on the light traffic pattern on the call centre, it was determined that the system is adequately equipped to handle the volume of calls and that the investment of \$19K in a call management system is not economically justifiable. However the situation will be continually monitored and the necessary action will be taken should it become economically justifiable. No further action will be taken on this recommendation.

5.1.7 Information Systems

Issue

The choice between the M4 fleet management system currently used by Municipal Fleet and SAP, the City wide ERP used for managing Transit's fleet, has not been made yet. This issue was identified by virtually every interviewee. Therefore, Transit and Municipal fleets operate with two different systems which causes all kinds of problems. The issue was already identified in the 2003 Audit of the Implementation of the M4 Fleet Management Information System, but no decision has been made since then.

Analysis

Interviews revealed that many actions, studies, analyses and discussions concerning the choice between M4 and SAP were realized since 2003 but the choice still has not been made and even though SAP is the City-wide ERP system which is also used to manage Transit's fleet, Municipal Fleet still uses M4 and is convinced that it represents a better solution. The result is a duplication of information, increased training, costly interfaces, no integration of data and not maximizing the potential of SAP.

Recommendation 14

That Fleet Services make a decision between M4 and SAP as recommended in the 2003 audit.

Management Response

Management agrees with this recommendation. The decision has been made to move to a single Fleet Management Information System, M5. Implementation is currently underway and is planned to be completed by the end of Q4 2007.

5.2 Transit Fleet Performance and Practices

5.2.1 Transit Performance Indicators

Issue

No evidence of performance measures and/or benchmarking information. The following performance indicators were measured and compared with other jurisdictions:

- Utilization of the fleet
- Average age
- Downtime (number of spare or dead buses)
- Number of buses per employee
- Supervisor ratio
- Kilometers per employee
- Number of buses per repair bays

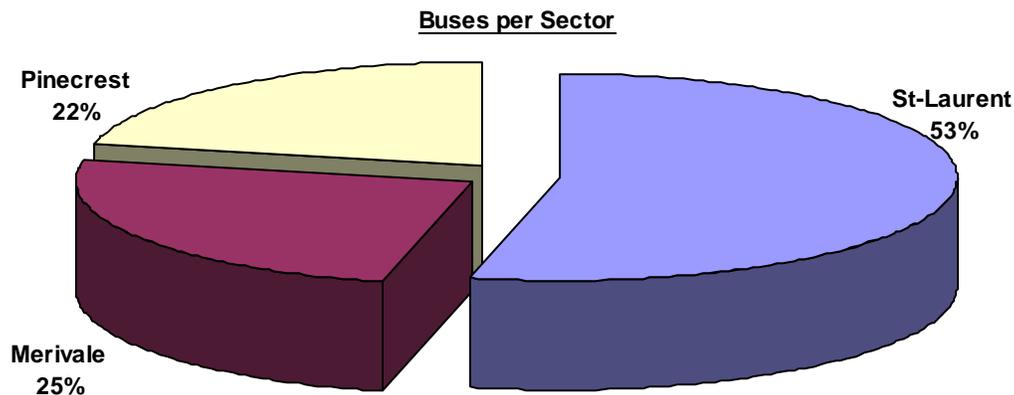
- Ratio parts-labour in maintenance expenses
- Productivity ratio
- Maintenance cost ratios

Analysis

Global information:

The transit fleet size (as of end of 2005) is composed of 958 units:

- 907 active buses.
- 39 buses are considered sold.
- 6 are temporary out of service with plans to be repaired.
- 6 are historical buses.
- 75% are 40' and 25% are 60' articulated buses



(Information source: Transit vehicle master File.xls)

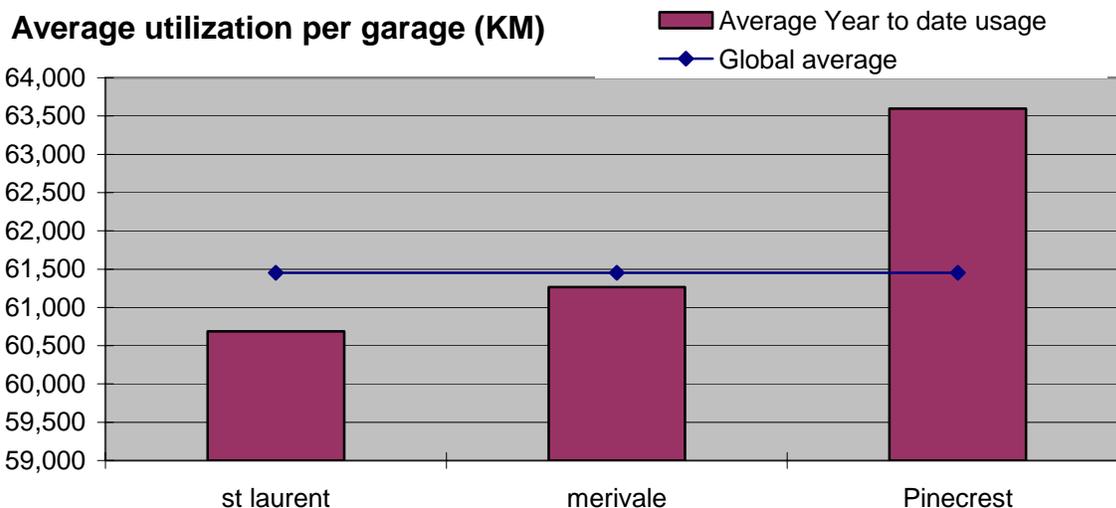
Ottawa Transit serves a population of 954 inhabitants per bus. The Quebec provincial average is 1,200 inhabitants per bus. So Ottawa's fleet of buses is 24% larger than our sampled municipalities and also 25% larger than Montreal's fleet on a per capita basis. Fleet size is mainly a result of demand and service levels offered to the population. Many other reasons may explain these differences and one of the most important is the fact that Montreal has subway and commuter train networks to supplement its fleet of buses. Fleet size, per se, is not critical as long as buses are utilized and productive, so utilization will be measured.

Population	865,500
Number of active buses	907
Inhabitants per bus	954

A) Utilization of the fleet

We have broken down the buses utilization per garage to get a better view.

	St Laurent	Merivale	Pinecrest	Global average (km/bus)
Average life to date odometer (Km)	485,244	545,004	935,513	596,545
Average annual usage/bus (LTD average in Km)	60,687	61,267	63,595	61,460



(Information source: Transit vehicle master File.xls)

Comparison with other cities:

Municipalities	Average km / vehicle
Quebec City	44,333
Montreal	45,290
Quebec provincial average	52,942

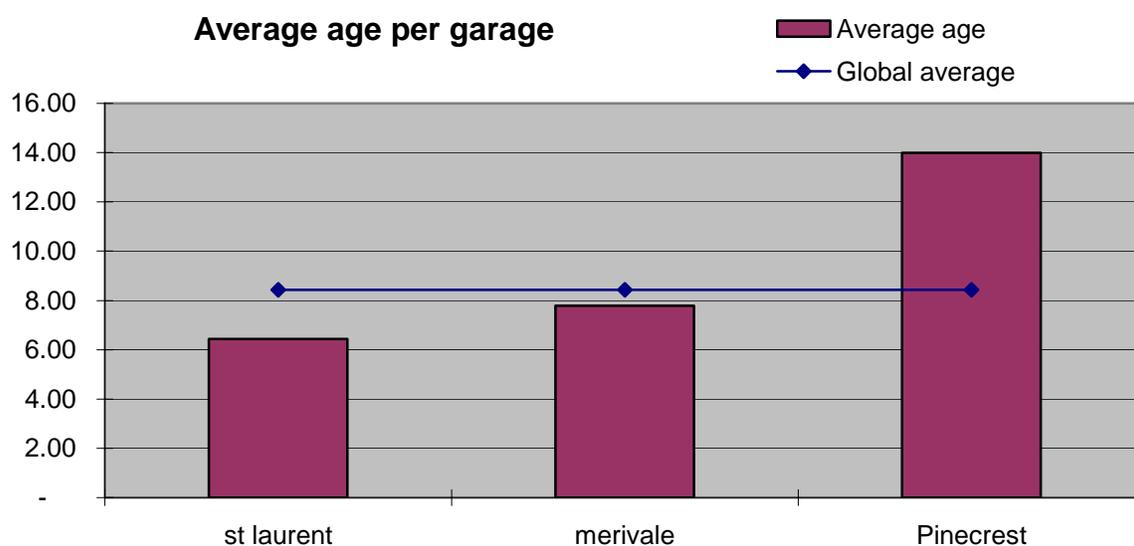
As can be seen, even though Ottawa Transit has significantly more buses, the average utilization per bus is 16% higher than our sample and over 35% higher than Quebec or Montreal.

B) Average age

Ottawa's bus fleet has an average age of 8.4 years:

Garages	St Laurent	Merivale	Pinecrest	Global average
Average age	6.43	7.78	13.99	8.44

We can see that most newer buses are located in St. Laurent, the largest centre, whereas Pinecrest's buses are twice as old.



(Information source: Transit vehicle master File.xls)

Comparison with others cities:

Municipalities	Average age
Quebec City	9.22
Montreal	7.30
Quebec provincial average	9.24

Transit's average age is about 1 year older than Montreal's but on average is comparable with other transit operators.

C) Downtime (number of spare or dead buses)

This data has not been made available for analysis.

