

Access and Privacy Review Completed May 18, 2006

Operational Review of Halifax Regional Municipality Real Property and Asset Management - General Fleet Services

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Forward

During the 2004/05 business planning risk assessment process, Business Systems and Control Group (BSCG) determined that a review of General Fleet Services would be in order for the upcoming fiscal period. In addition, the Director of Real Property and Asset Management indicated a desire to have the BSCG resources assigned to review the internal operation as soon as possible. Offsite project work began September 2004, with the team working on-site at Turner Drive from October to December 2004.¹

The Review Team would like to acknowledge and thank the staff of General Fleet Services, other Business Unit supporting services such as Shared Services and Financial Services and all Business Unit clients for their participation and support in this project.

Methodology

The Review Team applied due professional care and standard methodology in reviewing General Fleet Services' business processes. The project began with the identification and familiarization of all legal and regulatory documents, corporate and business unit policies, operating guidelines and manuals affecting the delivery of General Fleet Services. Related studies such as the Depot Rationalization Study, findings of the Ray Kemper Workplace Study, Fleet Transit Operational Review 2002 and the Operational Review of Snow and Ice Control 2003 were also considered by the Review Team.

Electronic data was extracted and examined for completeness, timeliness and accuracy from the SAP Controlling (CO) and Plant Maintenance (PM) modules used by General Fleet Services. Additional information was obtained in hard copy form from various sources and data tables were created and compared to stored data.

Interviews were conducted with a number of Client Business Unit representatives, General Fleet supervisors and employees. Three separate questionnaires were developed and used in confidential one-on-one interviews. A total of 56 individuals participated in the interview process. Research, using an outside source, was conducted to identify appropriate communities for comparison and potential solutions.

¹ Copy of Terms of Reference can be found in the Appendices, Appendix 1, Page 125

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Executive Summary

Is General Fleet Services the best operated fleet in North America? No. Can it become the best? Yes, and it begins with the willingness and determination to change. This is a work force that understands the worth of the work they provide. They also recognize that there is a great need to improve relationships, processes, credibility and capability to support HRM's operating divisions. This report provides the analysis and framework to begin the process of positive change.

The summary of findings and high level recommendations that follow are presented within the framework of the "Seven Qualities of the 100 Best Fleets in America"², written by Tom C. Johnson.

1. Accountability

- a) There is a lack of clarity around which business unit is responsible for decisions around repairs, acquisition and disposal. There is also a lack of transparency from General Fleet. This is primarily an organizational problem, impeded by a funding and charge out structure for fleet services.

The report recommends a full costing approach for this service.

- b) There are no formal standards or goals established at the individual, shop or section level. There are no formal decision frameworks and no requirement for employees to meet any informal guidelines.

The report recommends the establishment and reporting of performance benchmarks from which policies, standards, procedures are created to support effective decision making.

Management Response:

Current Condition - Planned Action

Fleet has been struggling for some time on benchmarking and creation of standards. Through our upcoming work on SAP and in conjunction with the Operational Project this will be not only identified but corrected. Our plan, at this point, is to firstly correct SAP so that we can start to collect manageable data and secondly to review and analyse that data by our new Quality Analyst to recommend changes. This should and will allow us to streamline processes and to develop business

² If It Was Easy, They Wouldn't Call It Hard, Tom Johnson, Page 31 - 37

processes that not only compliment the Fleet Management philosophy but to also complement our clients' business through communications and evaluation of equipment.

2. High Technology

- a) Information technology is available to support the activity. However, the application of the original configuration has not been adopted, resulting in numerous off-system work-arounds.

The report recommends better utilization of the current functionality of the system and eliminating manual work-arounds. It is also recommends that no attempt be made to correct past data but to change future inputs and practices.

- b) Data is captured many times and minimally used versus captured once and used many times. Data that is captured is often entered in text fields rather than searchable fields making extraction of useful information difficult, inefficient and ineffective.

The report recommends that General Fleet Services use fields appropriately and, where text fields are the only option, that data standards be implemented and monitored.

- c) Management of fuel does not provide good data for vehicle consumption utilization and analysis. Both system design and operator practices are factors.

The report supports and recommends the action plan developed by RPAM and Financial Services staff project team to upgrade physical fuelling locations and software to enable the accurate transference of consumption records. This also includes the formal assignment of fuel management in its entirety to Financial Services. In addition, a short term, manual but reliable process change is recommended.

- d) General Fleet has not been able to focus, correct or develop software solutions. This is a combination of the allocation of proper IT resources and poor planning and priority setting on General Fleet's part.

The report recommends that all outstanding issues be reviewed and prioritized with Shared Services.

Management Response:

Current Condition - Planned Action

This is a more than fair comment. Fleet has numerous

processes and methods of work that were brought forward from pre-amalgamation programs, that are in some ways redundant. There were also work arounds created to allow Fleet to operate with the SAP program as it was developed and put into service in 1999, a lot of these processes are clearly ineffective and inefficient. Our focus is to correct SAP to collect data in a format that will allow analysis and ultimately management of the asset. The project of correcting SAP has hit some major hurdles but with the recent hiring of the Fleet Coordinator this project will be restarted and put into play.

3. High Trust Culture

- a) Employees do not feel confident to contribute or even disagree with supervisors and management.
- b) Communication between employee-to-employee, employee-to-supervisors, supervisor-to-management is infrequent and informal.
- c) When provided information, the culture of the work place is to rely on rumours rather than formal communication channels, indicating a high level of distrust.

The report supports and recommends the action plan developed by the employee focus group established by General Fleet Services. In addition, the report recommends re-aligning work and work locations in "buddy teams" to improve communication between shifts and customer service.

Management Response

Current Condition - Planned Action:

We have initiated and completed the first part of this requirement through the work of an employee committee set up by Jackie Doyle with the sessions facilitated by Cathy Nearing. The report titled "Solutions Group Recommendations Report'" outlines terms and action items. Fleet has started the meetings recommended in the report and will incorporate its work and recommendations in the Operational Project of the General Fleet Review.

4. Acknowledgment

- a) Skills and accomplishments are not formally recognized or celebrated. This is not unusual in an environment where policies, goals, standards and procedures have not been established.

Recommendations brought forward by the internal focus group reference the issue

of acknowledgement. The report supports and recommends the action plan developed.

Management Response

Current Condition - Planned Action:

As part of the Operational Project, the acknowledgement portion will be a defining feature of the plan.

5. Collaboration

- a) Until recently, staff participation has not been encouraged. This also extends to General Fleet Services' clients. As a result of a work place environment study, an employee-only focus group was established to develop an action plan to resolve a number of identified relationship issues in the work place. In addition, General Fleet Services has undertaken to establish service agreements with its clients and has expanded participation in the capital planning process, improving communication in this area.

In addition to the aforementioned items, the report recommends the establishment of standard costs for some preventative maintenance work, expansion of de-centralized services to meet client needs and the completion of service agreements with each client group.

Management Response

Current Conditions - Planned Action:

As part of the Operational Project there will be not only opportunities for collaboration with staff but they will be included in tender preparation and bid evaluation.

6. Creativity

- a) There is no mechanism in place to encourage employees to go beyond what is expected. Staff work at whatever level they set for themselves.
- b) Staff recognize the critical need of getting the equipment back on the road. However, they can not resolve process roadblocks that occur on a day-to-day basis. These are the responsibilities of supervisors and managers who also expressed helplessness to make improvements.

The report recommends 10 different performance measurements which will require the business unit to develop processes to capture and report on the outcomes. Staff involvement in this process is critical to the success of the outcome.

Management Response

Current Conditions - Planned Action:

Although at this point we have no action plan on the matter of creativity this should and will be researched as part of the Operational Project.

7. Celebration

- a) This is not a work place where most people enjoy being. The word "fun" is not in their vocabulary.

The report does not speak directly to the work place environment. Anecdotal information from interviewees and the opinions provided in the Ray Kemper Study, indicate that employee morale is very poor. This has been attributed primarily to the type of or lack of response by management to individual employee issues. General Fleet Services has committed to improving employee morale. Staff in General Fleet Services must agree to a reliable indicator to measure improvement in morale. Once achieved, this should be celebrated.

Management Response

Current Condition - Planned Action:

Fleet currently has celebrations of events like our turkey dinner after the snow season and gifts of coats and sweatshirts for positive attendance. This will be reviewed as part of the Operational Project as it does not seem that staff understands the link. Also with the completion of the Operational Project there will be a lot of celebration.

Summary Recommendations

The recommendations included in this report have been developed to:

- < Improve work flow
- < Improve service delivery
- < Improve internal controls
- < Utilize system functionality and configuration

System and Process Improvements:

Work Orders (CO):

Data Gathering:

1. *Modify work orders to improve the data captured and reporting functionality.*
 - 1) *Work Orders should print out specific task plans for activity or maintenance type.*
 - 2) *Make it mandatory to fill out the mileage field when entering work order details to the PM module.*
 - 3) *Make it mandatory that all time be captured to appropriate down time work orders.*
 - 4) *Require mechanical staff to provide a description of work completed and appropriate cause code.*

Creation of Work Orders:

2. *Improve internal controls by eliminating open work orders used during night shift and when Service Advisors are not available:*
 - a) *Supervisors should be trained and able to create work orders.*
3. *Scheduling of registration and licence fees should utilize current functionality in SAP.*
 - a) *Use the expiry date field in the equipment master list to identify when the licence registration and renewal is due. The safe guard to this approach is that no new charges can be posted to the equipment once the expiry date has passed. If the renewal is missed, this is another control to identify the requirement to register or renew.*
 - b) *Use the date monitoring report to monitor upcoming expiry dates and prepare PM02 order when due.*

New Series Work orders:

4. *Improve the accuracy of data collection:*
 - a) *Create work orders to capture down time - For example: time spent on cleaning, waiting for internal/ external parts, union time and*

- travel time.
- b) Set reporting threshold at 15 minutes, minimum.
- c) Down time work orders should be used by supervisors to account for all paid time.

Internal Control:

5. Improve general internal controls in work flow processes:
 - a) When planned/scheduled work orders are created and printed they should be initialled by the Service Advisor or Supervisor as authorization to the mechanic to carry out the work and obtain the standard list of materials needed. This would only apply to preventative maintenance and regulatory inspection work. (PM 02 A, C and MVI.)
 - b) Once initialled by Service Advisor or Supervisor, the employee would take the hard copy of the work order to Stores who will only issue if the authorization is noted on the form.
 - c) Once work has been completed by the mechanic, the work order should be returned to the supervisor who will review and sign off prior to forwarding the document on to be technically closed. Supervisor would review the work order to verify the reasonableness of the repairs and parts used for the given cause and repair code.
 - d) Supervisors must review and sign off all work orders/packing slips of completed work.
 - e) On a random basis, Supervisors should regularly check the work completed against work order details submitted by mechanics, including verification that parts and materials were necessary and replaced.

Material Master Module (MM):

Special Order Parts:

Material Master Numbers/Vendor Numbers and OEM:

6. The use of off-system processes should be eliminated and the functionality built into SAP used to capture delivery dates for special order parts.
 - a) Implement the use of material master numbers for all special order parts and special services which would allow reporting on specific parts and material or general categories to capture volume, type, vendor and price information.
 - b) Create broad categories of MM# to capture non-stocked parts and outside services³ for both capital and operating expenditures.
7. Utilize the Material Master Module to record and track the physical location of

³ See Table 11 on page 36 "General Category" for suggested broad categories for MM #

special order parts, just like stocked items which are facilitated through the use of MM's.

- a) Create sub location of Fleet within Stores, Turner
- b) Provide access and training to available or new reports to Supervisors, Service Advisors, Mechanics, Stores personnel, Parts Buyer and FSR

Material Masters Reservations:

- 8. Re-explore the utility of the Material Master Reservation process for PM02 work.

Internal Controls:

- 9. The position of Parts Buyer should not process Goods Receipts (GR) where he has also created a Purchase Order.
 - a) All parts/materials should be delivered to the Turner Drive Warehouse. When a part is picked up by mechanical staff, the part should be taken into Stores for processing. At a minimum, a Stores Person is provided a signed GR by the mechanic or supervisor indicating that the part has been received.
 - b) All GR's should be processed by Stores personnel.
 - c) The night supervisor should provide a signed GR (indicates HRM received material) and pass it over to Stores daily, who will complete GR the next day.

Physical Assets:

- 10. A full inventory should be conducted of all assets for which General Fleet Services is responsible to repair and maintain.
 - A) Confirm the existence of all rolling stock assets; location and assignment to Business Unit/Section/Manager.
 - a) Record condition, age, identifying numbers.
 - b) Establish acquisition and/or Book value and salvage value.
 - Small Equipment
 - a) Complete full inventory and record on system.
 - b) Update annually.
 - < Business Units confirmed to have equipment missing without having filed a lost/stolen report should be charged a surcharge for non-compliance.
 - B) All assets should be permanently tagged, pictures taken, locations verified and storage areas secured.
 - C) Random spot checks should be conducted to ensure the continuing existence and security of assets outside of the annual update procedure.

Procurement Module (Sales and Distribution- SD):

Purchase Orders:

11. *There is a need to reduce the number of individual work orders created to charge costs to multiple line items. This might be achieved by creating a purchase requisition prior to creating the purchase order. This option should be investigated further.*

12. *In order to improve the reporting functionality of SAP and assist in decision making:*
 - a) *All Purchase Orders must include Material Master Numbers and Vendor Number when created. These should be broad generic categories (see Recommendation # 6)*
 - < *This would allow the Inventory Buyer to extract the information, review and facilitate adding items into inventory, reducing down time that results from waiting for parts delivery. This is achieved by creating a "Request to Stock" form and having Fleet Services review it for future need prior to ordering.*
 - < *If the system configuration cannot make the MM type field mandatory, then the PO Field must be monitored and corrected regularly.*
 - b) *Vendor Material or OEM numbers must be provided for each Purchase Order and recorded in the Vendor Fields following established data standards. For example, descriptor information should precede unique identifiers.*

"Brake shoes # 123456 vs #123456 Brake Shoes"

13. *Review and increase the use of Standing Orders for frequently acquired services or parts.*
 - a) *Decision to include part/vendor on a standing order should be based on purchase volume and frequency of use of the vendor. This is especially important for the night shift as they use blank purchase orders and VISA for many purchases.*

External Services:

14. *Improve internal controls and enhance reporting functionality around external services:*
 - a) *Create 10 generic material master numbers specifically for external services.*
 - b) *When setting up a PO for external services, in addition to the use of material master numbers, require that the Material Group Tag "outside services" to be used.*
 - c) *Purchase orders should be created and detailed instructions created prior to equipment being transported to an external service provider. (Fax or in person).*
 - d) *Vendors providing external services must provide a "shop slip" of all work*

completed under the purchase order. This slip will be used as the goods receipt (GR) and is returned with the equipment to the Parts Buyer who processes as a goods receipt. This would only apply to services obtained externally, not parts.