D) Number of buses per employee

Information about the staff per garage:

Current Staffing by Shift				
	St Laurent	Merivale	Pinecrest	Total
7:30AM to 4:00PM				
Licensed Technicians	78	27	12	117
Non Licensed Employees	43	17	7	67
3:30PM to 12:00AM				
Licensed Technicians	26	15	5	46
Non Licensed Employees	16	4	3	23
8:00 PM to 4:30 AM				
Non Licensed	17	10	7	34
11:30PM to 8:00AM				
Licensed Technicians	16	9	4	29
Non Licensed Employees	11	4	3	18
Total	207	86	41	334

(Information source: Internal Audit information requested.xls)

Transit has 192 licensed technicians and 142 non-licensed employees for a total of 334 maintenance employees. Transit has a ratio of 2.8 buses per employee as can be seen in the following table:

	St Laurent	Merivale	Pinecrest	Total
Buses	503	232	203	938*
Maintenance employees	207	86	41	334
Buses per employee	2.43	2.70	4.95	2.81

*Note: Total number of buses may differ slightly from number of "active" buses

Comparison with other cities:

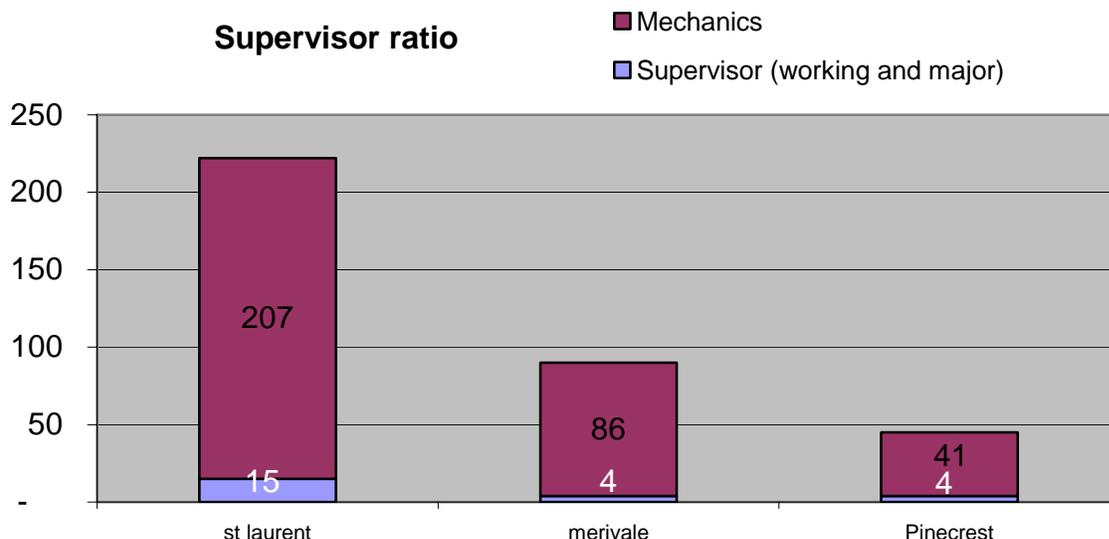
The average number of buses per maintenance employee in Quebec is 2.7 which is comparable to Ottawa.

E) Supervisor ratio

For this table, we only consider the direct supervisors meaning the working supervisors and the garage supervisors.

	St Laurent	Merivale	Pinecrest	Total
Supervisors	15	4	4	23
Maintenance employees	207	86	41	334
Employees per supervisor	13.8	21.5	10.3	14.5

(Information source: Transit Fleet Services Organizational Chart)



We can see that the span of control varies considerably from one garage to another. But on average, the ratio of supervisors is 6% as seen in the following table.

	St Laurent	Merivale	Pinecrest	Total
Supervisors	15	4	4	23
Maintenance employees	207	86	41	334
Total staff	222	90	45	357
Ratio of supervisors	7%	4%	9%	6%

The global ratio is comparable with other jurisdictions with Quebec City at 6%, Montreal at 5% and a global average of 6% for all of Quebec's transit organizations.

F) Kilometers per employee

Ottawa Transit is getting 172,603 km per maintenance employee on average:

	St Laurent	Merivale	Pinecrest	Total
Buses	503	232	203	938*
Average annual usage/bus	60,687	61,267	63,595	61,460
Total annual usage (km)	30,525,561	14,213,944	12,909,785	57,649,290
Maintenance staff	207	86	41	334
Average km/employee	147,466	165,278	314,873	172,603

*Note: Total number of buses may differ slightly from number of "active" buses

(Information source: Internal Audit information requested.xls and Transit vehicle master File.xls)

Comparison with other cities:

Municipalities	Average km/employee
Quebec City	92,390
Montreal	93,759
Quebec provincial average	144,633

Transit, in general, is getting 19% more kilometers per employee than our sample. St. Laurent and Merivale are close to the Quebec average but Pinecrest is largely exceeding this ratio which can be explained by the fact that all major work is being sent to St. Laurent .

G) Number of buses per repair bay

	St Laurent	Merivale	Pinecrest	Total
Bays	41	20	9	70
Buses	503	232	203	938
Buses per bay	12.3	11.6	22.6	13.4

*Note: Total number of buses may differ slightly from number of "active" buses

(Information source: Internal Audit information requested.xls)

That ratio seems a little high compared to the usual norm of around 10 buses/bay and may indicate that shop space is insufficient.

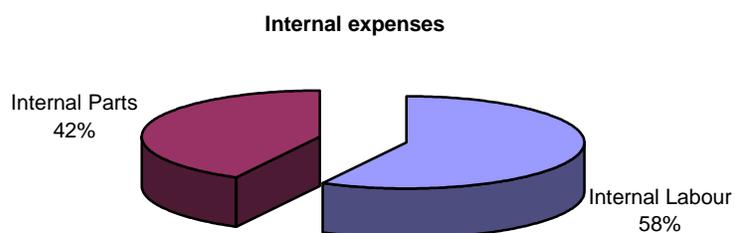
H) Ratio parts-labour in maintenance expenses

For this part, the data per garage was not available so we calculated a global ratio:

	Expenses	Percent
Internal Labour	\$25,028,537	58%
Internal Parts	\$18,386,375	42%
Total	\$43,414,912	

(Information source: Maint Repair Cost.xls)

This ratio is in line with expectations.



I) Productivity ratio

Ottawa Transit's internal maintenance staff is averaging 840 hours (paid hours) per bus per year.

	Total
Internal Labour Hours - regular	700,509
Internal Labour Hours - overtime	87,580
Average hours per bus	840

(Information source: Maint Repair Cost.xls)

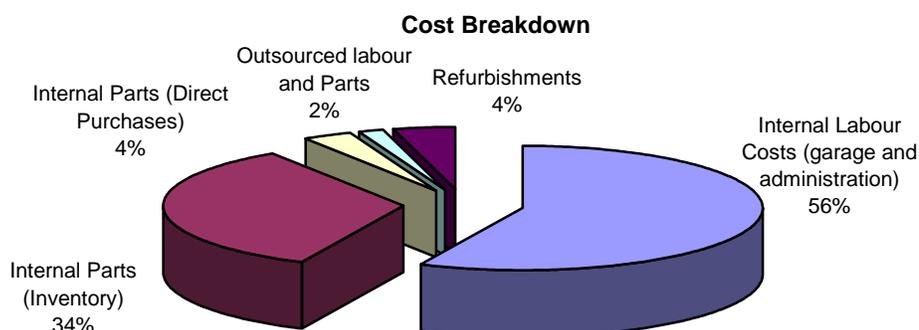
Since Transit has 334 maintenance employees, that represents an average of 2,360 hours per employee per year. The number of hours charged to work orders was not made available for analysis so productivity ratios were not calculated.

J) Maintenance cost ratios

Global information on costs:

Cost Element	Direct	Managerial/ Overhead	total
Internal Labour Hours	788,089	73,597	861,686
Internal Labour Costs	25,028,537	2,838,305	27,866,841
Internal Parts (Inventory)			16,661,506
Internal Parts (Direct Purchases)			1,724,869
Outsourced labour and Parts			795,525
Accident Repairs			N/A *
Misuse or Negligence			N/A *
Body Work			N/A **
Refurbishments			2,000,062
Gross 2005 Transit Operating Cost			49,048,803

(Information source: Maint Repair Cost.xls)



The maintenance cost (without administration) represents nearly \$52,291 per bus. Outsourcing is very low as expected in a public transit organization.

Cost per kilometer: 85 cents

	St Laurent	Merivale	Pinecrest	Total
Buses	503	232	203	938*
Average annual usage	60,687	61,267	63,595	61,460
Global kilometers	30,525,561	14,213,944	12,909,785	57,649,290

Maintenance & repair costs	26,302,290	12,131,473	10,615,039	49,048,803
Cost per Km	0.86	0.85	0.82	0.85

*Note: Total number of buses may differ slightly from number of "active" buses

(Information source: Transit vehicle master File.xls and Maint Repair Cost.xls)

Costs are relatively constant from one garage to another. Even though they are approximately 15% higher than the Quebec's provincial average, they are still lower than Montreal or Quebec Transit.

Comparison with other jurisdictions:

Municipalities	Average cost/km
Quebec City	0.92
Montreal	1.03
Quebec Provincial average	0.74

Cost per hours worked:

	Total
Internal Labour Hours	788,089
Internal Labour Cost	25,028,537
Cost per hour	31.76

(Information source: Maint Repair Cost.xls)

Anything below \$40 is considered good.

To summarize, the overall performance seems good but performance indicators should be tracked more systematically. Nothing seems to indicate a major performance gap in general but St. Laurent may need more attention.