< Request Procurement assistance to implement this change with vendors.

Cross Application Transfer System Module (CATS):

15. Move to capture time worked, utilizing the work order as source and the "positive reporting" functionality provided with the CATS module instead of the current "exception" process to support the payroll process.

This would:

1. Eliminate the duplicate effort of capturing and entering hours worked on work orders, time cards and to weekly time sheets.
 2. Facilitate the automatic loading of labour hours into CO and PM modules directly to the end users.
- A) Labour hours of work completed should be entered directly into CATS from the work order details provided by the employee and approved by the supervisor.
- a) Activate the process to allow the CATS module to automatically populate both the payroll and PM processes.
 - b) Modify the work order document to allow for time to be manually recording by mechanical staff. The Mechanic should record the Activity Code, Cause/Damage Code against the WO#. In addition, the start time, end time (if same day) and hours worked on each WO.
 - c) Assign the input of time details into CATS to Fleet Administrative Staff within Fleet Services.
 - d) The supervisor would then review, approve and release the file (manually or electronically) so that it can be processed and sent to PM, CO and SAP HR without any other intervention.
 - e) The above process is seen as a transition to an E-solution. Ideally, each employee would electronically enter his/her own time against a work order at the time it is completed.
 - f) The use of bar codes, hand held units would facilitate input time and reduce errors.
 - < Develop bar code technology to provide for the shop floor entry of time worked by employees.
 - < Design and implement system checks at supervisor and HRIS Support Staff levels.

In the short term and utilizing the current process:

- B) Supervisors should
 - a) Validate the daily time card to the submitted work order details on a daily or weekly basis.
 - b) Authorize the biweekly payroll after it is generated by HRIS. Supervisors should ensure that HRIS staff have a record of all non-productive time and absences.

Plant Maintenance Module (PM)

Reports:

16. Improve the use of information currently available in SAP PM or to enhance the functionality of the system:
 - a) Utilize and train on the use of the "Technical object" report (FL) This can be done indirectly from the work order parameter selection screens using Transaction !W39 - Display PM Orders. It can not be done through the Cost Analysis Reports which would be the ideal.
 - b) Use the available cost analysis report to report on availability of equipment (downtime).
 - c) Implement the use of SAP Deadline Date Monitoring functionality to eliminate the use of the Service Advisors' daily log schedules and to provide useful reports. Functionality should allow for stratification of work based on:
 - a) equipment type,
 - b) light or heavy duty shop,
 - c) supervisor,
 - d) employee,
 - e) business unit responsibility centre, etc.
 - d) Use the material category field in the purchase order.
 - e) Develop system methods to measure delivery dates to return dates for outside services, repeat repairs/service and parts failures/returns.

17. Improve communication and information flow to business unit managers, Fleet Services employees and Stores Personnel.
 - a) Give system access and training to read work order information to all business units, mechanics and stores personnel.
 - b) Provide access and training to all PM reports to Supervisors, Service Advisors, Mechanics, stores personnel, Parts Buyer and FSR.

Equipment Usage:

18. All equipment should be tracked for usage by kilometres or hours on a regular basis so that maintenance schedules can be generated by actual usage.
 - a) Request Financial Services to transmit accurate odometer records when transmitting fuel consumption data.

- b) *In the short term and at a minimum, obtain a monthly reading from the counter documents maintained by Business Units and forward to General Fleet Services for input by the Fleet Administrative Clerk who will enter the information into SAP PM.*

Planning and Scheduling:

- 19. *To facilitate better decision making and enhance system functionality:*
 - a) *Begin to use notification, activity and cause codes when setting up work orders.*
 - b) *Define date field usage and configure processes to comply. Open up applicable reports for analysis of planned maintenance and begin monitoring and reporting on the performance of scheduled work.*
 - c) *Maintain original scheduled date for equipment and record actual arrival date in separate field (to monitor no-shows).*

- 20. *Improve the ability to quantify and stratify the type of unplanned work completed, New categories of work order types should be created and used, as applicable.*
 - a) *Separate work order type for capital improvement costs and acquisition preparation - PM03.*
 - b) *Separate work order type for Accident Repairs - PM04.*
 - c) *Separate work order type for Snow/Seasonal preparation and operating costs - PM05.*

- 21. *Develop policy or practices to use the date fields in SAP.*
 - < *Investigate with the HRM SAP-BMG staff what date fields are available within SAP-PM to track scheduled maintenance and work completion.*
 - < *Train General Fleet Staff in the use of the SAP reporting tools utilizing the date fields to be investigated from step 1 above.*

- 22. *Re-design maintenance plans to meet change to performance-based scheduling.*

- 23. *Investigate the system's ability to create one maintenance plan to many vehicles vs one vehicle to many plans and reconfigure if possible.*

Life Cycle Analysis:

- 24. *Improve the ability to understand and compare costs on acquisition, disposal and repair of the rolling stock:*
 - Improve information on file of all equipment.*
 - 1. *Capture/update acquisition dates and values for current rolling stock and object types.*
 - 2. *Conduct an assessment of the current fleet's condition.*

- a) Require the mandatory entry of the following fields into the equipment data file: (FM tabs)
 - < Acquisition costs,
 - < Charging cost centres,
 - < Year manufactured,
 - < Vehicle Identification Number (Manufactured),
 - < Measurement type for usage - hours, mileage, other.
 - b) Develop a life-cycle model reflective of the HRM environment and calculate useful life for all equipment by object types.
 - c) Develop a re-assignment policy between business units based on life cycle analysis, utilization and identification of needs of other business units prior to deeming equipment as surplus.
25. Develop processes to capture data to report on the following performance measures to augment life cycle analysis:
- a) Establish standards of achievement from best practice ratios provided for the following performance measurements.
Or, determine the current level of performance and use it as the baseline in establishing future performance improvements.
 1. Fleet availability or downtime,
 2. Task Job standards (PM02-A),
 3. Ratio of vehicles to mechanics,
 4. Ratio of employees to supervisors,
 5. % of parts filled from inventory,
 6. % repairs completed within 1 day (by shop),
 7. % repairs completed within 3 days (by shop),
 8. Number of repeat repairs (planned, unplanned work),
 9. Mechanic utilization rate (% by overall, individual, shop), and
 10. Days (kms) between breakdowns (km utilization).

Service Advisors:

26. Improve the utilization of the position of Service Advisor and subsequently improve work flow processes and service:
- a) Service Advisors should be authorized to approve PM02 work orders and the acquisition of resulting parts/materials from Stores.
 - b) Service Advisors' should be authorized to approve the purchase of special parts for repair estimates of a set amount. Suggest: <\$1,000 per work order. Supervisors would be required to authorize repairs above this amount.
 - c) Service Advisors should be able to technically complete work orders and enter task details into the system after the supervisor has signed off on the work. The use of an asterisk in the long text of the work order screen to indicate that work is complete should cease.
 - < Service Advisors should receive the copy of the shop slip details and

enter the details to work order by activity type and cause codes prior to technically closing WO.

- d) Service Advisors should function as one unit, regardless of what equipment is in for service. Remove the segregation of equipment responsibility between the two Service Advisors.

Repair and Maintenance:

27. Cost benefit analysis should be conducted to determine which equipment (rolling stock) should be retained or divested.

28. Improve service and ensure that work schedules are met:

- a) Develop a policy and procedures for dropping off equipment. Build this in to service agreements with each business unit.
 - A) Assign and mark specific locations for vehicle drop off at the Turner Drive site.
 - B) Re-align non fleet parking at Turner Drive to outside of the designated fleet area.
 - C) Record the name and supervisor of the party dropping off the equipment and the marked parking location.
 - D) Keys and vehicle must be signed in by operator to the Service Advisor/Supervisor.
- b) Supervisors' should be made aware of all delays in repair so he/she can re-assign the employee to another piece of equipment or other assigned duties.

Acquisition:

29. Planning for the acquisition and disposal of equipment should be based upon a life-cycle model.

30. Decisions on whether to lease or own equipment should flow through Fleet Services and be based on cost/benefit analysis.

Fuel Consumption and Records:

31. Move to preventative maintenance plans based on actual usage and determine the efficiency of equipment operation as per manufacturer's recommendations.

- a) Adopt a policy and practice of capturing accurate consumption records by equipment number. To ensure reliability of information:
 - < Operator should sign for fuel cards.
 - < Cards should be secured when not in use.
 - < Regular monitoring and follow-through should occur to amend fuel consumption records to keep them accurate.

32. Components of Fuel management should not be a General Fleet Services

responsibility. The Review Team fully supports the formal assignment of fuel management to Financial Services.

Other Processes:

Accidents and Investigations:

33. Reduce costs associated with accidents and incidents:

- a) Insurance claims processing should capture and generate data on cause and effect of all claims, be reviewed regularly and programs designed to reduce incidents of common causes such as backing up and sideswiping accidents.
- b) In addition to complying with the current OH&S policy which requires the referral of accident reports to the respective OH&S Committee, the HRM should establish a Steering Committee tasked with:
 1. reviewing the accident statistics on a quarterly basis,
 2. reviewing the results of corrective actions taken, and
 3. recommending additional corrective action and/or training for operations and/or supervisors.
 4. Monitor and report on compliance with accident investigation policy on a regular basis, at least annually.
- c) Re-assign responsibility to investigate the cause of all accidents to Supervisors and employees.
- d) Develop a disciplinary model applicable to all operators of HRM equipment. The approach could be based on number of occurrences, nature and extent of damage, etc.
 - 1) Steering Committee should be tasked with monitoring and reporting on the results of applying the discipline policy.

Accounting Processes: (FI)

34. Improve the functionality and reduce costs associated with the duplication of effort from manual processes:

- a) Automate accounting transactions for settlement orders.

35. Fuel charges should be posted directly to Business Unit cost centres. General Fleet Services should receive consumption data only.

Vehicle Files:

36. Improve the internal control on ownership records and provide appropriate access to vehicle history details:

- a) Work order detail files should be available to technical employees while electronic solution is being developed.
 - < Review the procedure for maintaining vehicle records and provide easier access to repair and maintenance information for mechanical and technical support staff.

- b) *Registration/ownership (Title) papers for equipment should be stored in a separate, secured location from repair/maintenance history detail.*
 - < *A written record should be maintained of employees accessing ownership files. The record should record date, time, purpose and employee signature and be maintained separately from the repair/maintenance records.*

Administrative and Non-Technical Services:

- 37. *To improve administrative and non-technical work flow processes:*
 - a) *Admin Clerk should file work order hard copies in a separate folder from ownership papers.*
 - b) *Explore the possibility of moving the Service Advisor positions from the CUPE 108 Collective Agreement to the inside union to improve management flexibility in work assignments and back filling.*

Carry over Work:

- 38. *Improve work flow processes and reduce down time for clients:*
 - a) *Work not completed on one shift should be completed by the next available shift.*
 - b) *Determine acceptable reasons for the carry over of work. This might include waiting for parts or while considering whether or not repairs should be done. Include reasons in the Service Agreements.*

Communication:

- 39. *Improve communication and resulting decision making, employee morale and customer relations:*
 - a) *Establish regular communication meeting times between supervisors at the end of the day shift, prior to the beginning of the night shift.*
 - b) *Accept and implement the recommendations developed by the Fleet Focus Group. Develop on-going monitoring mechanism to ensure actions are achieving the desired outcome.*
 - c) *Internally, ensure that information is provided on a timely basis to Fleet Support, Supervisors, Mechanics, Stores, Buyers and clients.*

Action Plan:

 - a) *Hold daily check in meetings to discuss attendance and work schedules to determine what work can stay in/go out.*
 - b) *Assigned work to night shift should be after the confirmation of known attendees. Attendees should be required to report in by 12 noon to the day supervisor or Service Advisor.*
 - c) *Hold regular monthly meetings of all staff either at the end of the workday or start of new day. Discussion should centre on work related and up coming events and safety talks.*

- d) *Work orders should be signed off between the shifts.*
- e) *All new assigned work for each shift should be formally accepted by supervisors and mechanics initialling work order copies.*
- f) *External communication between Fleet and Business Units should improve. Supervisors and mechanics must provide timely information to the Service Advisor in order to relay it to Business Unit managers.*
- g) *Business units must meet planned maintenance and repair times and communicate on a timely basis when unavailable. Missed appointments should result in flat fee charge applied to business unit and. (Exceptional circumstances should be defined in service agreements)*

Technical/Mechanical Staff:

40. Improve operational flexibility with mechanical staff:

- a) *Expand the requirement for new hires to hold multiple licenses or current employees to acquire additional certification to augment future work opportunities for employees and flexibility for HRM.*

Operational Policy and Procedures:

41. Ensure regulatory compliance on an on-going basis:

- a) *Establish policy and procedures to provide for spot checks of vehicle and driver files on the mandatory elements of the National Safety Code*
 - 1. *Driver qualifications,*
 - 2. *Service hours (log books),*
 - 3. *Compliance with commercial vehicle maintenance standards,*
 - 4. *Trip inspection reports,*
 - 5. *Records of dangerous goods training and transportation, and*
 - 6. *Existence and appropriateness of management procedures.*
- b) *Review current HRM Policies with staff in General Fleet Services, including penalties for non-compliance.*
 - < *Once reviewed, have staff sign off that they have read and understood the policies. Maintain record in employee's personnel file.*

42. Develop a Repairs Status Policy to be applied prior to disposing of and replacing equipment.

- a) *Trade in value less than repair cost.*
- b) *Safe Operation.*
- c) *Develop priority criteria for the order and allocation or repairs:*
 - 1. *Essential equipment - maintained in-house,*
 - 2. *Emergency equipment - maintained in-house,*

3. Non-essential equipment - maintained externally, and
4. Safety in operation.

Service Agreements:

43. Improve accountability for the operation and maintenance of equipment.
 - a) Enter into formal service agreements with all clients. Agreements should include the following elements, at a minimum.
 1. Set a minimum dollar value as a cost baseline with each client group/business unit for annual operations.
 2. Obtain and maintain accurate odometer readings under which baseline costs are attributed.

Action Plan: In first year, conduct a pilot project to test costing by usage for three object types
 3. Set standards on repair turnaround time and acceptable cost estimate variances.
 4. Set standard costs for PM02 work based on average cost to conduct a PM02 (A) and PM02(C) by object type.
 5. Include a standard drop off and pick up process for equipment, including written authorization from supervisors.
 6. Assign responsibility for damages resulting from accidents and abuse directly back to Business Unit.
 7. Adopt a time-frame and process to confirm that transfers between business units occur as intended.
 8. Recognize authority of Fleet Services to remove equipment from operation due to safety issues.
 9. Include mark ups on fuel, parts to cover overhead and capital improvements (Financial Services).
 10. Provide accessibility to SAP PM Reports including training requirement.
 11. Include agreement that the final decision on specifications for new equipment resides with the business unit.
 12. Include the method, topic and frequency of communication regarding the operation and maintenance of equipment.