Recommendation 15

That Fleet Services establish a series of performance indicators, track them systematically in a dashboard and be accountable for them.

Management Response

Fleet Services agrees with this recommendation. Fleet Services already has some established performance indicators, namely those that are part of OMBI (Ontario Municipal CAO's Benchmarking Initiative) and some that are strictly internal to the City of Ottawa (including one dashboard measure). Fleet Services is leading the development of other indicators with CAMFM (Canadian Association of Municipal Fleet Managers). With the arrival of a single Fleet Management Information System, Fleet Services will be in a position in 2008 to expand the dashboard indicators.

5.2.2 Transit Parts Management

Issue

First discussions and site visits brought certain aspects of parts management to attention:

- Inventory level seems quite high at \$16+million
- Approximately \$1million worth of new parts and reconditioned components lay around in the St. Laurent shop and are outside of the official inventory – Engines, transmissions, seats, electronic panels, etc...
- Many spare parts (used parts) were found everywhere without any identification – No way to know if the part is defective or can be re-installed

Analysis

After verification and analyzing different files, Transit carries an official inventory of \$11.3 million, excluding \$2.3M of fuel and approximately \$1M of rebuilt items.

Note that Fleet Services reports an annual spending on Transit parts of \$18.4 million but Materials Management reports issuing \$37.8M of parts to Transit Fleet, a variance of \$19.4 million. Since the audit was on Fleet Services, we used their numbers for calculating maintenance costs but Materials Management numbers for calculating inventory turnovers.

Measure	Value
Total Stock (\$)	\$11,265,333
Total Stock (items)	1,685,230
Total Issues (\$)	\$37,845,045
Total Issues (items)	5,064,818
Turnover (\$)	\$3.4
Turnover (items)	3.01

- A turnover ratio of 3 to 5/year is considered good so 3.4/year is acceptable. Our analyses also revealed that:
 - An inventory of \$12,420/bus is 70% more than other large transit organizations who typically carry approximately \$7,000/bus in parts inventory but Ottawa has more bus types and makes/models than the comparison base
 - An inventory level representing 23% of the annual maintenance cost is also almost twice as much as other large transit organizations who average approximately 13% but maintenance costs seem to be underestimated since the cost of parts assigned to buses does not match with the costs of parts issued to Transit.

Recommendation 16

That Materials Management and Fleet Services reconcile their inventory numbers in terms of parts issued to Fleet and parts assigned to buses and municipal vehicles.

Management Response

Management agrees with this recommendation. An analysis of inventory issues against fleet receipts was completed in mid April 2007 that reconciled all variances between Materials Management and Fleet Services. In the course of the 2007 Audit of the Inventory Management Process, Management will provide additional analysis on specific items discussed in the variance reconciliation provided to the Auditor General.

Recommendation 17

That Materials Management consolidate and repatriate all parts, new, used and remanufactured, within the official inventory.

Management Response

Management does not agree with this recommendation. Management agrees with the recommendation, however it disagrees that it can be implemented within existing resources. Materials Management believes that the used and remanufactured material currently residing outside their span of control should be moved from Fleet Services control into a secure environment and recorded in the SAP system. The opportunity to create a secure and effective storage area will present itself with the opening of the Swansea Rebuild area under the Fleet CapaCity Optimization project. Three (3) new staff positions at a cost of \$183K were approved in the 2007 Operating Budget. Additional funding requests of \$140K are planned for 2008 for racking and equipment to create a clean, safe and controlled storage environment. Materials Management will assume control and movement of the materials in 2007, where appropriate, following a risk assessment and cost-benefit analysis. Full and secure control of the appropriate stock will occur by the end of 2008 following budget approval.

5.2.3 Span of Control

Issue

Some supervisors seem to have as many as 45 employees under direct supervision whereas others only have 6-7 direct reports.

Analysis

After analyzing the organizational chart, we realized that the span of control ranges from 10 to 22, which is far from 45.

	St Laurent	Merivale	Pinecrest	Total
Supervisors	15	4	4	23
Maintenance employees	207	86	41	334
Employees per supervisor	13.8	21.5	10.3	14.5

Employees interviewed had incorrect perceptions. They were not counting the working supervisors in the ratios and after interviewing the supervisors, these ratios seem to work relatively well for them.

5.2.4 Succession Planning

Issue

Average age of mechanics seems quite high, recruiting skilled employees is difficult and the learning curve is lengthy so succession is a concern.

Analysis

Lists of employees were not made available for analyses but interviews confirmed that average age of mechanics is approaching 50 years and that succession has to be better prepared.

Recommendation 18

That Fleet Services and Employee Services develop a strategy for succession planning as Transit may have a shortage of qualified mechanics within a few years.

Management Response

Management agrees with this recommendation. This skill shortage is an industry-wide issue. The ongoing replacement of mechanics has already been identified as a component of the City's Succession Management/Talent Management Strategy. Fleet Services and Employee Services branches are currently working together on succession strategies including expansion of the apprenticeship program.

5.2.5 Maintenance Practices

Issue

After documenting the current maintenance practices, we noted that:

- There seems to have no preventive maintenance programs for bodies and structures (rust-proofing) causing early deterioration.
- Number of engine failures seems abnormally high.
- Number of documented bus fires (33) is a major concern. There is no documented risk assessment strategy to address this issue.
- Some component reconditioning activities are questionable – Example: maxi brake chambers.
- Major repairs don't seem to be accounted for properly – time not recorded against each component, components not inventoried, everything expensed.
- Employees are allowed to work on their personal vehicles in Transit's garages
- Preventive maintenance planning seems deficient – intervals vary from 5,200 km to 30,000 km depending on who you ask – few cases where oil was changed twice.
- Bus refurbishing program not clear – In theory, buses are refurbished after 12 years but one 20 year-old bus was seen with a new paint job.
- Overtime – Some mechanics may earn, including overtime, as much as \$100,000 per year.

Analysis

Further interviews revealed that:

- Transit is in the process of implementing a preventative maintenance program on bodies and structures. An RFP went out at the end of 2005 to select a private firm.
- No statistics on engine failures are communicated to shop floor employees but they are compiled by Technical Services. Auditors counted over 10 remanufactured engines waiting for replacement during site visits which seemed higher than required. The number of spare engines may vary based on failures but Fleet targets a production schedule of approximately 4 engines per month which seems acceptable.
- Bus fires were confirmed and documented – Management indicated that over half were due to brake malfunctions and almost all can be attributed to poor design. Each case has been thoroughly analyzed and many actions were undertaken to find root causes and prevent re-occurrences. Driver training is also insisting on recognizing early signs, recognizing risks and reacting promptly. The bus fleet has never been grounded following a fire, however no documented risk assessment or policy is available to address this issue.
- Reconditioning activities are not fully costed out.
- Working on private vehicles is confirmed as a tolerated practice.
- Complete bus refurbishing is evaluated on a case-by-case basis.
- Preventative Maintenance program not clearly understood by everyone.

- Overtime represents \$3.2 million a year for Transit or 17% over and above regular pay of \$18.9 million which is high. A specific audit has been done on that issue and should be followed up.

Various Bus Fires

Management has indicated that Fire prevention continues to be a priority and warrants special attention given the variety of possible root causes.

Management indicated that Fleet Services has already taken several actions to prevent fires on buses from reoccurring, and is continuing to work with the bus manufacturers and Transit Operations in an effort to reduce bus fires to zero. Each bus fire has been investigated and remedial actions undertaken. Several of these fires were jointly investigated with the bus manufacturers, and Fleet Services also advised and consulted with Transport Canada in March 2006 regarding all bus fires that had taken place to that point. From January 8, 2002 until Sept. 26, 2006 there have been 33 bus fires involving various makes, models and causes. In addition, there were four "near misses" where a fire did not actually occur. The following summarizes the fires, and the actions taken and planned.

Dragging Brake Fires - There have been 14 dragging brake fires. Dragging brakes can result in tires overheating and igniting. Of these 14 fires:

- Nine fires involved New Flyer 60 ft. articulated buses.
- Three fires involved Orion VI buses.
- Two fires involved New Flyer Invero buses.
- 13 fires happened on sub-freezing days. In 12 fires, it is believed that moisture in the air brake system froze, causing the brakes to drag. In one Invero fire, it is believed that the parking brake may have inadvertently been applied while driving.
- One fire happened on a day when it was just above freezing (2°C) on an Invero. It is believed that an air brake exhaust port may have plugged from road slush.
- It is significant that all dragging brake fires have occurred on low floor buses. No dragging brake fires have occurred on high floor buses. Given that the preventive maintenance undertaken on low floor and high floor buses is essentially the same, this would suggest that the design of low floor buses is inherently more susceptible to dragging brakes. This may be because, on low floor buses (with the exception of the Orion VI buses) the air tanks are located at the ceiling level of the buses which means that any moisture in the system tends to migrate downwards to brake components located at the bottom of the bus. In contrast, in high floor buses, and in Orion VI buses, the air tanks are underneath the floor and the brake components are located above, making the brake components less susceptible to moisture migration and freeze up.