Costing Model:

44. Support accountability established by service agreements and fully account for costs associated with the provision of General Fleet Services:
 - a) The charge back mechanism should be divided into two components. When operating departments require a vehicle or piece of equipment, they would be required to budget for two components:
 1. Fixed Rate - monthly expressed in dollars per month -covers depreciation (capital asset) plus inflationary portion to build

reserve to buy future replacement without borrowing. Other fixed overheads including - insurance, facilities, etc.

Formula: $((\text{Purchase price} - \text{PV}(\text{salvage value}) \times \text{capital recovery factor}) / \text{life expectancy in months} + \text{other fixed costs}) = \text{monthly fixed rate}.$

2. Variable Rate - cents per kilometre or dollar per hour that covers all maintenance costs. This should be based on the average maintenance and fuel costs of the rate class. Overhead costs should be included for parts, fuel, subcontracted work, tire repairs and general fleet improvements.

Transfer Pricing Approach:

Item	Costing Factor	Operating	Capital Reserve
Insurance - Fixed	Actual	Yes	
Facility Costs - Fixed	Actual	Yes	
Labour - Repair/Mtce - Variable with O/H	Blended	Yes	
Fuel - On Usage- Variable	Blended	Yes	Yes
Parts- Variable	Blended	Yes	Yes
Vehicle Usage Depreciation - Variable	Blended	Yes	Yes
Subcontracted work-Variable	Actual	Yes	
Administrative Support - Fixed	Actual	Yes	

- b) Separate costs associated with the "extension of life cycle" as capital costs vs operating (activity type).
- c) Determine the carrying cost of inventory for General Fleet Services in preparation for the calculation of overhead to parts.
- d) Financial Services, Inventory and Asset management should charge overhead on parts. Some municipalities currently charge parts at 110%.
- e) Fuel charges should include a mark up to cover operating and capital improvements costs.
- f) Include the cost of preparing newly acquired equipment for the road as acquisition costs.
- g) Set labour charge out rates yearly based on previous yrs actual results plus changes to Collective Agreement. Monitor unit costs at

least quarterly to ensure that charge out rate is sufficient to meet overhead.

- h) Capital funding to support the planning model should be generated from usage and included in the rate structure.

Service Delivery Model:

45. Reduce the operational impact to client business units resulting from down time due to repairs and maintenance.

- a) Analyse capacity to repair small equipment and rolling stock to determine cost benefit of internal vs external service provider.
- b) Fleet maintenance services for light duty equipment such as PM02(A) should be offered on site at the McKintosh and Oakmount facilities to improve scheduling response time for light duty equipment.

Action Plan:

- 1. Equip and locate light duty mechanical staff between McKintosh and Oakmount on a three month cycle.
- 2. The use of mobile mechanics could facilitate the service.
 - < Conversely, General Fleet Services should explore the opportunity to acquire external resources located closer to the operational unit depots to improve down time and reduce costs.
- c) Review the work completed by mobile mechanics and re-assign work based on need and capacity.

Action Plan:

 - 1. Reassign the work start location to a secured off site location such as McKintosh, Oakmount, Bissett Road or Cowie Hill on a rotating basis to reduce loss of productivity time due to travel time.
 - 2. Assign specific (PM02(A)) tasks daily to one mobile unit, while retaining the second unit for unplanned work. This would need to be modified during snow events.
- d) Review the design and layout of the Light Duty Shop and supporting services to ensure the timely and accurate exchange of information is possible. This may be accomplished by moving the Service Advisor into the Light Duty Shop area with the Supervisor.
- e) Relocate the Parts Buyer and Inventory Buyer together in the Stores area so that they are able to identify the changing needs of Fleet and respond more effectively to mechanical staff.
- f) Relocate all clerical and administrative staff to one central location, readily accessible to each other for sharing of information and work load.

Planning and Budget:

46. Improve financial decision making and accountabilities:

- a) Develop the budget based on vehicle utilization, consumption needs, not

prior year budget figure.

< Work with Financial Planning to develop funding plan to move to budget to reflect full costs of activity.

- b) Fleet must operate within budgeted allotment based on actual value. Fixed costs must always be covered. Business Units would be charged a minimum annual amount, based on planned usage plus nominal overhead charge to cover vehicles not being used and/or returned by end user.

47. Increase and smooth out financial impacts for new capital or replacement acquisition.

- a) Create a new reserve, "Capital Replacement Reserve" to ensure on-going capital replacements are funded. The reserve should use inflation adjusted dollars, not constant dollars, given the life cycle of the equipment.

Fleet reserves - opening balance + depreciation + salvage revenue + net income = source of fund - replacement program and other capital expenditures = closing balance

- b) Prioritization for vehicle acquisitions should be based on a objective model and include:

- operational requirement - emergency, operational needs vs non-mandatory ,
- standardization of fleet,
- age of equipment and useful life,
- condition and opportunity to rebuild and extend useful life,
- operational costs including parts availability, and
- estimated usage.

- c) The equipment acquisition recommendation process should involve all stakeholders including:

- Business Unit end user,
- Mechanic staff,
- Supervisors and Superintendent,
- Procurement Officer, and
- Inventory and Asset Management (parts).

- d) Delay the acquisition of new and replacement equipment for one year to allow for preplanning analysis to set replacement priorities.

- e) Equipment replacement analysis should occur at least semi-annually or cyclically rather than annually.

General Internal Controls:

48. Improve internal control and accountability in work flow processes.

- a) Supervisors should regularly verify work estimates prior to the commencement of the work, if the work being completed is not regular maintenance.
- b) Review all expenditures relating to outside services to ensure that there is a cost/benefit to using the external services. This should be conducted on a

regular basis such as annually.

Inventory:

49. All MVI stickers should be inventoried and issued from Stores.
 - a) Assign a Material Master Number to MVI Stickers
 - b) Inventory and relocate all MVI stickers to a secure location within Turner Stores.
 - c) Monitor MVI booklets to ensure that stickers are issued in sequence and matched to stated equipment.

50. All HRM Tools should be inventoried and issued from Stores.
 - a) Inventory and relocate all tools currently on site into a secured area.
 - b) Develop and implement a process to sign out tools from Stores.
 - c) Monitor tool and equipment returns to ensure that tools are returned on a timely basis.

51. Review the work around processes put in place to accommodate the night shift to ensure that all applicable policies are being followed. This would include the use of VISA Purchase Cards and blank Purchase Orders.

52. Establish data standards for use with short and long text fields. Determine the nature of data to be captured and monitor for compliance.

Project Management:

53. Contingent on the acceptance of some or all of the recommendations presented in this report, Fleet Services should establish a project team led by a dedicated project lead, reporting to RPAM Service Delivery and Quality Improvement, to develop and roll out a Strategic Action Plan to implement the recommendations.

General Reporting:

54. Improve regular reporting to Senior Management and Council.
 - a) Report on performance measures on a quarterly and annual basis to the Director of RPAMS and EMT.
 - b) Reporting of selective performance measures should occur, at least monthly, quarterly or annually for the following items:
 - < Monthly - Down time (quota) to baseline established in report
 - < Monthly - Mechanical utilization
 - < Monthly - Scheduled PM02's made and missed
 - < Monthly - Repair time between kms
 - < Quarterly - Vehicle utilization - liters used per km
 - < Annually - Internal/External Services - type, cost

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Detailed Findings & Recommendations

A) Organizational Background

The core business of General Fleet Services is the acquisition, maintenance, repair and disposal of specialized light, medium and heavy duty equipment for municipal services. These core services are supplemented with the provision of safety and training coordination and accident investigation.