Actions taken to date to minimize the occurrence of dragging brake fires include:

- The retrofitting of automatic moisture expelling valves (Expello valves) to the wet tanks on the fleet of Orion VI buses and New Flyer 60 foot articulated buses in the latter part of 2002 and early 2003. Since these Expello valves were installed, there have been no further Orion VI dragging brake fires. There have, however, been subsequent dragging brake fires on New Flyer 60 foot articulated buses. The reason why dragging brake fires have continued on the New Flyer 60 foot articulated buses but not on the Orion VI buses may be related to the location of the air tanks as discussed above.
- Expello valves are now part of Ottawa bus specs and are installed on all new buses at the factory. These appear to have been effective as, so far, there have been no dragging brake fires on new buses attributable to frozen moisture.
- Additional preventive maintenance measures have been implemented, such as periodic change out of components found to be susceptible to freezing/moisture and more frequent changing of air dryer desiccant. In concert with this, various service bulletins have been issued to Fleet mechanical maintenance staff describing problems that have been found with measures to address those problems.
- Early warning lights have been tested on dashboards of buses to provide drivers with visual warning that brakes are starting to drag. These will be installed on the Invero buses as part of an OEM upgrade.
- Periodic bulletins, particularly at the start of cold weather and during winter, are sent to drivers to remind them of the symptoms of dragging brakes. Before fire actually develops, dragging brakes typically provide warning symptoms such as an apparent lack of power, a burning smell, or smoking brakes. These symptoms of dragging brakes are also covered in new driver training sessions.

Planned actions to further reduce the occurrence of dragging brake fires include:

- The testing of a brake stroke indicator device which will provide early warning if brakes are starting to drag. This is in addition to the warning lights on the Invero buses mentioned above.
- In the New Flyer 60 foot articulated buses, relocating a brake component found to be particularly susceptible to freezing to a higher elevation in the bus, above the air tanks. It does not appear to be feasible to relocate the air tanks under the floors of the New Flyer 60 foot buses.
- On the New Flyer Invero buses, reconfigure some exhaust port lines to minimize the ingress of road slush.
- Continue to work with New Flyer to try and identify where improvements can be made to reduce the susceptibility to dragging brakes.
- Continue to perform preventive maintenance in an effort to minimize the likelihood of moisture accumulation.

- Continue to issue to drivers periodic reminder bulletins of the symptoms of dragging brakes and continue to include the symptoms of dragging brakes in new driver training classes.

Heater Fires - There have been five heater fires, all on New Flyer low floor buses. Four fires occurred on New Flyer 60 foot articulated buses and one fire occurred on a New Flyer Invero bus. There was also one "near miss" on a New Flyer Invero bus. Investigation revealed that the design of the electrical protection system was inadequate to trip the circuit breaker in a timely manner if a problem developed with a fan motor in the heating system. New Flyer redesigned the electrical protection systems and the redesigned components are currently being installed. In the case of the 60 foot articulated buses, the circuit breakers were manually removed to prevent further fires until such time as the redesigned components were installed. It is anticipated that the redesigned components will be installed on the Invero buses prior to the 2006-07 heating season. When Fleet Services contacted Transport Canada in March 2006, Transport Canada indicated that they might contact New Flyer regarding Invero heater fires.

Battery Equalizer Fires - There have been four battery equalizer fires, three on Orion VI buses and one on a New Flyer Invero bus. Investigation revealed that these battery equalizers are the subject of a recall by their manufacturer and are thus being changed on a preventive basis. The battery equalizer is a charging system component located in the engine compartment and fire damage tends to be minimal and confined to the engine compartment and presents little risk to passengers.

Electrical Fires - There have been 7 miscellaneous electrical fires. One was on an Ikarus bus, which is a type of bus that the City no longer owns. Three were on Orion V buses and were "one of" in nature. One was a "one of" fire on a GMC bus. One was on a route # sign on the back of a GMC bus. And one was a minor starter motor fire in the engine compartment. These fires were "one of" or minor in nature and no special action is planned other than ongoing preventive inspections.

Diesel Fuel Leak Fire - There has been one fire due to a diesel fuel leak when a fuel line chafed in the engine compartment on a Nova bus. This was a "one of" fire, and no special action is planned other than ongoing preventive maintenance inspections for chafing.

Engine Oil Leak - There has been one fire due to an engine oil leak when a line chafed in the engine compartment on an Orion VI bus. This was a "one of" fire, and no special action is planned other than ongoing preventive maintenance inspections for chafing.

Radiator Fan Hydraulic Fire - On August 23, 2006 there was one hydraulic fluid fire on a New Flyer 60 foot articulated bus. Fire damage was minimal, but the potential for

more serious damage exists. Investigation revealed that the radiator fan mounting brackets broke due to apparently substandard welding, allowing the fan to sever hydraulic hoses in the engine compartment and ignite. Investigation also revealed that two fan brackets had broken previously in sister buses that had not resulted in a fire. Discussions\inspections with New Flyer indicate that these problems are likely confined to the latest issue of these buses (50 in number). An initial inspection was conducted using City mechanics, and an additional inspection regimen is currently underway-utilizing magnetic particle inspection (MPI) techniques. MPI can identify hairline or subsurface cracks not readily detectible by visual inspection. Of the initial twenty buses inspected by MPI, ten showed some degree of cracking of which six required immediate repair. The remainder are scheduled for inspection.

Management has indicated that a number of remedial actions have been taken and more are planned with the goal of eliminating fires on buses.

Recommendation 19

That Fleet Services implement a preventative maintenance program for bodies and structures.

Management Response

Fleet Services agrees with this recommendation.

A Materials/Mechanical engineer was hired in 2005 to develop a preventative corrosion protection program for bus chassis and structures. This program for all the transit bus fleet is under development, with support from other transit agencies such as STO (Gatineau) and STM (Montreal), as well as bus manufacturers.

In the interim, Fleet Services has implemented an inspection protocol for its newest transit bus models, D60LF (227 buses) and D40i (239+ buses). Inspections have been established in 2005 and updated in 2006, and meet the bus builder recommended preventative maintenance schedule.

Recommendation 20

That Fleet Services elaborate and implement a risk assessment strategy and a clear procedure in case of bus fires due to malfunction or poor design.

Management Response

Management agrees with this recommendation. The documentation of the risk assessment strategy will be completed by September 2007.

Recommendation 21

That Fleet Services and Supply Management determine the exact costs of reconditioning components (Activity Based Costing) and charge all the reconditioned parts to the inventory.

Management Response

Management agrees with this recommendation. However, costing the components is complex and needs further review by Supply Management, Accounting and Reporting and Fleet Services. This work will be completed by the end of 2008.

Recommendation 22

That Fleet Services elaborate and document its refurbishing program.

Management Response

Management agrees with this recommendation. A procedure is already in place for determining which buses will be reconditioned and on what frequency. A spreadsheet detailing past, present and future activity exists however the process has not been documented. Fleet Services will undertake to complete this documentation of the process by Q3 2007.

Recommendation 23

That Fleet Services document the preventative maintenance program and train and inform the mechanics.

Management Response

Management agrees with this recommendation. Transit Fleet's Preventative Maintenance program is presently under review. Some changes have already been implemented and it is anticipated that further modifications will be introduced by Q3 2007. Training is being carried out as part of the review as is the use of working groups to optimize the programs. Also, the implementation of a new Fleet Management Information System (FMIS) in the latter part of Q4 2007 will provide Transit Fleet Maintenance with the tool necessary to better manage the program.

5.3 Compliance to Laws and Regulations

5.3.1 Circle Checks and Routine Inspections

Issue

Insufficient/inconsistent planning and scheduled repairs. Conflicting information with regard to the final circle check of the vehicle. In cases where an accident occurs as a result of a defect, a diligent repair schedule could have easily avoided the accident entirely and a circle check should have exposed the defect before the vehicle is released to the road. Preventative maintenance is often seen as a marker for "due diligence" in negligence situations involving professional fleets/drivers.

Once it is established who is responsible for each function, and what each function is designed to catch, these roles must be shared with the operators and mechanics to ensure that there is no confusion as to what is expected of each group. The excellent

training programs in place are ineffective if the operators are not reminded of the vital role that they play prior to engaging their vehicles for service.

Analysis

Interviews with Fleet Managers and Supervisors have elicited contradictory results. Interviews with supervisors have shown that the time required for routine Ministry of Transportation inspections are very time consuming as a result of having such a large fleet.

Training programs focus on the importance of pre-trip inspections. Some confusion likely emanated from very specific inspections for heavy duty vehicles. The programs themselves are not the problem- they are rigorous and regulatory driven.

One possible cause for this issue is miscommunication between the management and the operators of the vehicles.

Another possible cause is that operators do not do their circle check because they are misinformed about the role that “countdown” is meant to play.

It is most likely, however, that the cause is a slow and steady degeneration of interest by operators in the very clear directives found in the “Equipment Daily Inspection Reports” and the *pro forma* method with which the operators carry out their inspections. Over time, all routine inspections may become far “too routine”. Training programs are very good at dealing with this issue. The problem will likely be solved with renewed training and vigorous re-affirmation of routine maintenance and pre-trip policy.

The risk associated with doing an insufficient circle check of a vehicle before it leaves the station is high. If a defect is not detected, and that defect would have been detected by a properly executed circle check, the exposure to the City to liability may be significant.

Generally, having a consistent and routine inspection schedule for vehicles will contribute significantly to avoiding exposure to liability that results from preventable breakdowns. Garage supervisors note that the fleet is operating at approximately 75% efficiency for the active units. This is below industry standards.

Recommendation 24

That Fleet Services redirect resources to planned repairs and routine maintenance and review its procedures pertaining to circle checks and routine maintenance to ensure that the individuals responsible for performing said operations are properly versed with their responsibilities and make use of the training programs available.

Management Response

Management disagrees with this recommendation. Clear accountabilities already exist for operators for inspection and repair and they are documented and incorporated in training programs. No further action needs to be taken on this issue.

5.3.2 Work Environment at the St. Laurent Facility

Issue

The facility is overcrowded, unclean and has significant pieces of equipment located on the floor.

The other Fleet Services' shops were very clean in comparison. This is a phenomenon that is limited to the St. Laurent Facility and which may be due to limited workspace and cramped working conditions.

Analysis

On site observation of crowded work space and interviews with maintenance management elicited an acknowledgement of the problem but the people interviewed indicated they were powerless to effect required change at this moment.

There will be a new addition to the Swansea facility within two years. Major repairs will also shift to the new facility by March 2007. Management differentiate between the state of affairs in the North and South shops.

According to management, engine "core" storage is an ongoing difficulty that has been raised with both management and parts. As "rebuilt" parts, they do not fit into the inventory and contribute to a congested work space.

While garages are normally far from pristine, by their very nature, they require constant maintenance for cleanliness and St. Laurent should be cleaned up.

Recommendation 25

That the St. Laurent shop be cleaned up.

Management Response

Management does not agree with this recommendation. Cleanliness in the garage is not the issue, however, the crowded work-space does contribute to the untidiness of the garage.

Daily shop maintenance routines performed by Transit Fleet maintenance staff include cleaning their work areas during and upon completion of each bus repair. Area cleaning is also done by Transit Fleet maintenance staff on an as-needed basis and equipment cleaning and maintenance is done on a scheduled basis by RPAM.

The St. Laurent garages are well utilized and although crowding of buses and components is a challenge to work around, cleanliness is a priority.

Crowding of most areas will be significantly reduced by the end of 2007 when the major repair operation moves to another garage thereby providing additional storage space for components and cores presently stored in these bays. There will be an opportunity to improve the "area" cleaning component at that time, and action will be taken following this move.

5.3.3 Personal Use of Fleet Facilities

Issue

Employees are working on their own vehicles. Uninsured risk and increased exposure to liability. Employee theft. Deemed benefit under the *Income Tax Act*. Violation of the City of Ottawa Code of Conduct for employees.

Analysis

Auditors reviewed the City of Ottawa's Code of Conduct and interviewed managers and garage supervisors.

There were some concerns raised by senior management that the strict enforcement of the Code of Conduct would create labour unrest at a particularly sensitive time. Management admits that the issue is a cause for concern, and must be dealt with expeditiously.

Notwithstanding the above, management acknowledges that something must be done to stop the behaviour, and will be in a better position to do so in the near future.

Prior to the inception of the Code of Conduct, this behaviour existed. Once the Code passed, little was done to arrest the behaviour. As such, other than a blatant disregard for City policy, there is no overt cause to this problem other than inconsistent management and discipline of employees for behaviour that is outside of the scope of their duties. This type of behaviour generally starts as a very small infraction, which steadily escalates with each additional minor infraction. As the issue has been left in abeyance for some time, the behaviour becomes commonplace.

The risks associated with this behaviour are numerous and grave.

- 1) **Theft of parts, fluids and loss of City time:** There is no way to easily quantify the amount of time that employees spent working on their own vehicles because there is not a regimental tracking system on the jobs that are assigned to mechanics. Considering the difficulties reported with controlling overtime, Fleet should be concerned that mechanics are working on their own vehicles during

“office hours.” As it specifically relates to parts, obviously not all parts are suitable for the light duty vehicles driven by mechanics, there are insufficient controls to ascertain what parts were assigned to what repair jobs. This is particularly germane to fluids which cannot be easily quantified and the nature of their use allows for both spillage and overage.

- 2) **Exposed liability to accidents:** Any mechanic who injures themselves, or others, while working on City property will expose the City to liability. Notwithstanding the contributory negligence elements of any self inflicted injury, the City would be exposed due to the fact that they were knowingly complicit in unlawful behaviour of their employees. If an innocent third party were injured as a result of an accident in the garage that occurred while work was being done on a private vehicle, the damages would be even more significant considering that the City is aware of the practice and has done nothing.

Non-Compliance with Income Tax Act: The use of the facility by a mechanic for personal benefit is a benefit of employment under the *Income Tax Act*. There is no evidence that this is being reported by employees. Supervisors are aware that mechanics are using the facility and the supplies found therein for their own personal use (Rags, Oil, Shop equipment and other supplies.)

Recommendation 26

That Fleet Services management direct staff to immediately stop any personal vehicle repairs from being carried out. That all employees be re-educated about the details of the City’s Code of Conduct requirements and that strict adherence (zero tolerance) to the existing policy be enforced rigorously.

Management Response

Management agrees with this recommendation and it has been implemented. A directive was issued to all staff on July 6, 2006, detailing the prohibitions outlined in the Code of Conduct. Fleet Services has also been monitoring this to ensure ongoing compliance.

5.3.4 Statutory and Regulatory Interpretation

Issue

Individuals inspecting vehicles for compliance with regulations are not well versed on the meaning of the regulations. One person is responsible for ensuring tenders are compliant, but there is virtually no check on that responsibility. Vehicles which are assumed to be in compliance with motor vehicle regulations may not be as a result of a reliance on the manufacturer to adhere to specifications. Bid specifications may not be up to date as the precedents are not reviewed thoroughly. Need for mechanics to have

access to easily understandable source of regulations or they may perpetuate a problem by repairing units to incorrect mirror image specification.

Analysis

Review of tender manuals, interviews with Fleet management and mechanics, cursory questioning of individuals responsible for repairs illustrated unfamiliarity with basic statutes and regulations that apply to vehicles that make up the Fleet. Some Fleet inspectors have noted that there is uncertainty when Ontario Highway Traffic Act (HTA) inspections are done, and noted that a tool that could provide them with a clear and logical interpretation would go a long way.

The problem stems from an established practice that is based on “mirror image” repairs. This creates an excellent mechanism for ensuring that vehicles are returned to the road with the same features that they carried before they were repaired. Unfortunately, it presupposes that the vehicle in question was built to specifications in the first place or that the regulations have not changed since the original bid was tendered to the public.

There is also the potential to have additional training for individual mechanics and supervisors about the various acts and regulations which apply to the vehicles they repair. This manual could be integrated into the “Equipment Daily Inspection Report” if new manuals are crafted that are model specific.

Otherwise, additional training for mechanics and operators will also assist in familiarizing those most directly connected with the vehicles with the requirements associated with the vehicles.

The level of risk associated with this observation is low. Ultimately, there are many other checks in the system which is designed to ensure regulatory compliance. Further, the onus is on the manufacturer to provide a vehicle which is manufactured to the standard required by the Federal *Motor Vehicle Safety Act* standard, and to construct a vehicle which is consistent with the RFP.

That said, the cost of creating this manual is very low and it will serve as a perpetual training tool. The Ontario *Highway Traffic Act* regulations provide very detailed visuals for what is required for compliance. Similarly, other acts that affect fleet (like for example, the *Ambulance Act*) can be easily condensed into a brochure that can be quickly referred to by mechanics and supervisors when working on an Ambulance.

Recommendation 27

That Fleet Services commission an easy to read and updateable manual for the ease of reference of managers, mechanics and operators. As an alternative, we recommend that additional training be provided to managers and supervisors about the various regulations and the applicability of the federal and provincial statutes to Fleet Services.

Management Response

Management agrees with this recommendation. Applicability of federal and provincial statutes already forms part of the comprehensive training programs and is incorporated into Fleet's numerous procedures. While no single manual is planned (would be too large to be of use) Fleet will continue to leverage electronic access to up-to-date information. As part of Fleet's move to a single Fleet Management Information System, more information will be accessed via the web (i.e. procedures, vehicle specifications, parts listings, etcetera). In addition, we work directly with our clients to help inform them of changes at the federal/provincial levels and help build solutions to meeting new and changing legislation.

5.3.5 Environmental Waste

Issue

During initial interviews, some senior staff members were confused as to who is responsible for removing regulated waste and how it is disposed of. Subsequent interviews with Management rectified the confusion.

Analysis

Interviews with supervisors, program managers and senior managers have squared away the confusion that was originally observed.

RPAM manages the waste program, but in certain circumstances, Fleet supervisors are required to sign-off on the removal of waste because there are no RPAM representatives directly on site. Program managers are responsible for contacting RPAM to attend at the site and dispose of waste. Fleet mechanics collect waste and place it in a receptacle for RPAM to pick up and dispose.

Generally, RPAM is responsible for waste that is disposed of and Fleet is responsible for recycling. Recycled oil, tires and batteries are handled by fleet services, and all other waste is removed by RPAM. Transit and Municipal managers are satisfied with the service that RPAM provides and there have been no documented incidents to raise concerns.

Recommendation 28

That Fleet Services ensure that all managers and senior staff understand their role as it relates to environmental waste disposal.

Management Response

Management agrees with this recommendation. As stated in the audit, this was simply a miscommunication between the staff interviewed and the Auditors. This issue was quickly sorted out and all senior staff and managers do understand the rules as it relates to environmental waste disposal. No further action is required.

5.3.6 Adesa Auctions

Issue

Given the total value of the funds flowing to the Auctioneer, we investigated whether or not the current practice for disposing of used vehicles was consistent with the City's Purchasing By-law.

Interview with Management and review of the City's Purchasing By-law illustrates that the current practice is acceptable under section 22 of the By-law.

Adesa Auctions is the only suitable disposal site for large scale items within a reasonable distance of the City. Experience has found that using their services has lowered costs significantly regarding disposal (as compared to hiring a private auctioneer, or other methods of disposal).

Fleet services do occasionally use other auctioneers which are located outside of Ottawa for items which are the specialty of that auctioneer.