At amalgamation, April 1, 1996, Fleet Services fell under the umbrella of Public Works and Transportation. Service was provided from four (4) locations throughout the urban core of HRM. Full service for vehicle and heavy equipment was provided from the Oakmount Depot in Bedford; McKintosh Depot in Halifax and from Turner Drive in Dartmouth. Repair and maintenance of small equipment occurred at Cowie Hill in Halifax and Turner Drive in Dartmouth.

In 1998, the decision was made to centralized all General Fleet Services to one location. All materials, supplies, tools and equipment were relocated and staff re-assigned to work from Turner Drive, Dartmouth. Alignment 2000 re-aligned the service under the umbrella of Shared Services given its broad mandate and potential to provide service to all HRM Business Units. A subsequent realignment in 2002 moved General Fleet Services to the Real Property and Asset Management Business Unit.

Finally, in 2004, the HRM , for budget and reporting purposes rationalized all fleet services into one section under the Real Property and Asset Management Business Unit as "Fleet Services." General Fleet Services is one of four components of Fleet Services reporting to the Manager of Fleet Services, through to the Director of Real Property Asset Management Services.

Other divisions within Fleet Services include Emergency (Fire, Police), Transit, and Strategic Transit Fleets. Emergency Fleet Services operates from two separate locations - the Gottigen Street Police Station and the Waverley Road location, set up in 2003, primarily to service Fire Services. Although there is a direct reporting relationship between the Emergency Fleet managers through to the Manager of Fleet Services, each operates some what independently from the rest of Fleet Services. Strategic Transit Fleet is currently being set up. It will include Bus Rapid Transit, Access-A-Bus, Rapid Ferry and a Satellite Garage.

General Fleet Services is located on Turner Drive, Burnside Industrial Park, Dartmouth. The organizational structure consists of a superintendent, three supervisors, four administrative support persons, one training and safety officer and 33 mechanical and technical employees. All staff work from or out of the Turner Drive location providing service throughout the HRM's urban and suburban cores. An extract from the

Fleet Services Vision 2004 document provided to the Project Team quantifies the size and scope of the operation as:

- < Replacement cost of current fleet is not available.
- < 20,000 work orders generated annually
- < Supports almost every business unit
- < 716 pieces of rolling stock
- < 1,000 pieces of small equipment

General Fleet Services client base can be broken down financially as:

Table 1 (Based on assigned equipment and completed work orders)

Business Unit & Section	% of financial transactions	Equipment Base	% of total equip
Transportation and Public Works	74.5%	307	42.9%
RPAM - Operations	7.2%	262	36.6%
HRM Other	18.3%	147	20.5%

In addition to direct-report and budgeted employees, General Fleet Services is supported by a number of other Business Units. The following table highlights the indirect (and non-costed) support provided to General Fleet in its delivery of services to the HRM.

Table 2 Full Cost Accounting

Business Unit	Position Title	Nature of Work	Est FTE
Financial Services	Parts Buyer	Acquire non-stocked parts, services including data recording and processing	1.0
	Field Support Rep	Manage all standing orders for parts/services including recording and processing	.5
	Inventory Buyer MRP	Identify and maintain stocked items, new additions or deletions including recording and processing	.5
	Inventory Clerk	Maintain, supply of fuel including recording and processing transactions	.4
	Stores Personnel	Accept stocked and non-stocked deliveries, issue goods, recording and processing of GR.	3.6
	Supervisor Inventory & Stores	Oversee Turner Drive Stores location	.2

Business Unit	Position Title	Nature of Work	Est FTE
	Financial Consultant	Advice, analysis, coordination and training of financial transactions, processes, etc	.2
	Insurance/Claims Management	Respond, record claims resulting from damages, accidents.	.4
Shared Services	HRIS Support	Process payroll from time sheet submissions, maintain employee bank information	.25
	Manager of HR Support	Oversee payroll input, processing, OH - CATS	.25
	SAP Support - Plant Maintenance	Maintain, improve system functionality	1.0
		FTE non-costed support to General Fleet	8.3

B) Financial Processes

1.0 Financial Analysis

An analysis of financial process considers the activities of budgeting, costing, revenues, accounting practices, reserves funding and management, insurance and financial and managerial reporting.

1.1.1 Issues and Observations:

Operating Budget:

Cumulatively, fiscal years budget and actual expenditures have been:

Table 3: Budget to Actual Expenditures

Fiscal Year	Budget ¹	Actual ¹	Variance
1999/2000	\$4,813,800	\$4,830,020	(\$16,220)
2000/2001	\$5,159,840	\$5,774,112	(\$614,272)
2001/2002	\$5,081,514	\$5,956,920	(\$875,406)
2002/2003	\$5,089,750	\$6,388,058	(\$1,298,308)
2003/2004	\$5,794,300	\$6,464,937	(\$670,637)
2004/2005	\$5,350,773	n/a	
Total	\$31,289,977	\$29,414,047	

¹Budget and Actual amounts equal the net surplus/deficit less revenues, which are the Net interdepartmental charges and long term fleet rentals.

Source: SAP KSBB - Cost Centre Accounting - HRM Reports - (12) Budget Report for Council - Summary by General Ledger Services [Plan Version 0, Cost Centre R970]

Since Fiscal Year End 2000 General Fleet's budgeted gross expenditures have increased, on an annual basis, 2.1%, through Fiscal Year End 2005, compared to an 7.6% increase in actual gross expenditures, through Fiscal Year End 2004. When fuel is excluded from the amounts, the average annual increases are 2.4% for budgeted gross expenditures and 7.7% for actual gross expenditures over the same time periods. For Fiscal Year End 2005 budgeted gross expenditures decreased 5.4%, exclusive of fuel amounts from the previous Fiscal Year End.

Operating Budget 2003/2004:

Table 4

Description	Budget	Actual	Variance
Recoveries	\$5,793,953	\$6,230,914	(\$436,961)
Compensation and Benefits	2,413,800	2,462,304	(48,504)
Vehicle Expense	2,460,500	2,842,877	(382,377)
Fuel	780,000	987,199	(207,199)
Other Expenses	140,000	172,555	(32,555)
Total Expenditures	5,794,300	6,464,935	(670,635)
Net Surplus/(Deficit)	(\$347)	(\$234,021)	\$233,674

Source: SAP KSBB - Cost Centre Accounting - HRM Reports - (12) Budget Report for Council - Summary by General Ledger Services [Plan Version 0, Cost Centre R970]

Approximately 80% of the 2003/2004 budget variance can be attributed to parts and fuel consumption. Fuel consumption had an unfavourable variance of approximately \$207,000. The other budgeted parts expenditures had a net unfavourable variance of \$382,000. Approximately 9%, an unfavourable variance of \$65,000, was attributed to repairs to equipment used by General Fleet. Another 7% of the total unfavourable variance, \$48,500, related to compensation & benefits. The remaining 4% is attributed to various other expenditures both favourable and unfavourable on a line by line basis.

General Fleet's gross operating budget as a percentage of HRM's operating budget for Fiscal Year End 2005, ranges from 1.0% to 1.2%, inclusive and exclusive of outside agency transfers, respectively. Excluding the operating budgets for Fire and Emergency Services, Regional Police and Metro Transit, General Fleet's gross operating budget is 1.7% of the overall operating budget. All comparisons to the operating budget include fuel. Internal Comparison's of HRM's of fleet costs compared to gross budget is summarized below:

Table 4A

General Fleet costs as a percentage of the Gross HRM Operating Budget ex outside transfers	1.2%
General Fleet costs as a percentage of the Gross HRM Operating Budget ex outside transfers, Fire, Police & Transit	1.7%
Fire Fleet costs as a percentage of the Gross Fire operating budget	4%

Police Fleet costs as a percentage of the gross Police operating budget	3%
Transit Fleet costs as a percentage of the gross Transit operating budget	30%
Comparisons are based on the 2004/2005 budget	
Source: SAP and 2004/2005 Budget Book and Table 3	

The average percentages of gross expenditures are summarized as follows:

Table 5

Expense Category	Budgeted Average ¹	Actual Average ²
Compensation & Benefits	42.3%	36.8%
Vehicle Expense	38.1%	45.1%
Vehicle Fuel	13.0%	13.7%
Other	6.60%	4.40%

¹Averages based from Fiscal Year End 2000 through 2005.
²Averages based from Fiscal Year End 2000 through 2004.
Source: SAP KSBB - Cost Centre Accounting - HRM Reports - (12) Budget Report for Council - Summary by General Ledger Services [Plan Version 0, Cost Centre R970]

Based on the Budget for Fiscal Year End 2005, direct costs are 84.9% of gross expenditures, net of fuel amounts. Direct costs charged by General Fleet for all repairs and maintenance are captured through the flat rate of \$45 per hour which include billable mechanical labour hours and benefits; and an overhead rate designed to capture down time. The indirect costs, approximately \$740,000, comprise the remaining costs recovered through the \$45 per hour charge out rate. The remaining costs are direct costs borne by business units as consumed (“pay for use”) for parts, outside services and fuel.

The rate used by General Fleet is not a “fully burdened” rate. General Fleet is not charged by supporting and/or common service business units for administrative, recovery or overhead amounts. For example, operating building costs, insurance costs, parts storage and administrative costs are not passed on to General Fleet. As a result, the cost of the services provided by General Fleet do not reflect full cost accounting or full burden.

The \$45 per hour rate is based on a planned base of approximately 61,400 hours of direct mechanical staff work. The “billable hours” were determined by management as follows:

Table 6

Number of Staff		37
Total annual hours	2,080	
Sick Leave (18 days x 8 hours)	144	
Vacation Leave (23 days x 8 hours)	184	
Holidays (11 days x 8 hours)	<u>88</u>	
Billable hours before lost time	1,664	61,568
Less: other lost time (in hours; equivalent 18.75 days)	150	<u>150</u>
Net billable hours ¹	1,514	56,018
Hourly Rate		\$45
Estimated billable labour amount		\$2,520,810
Source: General Fleet		
¹ Equivalent of 73% of utilization		

The actual billable labour amounts for Fiscal Years Ended 2003 and 2004 is summarized as follows:

Table 7

FYE	\$'s	Hours	FTE ¹
2003	2,622,536	57,388	37.9
2004	2,500,318	54,886	36.3
¹ FTE equals the amount of hours divided by 1,514 {billable hours per employee} (Table 6).			
Source: SAP KSB1 for cost centre R970 and cost element 9910.			

As indicated in the table above, the full time equivalent number of staff compared to the planned number of staff over the previous two fiscal years is comparable. However, the actual billable hours and amounts do not reflect time incurred by external service providers. It is not possible to confirm, through an effective analysis of external services, if there is any staff shortage. The current use of the SAP system by General Fleet and Financial Services, does not provide enough data to determine the extent and amount of external services provided to General Fleet. Additionally, the billable hours above does not breakdown the overtime hours incurred by General Fleet staff compared to regularly schedule hours.

General Fleet Revenue/Recoveries

Table 8: Interdepartmental Revenue - General Fleet

FYE	Gross Interdepartmental Revenue (\$'s)	Fuel	Net Rep & Maintenance Costs
2001	5,641,323	910,404	4,730,919
2002	5,991,928	734,846	5,257,082
2003	6,477,001	900,960	5,576,041
2004	6,237,615	970,421	5,267,194
2005 ⁴	2,557,387	468,551	2,088,836

¹Six months ended 30 September 2004
Source: SAP KSB1 [Cost Centre R970]

Table 9: Revenue by Business Unit FYE 2004

	Total Charges ¹	Fuel ²	Net Charges	% of Total
Public Works - Streets & Roads	\$3,667,284	\$438,378	\$3,228,906	61.3%
RPAM - Parks, Grounds & Sportsfields	1,067,690	175,113	892,576	16.9%
Public Works - TUGS	856,490	162,209	694,281	13.2%
RPAM - Other	194,143	83,844	110,299	2.1%
EMS	120,696	8,036	112,660	2.1%
RPAM - Fleet (ex. General Fleet)	72,805	20,004	52,801	1.0%
Public Works - Other	62,892	15,832	47,060	0.9%
Planning & Development	61,253	18,187	43,066	0.8%
Library	48,808	19,052	29,756	0.6%
Other	<u>85,553</u>	<u>29,765</u>	<u>55,788</u>	1.1%
Total (ex. General Fleet) ³	\$6,237,615	\$970,421	\$5,267,194	

¹Source: SAP KSB1 - Cost Centre R970 and Cost Element 7001.
²Source: SAP KSB1 - Cost Centre R970 and Cost Elements 6803 and 6804.
³Differs from Table 3 due to General Fleet internal repair costs.

Fuel:

Although a budgeted amount is prepared, General Fleet does not consume fuel or maintain the fuel management system. Financial Services maintains the system on behalf of the organization. Currently, General Fleet is only a conduit for fuel charges to other business units, agencies and commissions. The table below summarizes the actual expenditures and consumption passed through General Fleet, cost centre R970, to HRM business units, agencies and commissions.

Table 10:

Fiscal Year End	Diesel		Gasoline	
	\$'s	Litres	\$'s	Litres
2000	318,843.81	1,030,919.70	283,433.84	700,987.10
2001	551,954.81	1,232,675.70	382,399.31	771,307.30
2002	425,871.41	1,216,963.01	321,823.86	738,829.60
2003	551,615.10	1,371,070.00	365,547.10	758,039.60
2004	590,125.00	1,389,575.15	397,074.41	814,632.80
2005 ¹	242,252.78	526,821.30	234,051.51	395,095.60
Total	2,680,662.91	6,768,024.86	1,984,330.03	4,178,892.00

Source: SAP Cost Centres Actual Line Items [Transaction Code KSB1: Cost Centre R970; Cost elements 6803 and 6804]
¹Fiscal Year end 2005 is for the 6 month period ended September 30, 2004.

Parts

An analysis of the \$2.9 million expended for parts and services for Fiscal Year End 2004 identified that approximately 79% of parts and outside services were non-stocked items. Included in the 79% of non-stocked items, was 67.2% (approximately \$2.0 million) of expenditures that did not use any material number. When a material number is not used in SAP, effective and efficient analysis cannot be carried out.

A manual review of the detail for items purchased without a material number during this time period suggests the expenditure breakdown in the following general areas:

Table 11: Expenditure Breakdown

General Category - unnumbered parts/services expenditures	
Tires	12%
Body	7%
License & Registration Fees	7%
Loader related	5%
Engine related	4%
Preventative maintenance service	3%
Brake related	3%
Differential related	3%
Plow related	3%
Hydraulic system related	3%
Source: SAP - KOB1 Reports for Internal Orders -> Line Items -> Orders: Actual Line Items Fiscal Year End 2004 Note: download of data approximately 13,000 line items.	