So as it relates to the City's Purchasing By-law, and the applicability of it to the disposal of City property through Adesa Auctions, we have no recommendations.

5.3.7 Compliance Officer

Issue

There is no central authority for management officials to refer to in order to answer/update basic regulatory requirements. Reliance on Legal Services as centre for expertise is reactionary. Other sources of information within Fleet do not have a check. Fleet should investigate the feasibility of having a forward looking view for regulatory compliance and a focal point for internal coordination of regulatory compliance.

Analysis

Interviews with fleet managers and supervising mechanics elicited numerous favourable responses to the idea of having a dedicated resource within Fleet Services to instruct and provide guidance on the regulatory requirements pertaining to each individual function. Review of industry best practices did not demonstrate a great deal of consistency in having this type of internal role, but Fleet management viewed the suggestion positively.

There is no cause of this phenomenon, *per sae*. Ultimately the need to have additional resources to protect against liability is a function of comfort for managers and supervisors. At present, Legal Services is engaged when there is a question- in other words, they react after the fact when there is a problem. Other sources of regulatory guidance are inundated.

This observation is a catchall function that would be an ongoing solution to many of the other regulatory and legal issues observed during the audit.

There is little risk in not adding an additional resource but the benefit to having a legal check that is over and above the legal services provided by the City is incalculable given some of the problems that may be arrested before they can evolve into more serious or litigious issues. An operation as significant as Fleet Services should have an individual whose primary (if not sole) responsibility is to ensure regulatory compliance and there are numerous fleets that are a fraction of the size of Fleet that have these types of officers.

Fleet services may want to consider re-allocating staff resources to have a dedicated compliance officer (and preparing an easy to read guide book) but since no other fleet organization has gone that way and the industry does not recognize the need or identify it as a best practice, this is not considered a recommended action.

5.3.8 Training

Issue

There are numerous areas where operators and mechanics are in need of additional training. Training management admits that many operators may be working without sufficient training/licenses. For example, at the time of the original survey, auditors were informed that not every operator had the requisite fork lift licenses. Similarly, as new equipment is acquired, resource limitations impinges the ability of the trainers to swiftly develop new training programs to ensure compliance with Occupational Health and Safety regulations.

It should be noted, however, that the current program is deserving of praise and recognition for its excellence, and the City should know that it has been emulated in numerous other jurisdictions.

Analysis

Our analysis included: Review of the Code of Conduct; interviews with senior managers; and review of training manuals and training procedures.

Clients are reminded of required updates to “non-G” licenses by a prompting calendar that is maintained by the training division. Client supervisors should take a much more active role in soliciting additional training and recognizing. Operator supervisors are reminded of their licensing requirements on a regular basis.

The consequences for operating a vehicle without the proper license are severe, and there have been cases of termination for failing to dutifully report. Unfortunately,

discipline is entirely “incident” driven, and an employee could still operate a vehicle without the knowledge of their supervisors or the Fleet management.

Supervisors are not diligent in reporting new needs for training, and should endeavour to involve themselves more intimately with the training and retraining of their operators. If operators are using equipment without adequate licenses, the supervisors are responsible for not using a licensed operator.

The inability of fleet to provide sufficient updates is entirely a function of resources. Recent changes to some regulations have left training staff in a position where they have to re/train significant numbers of clients with limited resources. Similarly, recertification of some advanced class licenses are just as onerous as the original tests and the resulting backlog is entirely resource driven.

“Incident driven” process rather than “Deterrence driven” process is a key element of this problem. As noted above, as long as it is possible for an individual to operate a City vehicle without a license there is a problem.

The risk of an operator working a piece of machinery for which s/he is not qualified or licensed is very low, but the impact that such an incident could have is very high. The exposure to liability that would accrue to the City if an unlicensed operator was involved in a moving violation or was otherwise negligent would be significant.

Recommendation 29

That Fleet Services reallocate existing resources to the Fleet Driver Training Unit to ensure that all operators are provided with sufficient training. Operator supervisors (clients) should also recommend additional training whenever possible.

Management Response

Management agrees with this recommendation.

Fleet Services, as part of the annual budgeting process, aligns training resources to the client training needs. As a result, two trainers were added in 2006. Fleet Services training programs are based on legislated and mandated requirements. Additional training resources are not required until 2008.

5.3.9 Driver Licenses

Issue

Some confusion exists as to who is responsible for operator licensing and enforcement of these provisions, increasing the City’s exposure to liability for failing to maintain a proper training/licensing plan.

Analysis

Our analysis included: Review of the Code of Conduct; interviews with senior managers; and a review of training manuals and training procedures.

The Code of Conduct places a positive obligation on operators to report any changes to their license status. All licenses outside of the “G” classification are searched twice a year, as required by the *Highway Traffic Act*. “G” classifications are not routinely searched and stored because of *Privacy Act* concerns.

Clients are reminded of required updates to “non-G” licenses by a prompting calendar that is maintained by the Training Division. Client supervisors should take a much more active role in soliciting additional training.

The consequences for operating a vehicle without the proper license are severe, and there have been cases of termination for failing to dutifully report. Unfortunately, discipline is entirely “incident” driven, and an employee could still operate a vehicle without the knowledge of their supervisors or the Fleet management.

G License suspensions: The cause of this problem is entirely operator driven and there is little that can be done to force the operators to report a change in their license other than to remind them of the very significant penalties that can accrue to them if they do not comply. Other than instituting random searches about the status of “G” class licenses, additional education about the consequences of non-compliance with the code of conduct is the only reasonable measure that can be instituted.

The risk of an operator working a piece of machinery for which s/he is not qualified or licensed is very low, but the impact that such an incident could have is very high. The exposure to liability that would accrue to the City if an unlicensed operator was involved in a moving violation or was otherwise negligent would be significant.

Recommendation 30

That Fleet Services educate all mechanics and operators regarding their responsibility as it relates to the loss and suspension of category G licenses. Operator education must be strengthened in the following areas:

- **operating a vehicle without a valid license;**
- **consequences for violating the Code of Conduct are severe when compared to reporting a temporary loss of license; and**
- **liability of operating a City vehicle without a valid license relating to personal liability.**

Management Response

Management does not agree with this recommendation. Fleet Services does not have the authority for providing this type of education. Employee orientation at hire, which is the responsibility of the supervisor, is the appropriate place to both review

the code of conduct (which is given to each new hire) and all other related issues (including discipline) specific to the job the employee is being hired into.

5.3.10 Driver Abuse and Accident Management

Issue

Varying reports of the cost that driver abuse contributes to the overall cost of repairs. Any form of driver abuse can lead to increased exposure resulting from vicarious liability for the negligent actions of an operator. When accidents occur, there seems to be confusion as to who is responsible for investigating and minimizing the risk of reoccurrence.

Analysis

Our analysis included interviews with supervisors of the municipal fleet garages, and a review of the Code of Conduct. There were diverging reports as to the percentage of abuse incidents (ranging from 5% of repairs to 30% of repairs). Mechanics and Supervisors were frustrated at the fact that things that they knew could only be caused by abuse/misuse were not being reported as such. In fact, "misuse" represents over \$900,000 a year of damage/time for officially reported cases alone.

An egregious example of this abuse was reported by a garage supervisor where an operator drove a sidewalk sweeping device down a flight of steps causing significant damage. The operator was not reprimanded.

"Collision Incident" reports are very good at identifying trends regarding specific drivers and equipment models. Misuse, however, does not get the same documented attention as collisions.

Fleet managers and Maintenance managers have committed to working with clients to have mid-season committee to inform/educate the client/operators with problems with specific drivers/equipment if trends emerge.

Ultimately, the cause of this problem stems from a poor attitude of the operators. There is ample evidence that training programs are sufficient for ensuring that abuse/misuse does not occur. The onus is on client supervisors to report driver abuse and prevent it by disciplining operators who engage in questionable behaviour.

There are either insignificant consequences for operators who have preventable accidents or there is a reluctance to report damages as "preventable" by inspectors and operator supervisors. There is evidence that operators are not concerned with the consequences of behaviour. For example a supervisor reported that an operator drove a street sweeper down a flight of steps - not surprisingly, the vehicle was damaged.

Most of this type of abuse may be a function of a poor work attitude of the operators or a need for a refresher on the proper instruction with regard to the safe operation of their vehicles. It is very difficult to track because it is not a “trend.” Reports in transit dealing with collisions/misuse are based on trends and reporting back to clients.

It was also reported that operators are paid different rates depending on what equipment they are using. For example, an operator on a heavier piece of machinery for which he is specially licensed will be paid at a higher hourly rate. Supervisors reported that as a result of this policy that operators use improper vehicles to perform their daily tasks.

Management of Fleet have only sparingly seen operator misuse dealt with by disciplining the operators. Grievances are often dismissed due to technical imperfections to the discipline.

The legal impact of vehicles being misused is severe. The greater concern, however, is the attitude of employees that contributes to the misuse in the first place.

There is a very high standard of care that attaches to licensed individuals for the misuse of the equipment for which they are specifically licensed. Any incident that injures an innocent third party as a result of vehicle abuse or misuse by a City employee would expose the City to a significant vicarious liability claim for the negligence of its operators.

Fleet services must ensure that all drivers are aware of the proper operation of their vehicles and the circumstance where special equipment should/not be used. Further, drivers should be educated directly about the cost of vehicle abuse. That said, trainers are already swamped, and dedicating their resources to retraining operators whose attitude is questionable is a waste of time when discipline is the best corrective action.

Recommendation 31

That Fleet Services implement strategies and document a process to reduce the expenses related to misuse and/or repairs caused by abnormal utilization.

Management Response

Management agrees with this recommendation and it has been implemented. The branch has been reporting vehicle misuse to operating departments on a monthly basis since 2005, however it is the responsibility of the operating department to take corrective action. A new initiative is being launched by the Fleet Services to review monthly abuse statistics with client departments to find out the root cause of the misuse and take corrective action. Both the Fleet Maintenance and Fleet Operator Training divisions will participate in these reviews. In addition to the above, Fleet Service reports misuse information annually, at the year-end, customer reports

which are provided to the branch Directors as well as the Deputy City Managers to enable them to take appropriate action.

5.3.11 Operating Licenses for Garages

Issue

Vast confusion exists on who is responsible for obtaining and maintaining the licenses for the various Fleet garage facilities. Despite the confusion, oral reports and investigation by the auditors found that the garages are currently properly licensed, but it is easy to see how those licenses could easily lapse without additional checks being put into place.

Best practices for garages include a “bring-forward” system for garage managers be instituted to ensure that the licensed mechanics are aware of their positive obligation under the licenses and that they have obtained the correct accreditation and have affixed their signature/seal to the proper licenses.

Analysis

Our analysis included: Review of Ontario Regulations and Commercial Services rules; Review of MVIS license regulations; Review of Emission Testing licensing rules; Interviews with garage managers; and Interviews with Fleet Managers.

Since the service garages do not conduct commercial operations, they do not require a garage license issued by the City or the Province under the commercial licensing regulations. The responsibility for securing/renewing the Ministry of Transport (MTO) licenses is the responsibility of various groups. For Transit Fleet, the MVIS license is the responsibility of the Technical Support group while the Emissions testing license is the responsibility of the Inventory Control group. For Municipal Fleet, program managers are responsible for MVIS and Drive Clean licenses. Those responsible are prompted by the Ministry in the form of a notice of renewal.

These licenses require the mechanics working in the shop to sign off and obtain stickers for the posted license.

The stringent regulatory requirements for vehicle testing have been relaxed to allow for more than one mechanic to be involved in the statutorily imposed testing of a vehicle by way of memorandum of understanding.

The cause for concern emanates directly from the division of labour and the job descriptions of the individuals in question. There are multiple individuals who are responsible for securing licenses and ensuring that mechanics are compliant with their obligations. There is no one person who is accountable for ensuring that they are responsible for securing the licenses.

The risk is very low. There has yet to be an incident where the garages were not properly licensed. That said, while there is no direct risk, it is apparent that there is a great deal of confusion with regard to what licenses are required by the individuals who are responsible for each individual garage. There was also significant confusion from the mechanics regarding what each license was for.

As such, it is reasonably foreseeable that in the future, there is a mechanic who is overlooked and is working under a license for which he/she is not eligible. The corollary is that there is an obligation that is overlooked under one of the licenses because there is no one person accountable for dealing with MTO directly.

The lack of internal checks is problematic, but to date, there has not been a reported incident of an error or omission that has led to a lapse in any of the licensing requirements.

Recommendation 32

That one specific individual be put in charge of all Ministry-issued licenses, or as an alternative, have one person responsible for dealing with the Ministry on behalf of Fleet Services.

Management Response

Management agrees with this recommendation and it has been implemented. Fleet Services has consolidated all garage and technician licensing under one (1) person in Transit Fleet Maintenance (for transit garages) and under one (1) person in Municipal Fleet Maintenance (for municipal garages).

5.3.12 Vehicle Licenses

Issue

Initial interviews gave rise to some confusion as to who is responsible for obtaining and maintaining the licenses for the various Fleet vehicles. Further discussions with management demonstrated that the protocols in place are sufficient to safeguard against any lapse in the licensing of the Fleet vehicles.

Analysis

Interviews with senior fleet management suggests that licenses are the responsibility of numerous individuals. The Engineering group is responsible for the acquisition of the license, and ensuring that the vehicle is not under licensed or over licensed (based on weight). It is important that the vehicles are assigned the correct license as any license which is over weighted would be a waste of money and any plate that is under weighted will expose the City to liability for regulatory breach.

License renewals and disposal of licenses and plates are the responsibility of the inventory control group.

Long established protocols have called for the division of labour. Upon further review, the initial observation regarding confusion was inaccurate. Existing protocols are effective at ensuring regulatory compliance.

If a vehicle's license lapses, the risk is very significant. At this time, it would appear that the risk of this occurring is very low. Existing protocols ensure that vehicles are properly licensed and compliant are adequate despite the above noted confusion about license responsibility.

As it relates to the licensing of vehicles, we have no recommendations at this time.

5.3.13 Labour Issues

Issue

Some Supervisors were uncomfortable with the fact that they are in the same collective bargaining unit as the people whose work they supervise. During employee reviews, union officials may be drawn between two members of the same union.

Of the management team members interviewed, two raised this as a concern. Other management members did not see this as an issue.

Analysis

Our analysis included interviews with senior managers; review of basic labour law principles; review of Ontario Labour Relations Board rules, and review of Labour law cases.

There is a key concern raised by some management members about their ability to effectively discipline subordinates. There are dozens of examples in Ontario where union members are disciplined by members of their own bargaining unit which created an administrative law or labour law issue with regard to procedural fairness and bias.

When the last round of collective bargaining occurred, management representatives were included in the same collective bargaining unit as the mechanics. This is likely the way that the practice has existed for years, and it is in no way out of the ordinary when compared to other unions in the province of Ontario.

It is a Labour law principle that individuals who are responsible for instruction and discipline should not be included in the same collective bargaining unit as those who they instruct, evaluate and discipline. Ultimately management and labour should not be represented by the same collective bargaining unit.

Where grievances are filed by union members, staff may have divided loyalties. This will affect both the ability of the employer to succeed in a grievance and the ability of management to effectively supervise.

It is possible that the union will not want to have members removed from the bargaining unit. It is also possible that the union does not see this as a problem.

Recommendation 33

That the management members of the unions be bargained out of the existing collective bargaining unit and into a separate unit when the contract is renegotiated in the future.

Management Response

Management does not agree with the recommendation. The Transit Fleet garage supervisors belong to a CUPE local and the staff they supervise belong to an ATU local, therefore a conflict does not exist since supervisory staff are in a different Union. The best-case scenario occurs when any level of supervisory staff is either non-union or from a bargaining unit different than the bargaining unit to which staff belong.

Arbitral jurisprudence allows functional supervisors to be from within the same bargaining unit. Functional supervision can include scheduling and assigning work, as it does in this case. These are not true management responsibilities. The management staff from the MPE group or the garage supervisor's bargaining unit is responsible for the management of disciplinary issues.

5.4 Financial Management

5.4.1 Budget Variance

Issue

We compared the variance of the budgeted costs to actual as a percentage of the budget. This measure analyzes the accuracy of budgets by comparing budgeted to actual costs, then calculating a percentage differential in absolute value terms. A variance that is at or near zero percent is optimal, unless multiple modifications are made to the budget throughout the year. Minimal variances without significant modifications made to the budget depict a thorough budgetary process, intimate knowledge of the business, and the ability to meet targets.

Analysis

The variance of the budgeted costs to actual as a percentage of the budget is above the benchmark group's median. For the year ended December 31 2005, the variance of the budgeted costs to actual as a percentage of the budget at Fleet Services is 7%, whereas

the benchmark group's median is 2.5%. Total budgeted costs amounted to \$143.3 million while actual costs amounted to \$153.9 million, a difference of \$10.6 million.

Using an appraisal tool developed by PricewaterhouseCoopers called Global Best Practices®, we established a high level diagnosis of the City of Ottawa's Fleet Services Branch budgeting process. Fleet Services' personnel completed the questionnaire on the budgeting process, and we compared the Branch's budgeting process to best practices and identify value-added opportunities.

Our analysis revealed that each month, budgeted costs are compared to actual, and forecasts are prepared for the remainder of the year. These new forecasted costs for the year and potential budget overruns are then sent to each of Fleet Services' client.

An actual to budgeted costs variance analysis revealed that most of the \$10.6 million budget overrun in 2005 was attributable to greater than expected expenses on fuel, parts, and outsourced repairs.

Firstly, \$6.7 million came from a higher than expected fuel expense. For the first half of 2005, the diesel fuel price was not locked in for Transit Fleet's bulk fuel purchases. As a result, Fleet Services absorbed increasing fuel prices. For the second half of the year, the price for bulk fuel purchases was fixed, but at a price higher than the budgeted one. Secondly, there was a budget overrun of nearly \$4 million on parts and commercial repair, which was mainly attributable to an increase in the cost of parts.

Although Fleet Services is responsible for respecting its budgeted costs, it did not fully control some factor with a direct impact on its operating costs. Indeed, factors such as the usage and the abuse of vehicles by each of Fleet Services' client, which falls out of the control of Fleet Services, have a direct impact on its operating costs. Also, a portion of Fleet Services' purchases falls under the responsibility of Supply Management, an independent service from Fleet Services. For instance, the responsibility to fix or not the price of bulk fuel purchases for a certain period falls under Supply Management, while the impact of this decision shows in Fleet Services' budget.

Consequently, the budget overrun may indicate the following:

- 1) Approved budgeted costs not in line with the volume of activities in Fleet Services;
- 2) Unclear responsibility over budget overruns between Fleet Services, Supply Management and Fleet Services' clients; and
- 3) Inaccurate cost drivers being utilized for resource allocation.

Recommendation 34

That Fleet Services' budgeting process be reviewed to:

- **Reassess its process for informing the appropriate client/business unit of expected budget overruns;**
- **Reassess the accountability of each business unit (Fleet Services, Supply Management or Fleet Services' clients) over expenses incurred by Fleet Services;**
- **Identify the cost drivers for each of Fleet Services' expenses;**
- **Develop tools to measure and track each cost driver; and**
- **Allocate each cost driver's responsibility to the appropriate business unit, and incorporate performance measures to the budget of each business units controlling these cost drivers.**

Management Response

Management agrees with the recommendation. The current billing system of charging actual costs to clients does not accurately reflect the allocation of responsibilities for cost drivers. A lease-based system would more accurately reflect these cost drivers, including usage, workshop efficiencies, accident damage and misuse. Fleet Services will investigate the opportunity of moving to a lease-based system by the end of 2008.

5.4.2 Billing Process

Issue

Based on interviews held with the process owner during the week of March 20, 2006, controls appeared to be in place to mitigate the risk of cost misallocation amongst Municipal Fleet's clients. However, our discussions did not provide enough evidence supporting the fact that these controls were properly applied. As a result, further procedures were required to provide sufficient evidence that costs were properly allocated to Municipal Fleet's customers.

Analysis

As opposed to Transit Fleet, Municipal Fleet's operating costs are allocated to many clients. As the risk of misallocation of expenses amongst clients is greater at Municipal Fleet than it is at Transit Fleet, our analysis focussed on Municipal Fleet's billing process, which involves the use of the M4 system. Transit Fleet, which uses SAP, was scoped out since it only has one client.

Our testing revealed that Municipal fleet had properly allocated all of the selected transactions to the appropriate client for a specified month.

Also, as described in the following table, the M4 system has the appropriate capabilities to support the accounting and the allocation of fuel expenses amongst each of Fleet Services' client.

Thirdly, for labour, fuel, and depreciation, the following controls mitigating the risk of misallocation of costs amongst Municipal Fleet's clients were identified and tested.

Key Risk(s) in M4	Key Control(s) - Capabilities	Control(s) valid?	Evidence of control(s)?
Labour			
Specific labour costs for a repair or maintenance job on a vehicle billed at the wrong labour rate	<ul style="list-style-type: none"> All specific labour costs are automatically recorded in M4 at the authorized labour rate. The specific labour rate is calculated and approved at the beginning of the year and adjusted at year-end. 	Yes	Yes
Labour charges attributed to the wrong vehicle	<ul style="list-style-type: none"> When mechanics begin a job, they allocate their time to a bar-coded work order. M4 prevents mechanics from charging time to two jobs at the same time. If the mechanics forget to stop charging time when done and begin a new job, M4 will Automatically stop charging time on the first job. 	Yes	N/A ⁽¹⁾
Fuel			
Usage of fuel by a customer recorded at the wrong quantity	<ul style="list-style-type: none"> The City's fuelling stations are equipped with a monitoring system that records the vehicle number and the pumped fuel quantity. Periodically, this data is uploaded in M4, and totals of control are used to ensure that all quantities were uploaded in M4. An exception report is also analyzed. 	Yes	Yes
Cost of fuel attributed to the wrong vehicle	<ul style="list-style-type: none"> The pumps at the City's fuelling stations are activated when the vehicle operator presents an id card and a vehicle identification device. 	Yes	N/A ⁽¹⁾
Depreciation			
Depreciation calculated at the wrong amount	<ul style="list-style-type: none"> M4 system automatically depreciates vehicles based on a standard depreciation formula. 	Yes	Yes
Depreciation expense attributed to the wrong vehicle	<ul style="list-style-type: none"> Each depreciation schedule in M4 is associated to a vehicle identification number. 	Yes	N/A ⁽¹⁾

IMPORTANT NOTE: ⁽¹⁾ The tests were performed under the assumption that controls programmed in M4 were properly applied.

Our in-depth testing procedures revealed that the identified key controls were sufficient to mitigate the risk of misallocation of expenses amongst Municipal fleet's clients. However, we noted the following:

A) Our analysis revealed that the depreciation calculation method on vehicles used at Municipal fleet for billing customers differs from the one at Transit Fleet. Municipal Fleet depreciates the historical cost over the expected life of the vehicles, which is consistent with generally accepted accounting principles. As for Transit Fleet, the depreciation expense charged back to its client consists of an amount deemed necessary to replace the existing fleet. For the purpose of preparing financial statements, Transit Fleet's depreciation method is not acceptable under generally accepted accounting principles. However, this point has currently no impact as the City of Ottawa doesn't capitalize its vehicle fleet in its financial statements.

B) Our analysis also revealed that Municipal fleet fuels both in the City's stations and private gas stations. Fuelling only in the City's stations would prove more efficient, because all fuel expenses would be automatically processed by the M4 system rather than having each fuel slip data entered into the system manually. Approximately a third of Municipal fleet's vehicles are fuelled in private gas stations.

We identified two causes:

A) Such difference in the deprecation method between Transit and Municipal Fleet arises from the fact that Municipal Fleet's customer billing is based on actual costs incurred for one year's operation, while Transit Fleet's customer billing is based on the replacement costs of the vehicles. The Municipal fleet is maintained in the M4 system, while the Transit fleet is in SAP.

B) For vehicle availability motives, some vehicles are not fuelled at the City's stations. For example, ambulances prefer to fuel in any available private station, because a detour to one of the City's stations could lead to less availability in ambulances for the City of Ottawa. Also, during 2005, various City fuel sites were closed down for significant periods of time due to the work being done to standardize the fuel sites onto one system. This has caused an increase to the quantities of retail fuelling during 2005.

The difference in the depreciation calculation between Transit and Municipal Fleet has limited impact on the billing process because each method has been accepted by the concerned customers. However, in the event that the City of Ottawa chooses to account for fixed assets in its financial statements in the near future, the calculation method used by Transit Fleet for depreciating vehicles would not be in compliance with applicable accounting standards.

There is little impact on the billing process arising from the fact that some vehicles fuel on private fuelling stations; all expenses are charged back to Municipal fleet's clients with a zero profit margin.

However, prices paid at private fuelling stations are higher than prices paid at the City's fuelling stations because some economies of scale can be made in purchasing bulk fuel for the City's stations.

Also, discussions revealed that some standing offers with private gas stations are still honoured although they have come to maturity. Even if private gas stations still offer discounts to Municipal Fleet on retail fuel, they are under no contractual obligation to do so.

Finally, the processing time and cost of fuelling activities done in private stations are greater than the ones done at the City's stations because they are not automated in the M4 system.

The following table shows savings achieved and additional possible savings on the 2005 fuel consumption by Municipal Fleet:

All Departments (Excludes Transit Buses and "Transit Support Vehicles")

(i.e. These figures exclude vehicles relating to the former "OC Transpo")

Fuel Type	Location	Volume	Total Cost	Cost/Litre	Cost/L Difference	\$ Savings if only city sites used
Diesel	City	2,691,100	\$ 1,972,540	0.733		
Diesel	Retail	2,585,626	\$ 2,240,351	0.866	0.133	345,122
Coloured Diesel	City	722,674	\$ 430,705	0.596		
Coloured Diesel	Retail	108,510	\$ 78,677	0.725	0.129	14,006
Ethanol/Gasoline	City	1,305,405	\$ 1,043,412	0.799		
Ethanol/Gasoline	Retail	1,259,978	\$ 1,107,111	0.879	0.079	100,009
Savings Achieved:	556,097				Additional Possible Savings:	459,137
Total fuel expenses for 2005			\$ 6,872,796		Total savings:	1,015,234

Recommendation 35

That Municipal Fleet promotes the use of the City's fuelling stations, review the reasons why some vehicles are being fuelled outside the City's stations, and approve or rectify such practice.

Management Response

Management agrees with the principle of this recommendation. Fleet Services actively promotes the use of City owned fuelling stations. Fleet communicates with drivers via the use of pamphlets provided in all City owned vehicles and by the use of corporate e-mail (for those who have access). City management is also apprised of the benefits of using City owned sites via e-mail, monthly client billing (which shows City vs. retail fuel usage), and quarterly/year end reports which identify the amount of dollars which could have been saved had City-owned fuel stations been used. However, it must be recognized that there are valid operational reasons why

the use of City fuelling facilities is not always practical. Further the decision to use City owned fuelling stations is at the discretion of the operating department.

Recommendation 36

That Municipal Fleet renews its standing offers to lock in discounts on fuel purchases.

Management Response

Management agrees with this recommendation. Supply Management has already been working with Fleet Services on this initiative. As well, this past February, a draft of the proposed standing offer was circulated to the fleet group for further input. The RFSO will set-up authorized retail fuel outlets based on set criteria, and a firm discount from the pump price, in relation to urban and rural districts stipulated in the document. The RFSO will be issued on the internet based Merx site during Q2 2007, and it is anticipated that the call-up list will be approved in time for use during the latter part of 2007.

6 CONCLUSION

During our analyses conducted for this audit, some important gaps were identified mostly in the application of certain policies as well as in performance measurements. These gaps prompted a total of 36 recommendations. We believe that all the recommendations contained in this report can be implemented without the requirement of additional funds. In fact, implementation of those recommendations should generate savings of over \$1.3 million annually as well as make Ottawa's Fleet Services comparable to the best in class.

Ottawa Fleet Services is an organization that is well documented, it has reached a level that makes it comparable in size with the largest public fleets in North America, and it has all the resources needed to make it comparable in terms of performance as well.

7 ACKNOWLEDGEMENT

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