An example of where a material number was not used was identified on SAP-PM work order 40214022. Total costs incurred were \$28,511. Materials used from the outside vendor were \$25,628. However, this amount does not have any material number attached so it can not be easily determined as to the work completed. The remaining \$2,883 did have a material number representing outside service labour charges. However, 90% of the repair costs are not effectively captured.

An effective material number would identify the costs above as " type of material/parts - outside services." In addition to not effectively capturing outside service and part costs, General Fleet does not capture casts by repair and/or maintenance type. By not identifying all the costs as external services, an efficient analysis of outside service costs becomes time prohibitive.

One cannot effectively determine whether General Fleet is effective and efficient compared to the private sector or if the HRM is receiving value for money from the services received by outside parties.

Stocked Parts:

Stocked parts issued from stores for Fiscal Year End 2004 were in the amount of

\$618,666.25, representing 2,234 different types of parts.

An excerpt from the *City of Hamilton Fleet Services Review - Final Report*, page 33-34 states:

“A byproduct of good cost allocation and data management practices provides for an analysis of inventory and overhead costs. Although these figures will vary depending on the particular fleet, the literature estimates that the carrying cost of inventory should be approximately 34% of the total inventory value. The breakdown is as follows:⁵

Table 12: Best Practice Distribution of Inventory Overhead Costs

	Inventory Overhead Item	Proportion
<	Cost of storage space, including rent, building maintenance and repair, utilities, and labour costs for janitorial staff and security guards	4%
<	Cost of inventory stores and materials-handling equipment, including depreciation on shelves and bins, maintenance of materials-handling equipment, fuel, use of records and forms, purchase of office equipment	1%
<	Taxes, including taxes on materials-handling equipment, inventory, shelves, bins, record-processing	1%
<	Insurance, including allocated portions on buildings, plus inventory, materials-handling equipment, bins, shelves	2%
<	Inventory personnel costs, including salaries and fringe benefits of full-time parts employees and allocated portions of clerical or supervisory employees	11%
<	Obsolescence, including damaged or non-returnable parts, time spent filling warranty claims and returning parts for credit	5%
<	Money costs or the lack of return on inventory and control investment that might otherwise produce income	10%

The cost of these services rest primarily in Financial Services. The Review Team was not able to determine the carrying cost of inventory as it pertains to General Fleet Services.

Accounting Process:

The current costing method used by General Fleet is a “pay as you go” system. Actual costs, except for labour hours incurred by General Fleet Staff, are passed on to HRM Business Units and agencies. As described on page 30, labour hours for HRM

⁵ Best Management Practices and Performance Measures Manual, Spectrum Consultants, Inc. PO Box 12574 Dan Diego, CA USA 92112

General Fleet staff are based upon a rate of \$45 per hour for recovery of direct and indirect compensation, benefits and overhead. The overhead recovery is based upon charges that are not directly charged or attributable to a specific HRM vehicle.

The costs for fuel, parts and external services are attributed directly to a specific HRM or agency vehicle. The fuel costs are captured using a fuel card system and all other charges are captured on a work order basis. The fuel cards and work orders can be traced backed through SAP to a specific HRM or agency vehicle.

The labour charges are captured on the work orders by hours. Parts issued directly from HRM Stores - Turner Drive are attached directly to a work order. Parts and services obtained externally are attached directly to a work order through a purchase order or visa charge.

On a daily basis, costs captured on a work order are transferred from the Plant Maintenance (PM) system to Cost Centre R970 - General Fleet. Costs by business units are simultaneously captured through an SAP internal order. Subsequent to each month end, the Administrative Coordinator runs a summary report of the internal orders to review the pending charges to be transferred. Post review, the Administrative Coordinator advises Financial Services that the costs captured on the internal orders are ready for transfer to the end business units by Financial Services. The costs are then manually transferred to each business unit through a journal entry processed by Financial Services.⁶

General Fleet - Capital:

The General Fleet gross Capital Budget has grown, on an annual average, 10.7% between fiscal year ends 2002 through 2005. However, during fiscal year end 2003 the General Fleet budget had decreased 69% from the previous year only to increase 303% in fiscal year 2004. The average of General Fleet's capital budget of HRM's total gross capital budget for the four year's ended in fiscal year 2005 is 2.4%.

Since fiscal year end 2001 fleet has spent approximately \$7.3 million on replacement vehicles. Over this time period, the total number of vehicles purchased was 143 vehicles. Of the \$7.3 million, approximately \$1.8 million did not have a SAP material number assigned in the capital system. Prior to fiscal year end 2004, there was a practice of using SAP material numbers to identify the type of vehicle purchased. The vehicles without an SAP material number is a result of a change in the process of acquiring vehicles.

⁶ Flow charts can be found in the Appendices, Appendix 3, Page 130

Equipment Types:

Fleet comprises approximately 716 different pieces of rolling stock. Of the 716 pieces of rolling stock 88% is comprised of Heavy (approximately 35%) and Light (approximately 53%) types of equipment. The remaining 12% is comprised of specialized types of equipment. Fleet also maintains and repairs small equipment types. However, a list of the small equipment on SAP has not been verified and/or updated to reflect equipment that has been lost, damaged, disposed or acquired.

The age calculation was not available within SAP and was determined through spreadsheet analysis. An aging of the equipment is summarized as follows:

Table 13

Age Range	Number of equipment	Percent of Total
0 - 5	302	42.2%
6 -10	161	22.5%
11 - 15	111	15.5%
16 - 19	48	6.7%
20+	34	4.7%
Information not available	60	8.4%
Total Rolling Stock	716	

Source: SAP IH08 Equipment List - Equipment Category "C"

Based upon SAP-PM information for Fiscal Year 2004 the cost of repairs by age range is summarized below:

Table 14

Age Range	\$'s ³	Percent of Total
1 - 5 ¹	850,281	16.0%
6 -10	1,987,783	37.4%
11 - 15	1,572,065	29.6%
16 - 19	180,926	3.4%
20+	101,796	1.9%
Information not available ²	621,630	11.7%
Total	5,314,481	

¹Equipment with an age of zero is not included as the equipment was deemed purchased during fiscal year 2005.

²Approximately 91% of the costs incurred were related to SNIC equipment.

³Excludes fuel costs.

As indicated in Table 14, two age ranges account for 67% of the repair and maintenance costs. In appearance, this is in line with General Fleets estimates that vehicles in these ranges increase in repair and maintenance costs.

A detailed analysis of thirty (30) 5-Ton trucks (with spreaders & plows), representing approximately 15% of total repair costs for Fiscal Year End 2004, is presented below:

- Weighted Average Age is approximately 10.3 years
- Estimated Average Availability 84.8%⁷

Table 15

Work Order Type	Total Costs	Estimated Average Number of Days Unavailable
Repairs (PM01)	\$750,939.50	34.3
Preventative Maintenance (PM02)	\$44,017.91	2.73

Source: SAP MCI8 - Cost Analysis FLO014

The information in Table 15 is available for all General Fleet equipment classes in SAP. Currently, there is not a manual or automatic process providing General Fleet Management the above types of analysis. General Fleet has a high reliance on one individual to provide information, albeit on an ad hoc basis.

1.1.2 Recommendations:

1.1.2.1 *Improve financial decision making and accountabilities:*

- a) *Develop the budget based on vehicle utilization, consumption needs, not prior year budget figures.*
- < *Work with Financial Planning and Financial Consultants to develop funding plan to move to budget to reflect full costs of activity.*

1.1.2.2 *Support accountability established by service agreements and fully account*

⁷Available time is estimated on the internal labour costs at \$45 per hour, eight (8) hour days and 250 work days to be available. The estimate excludes outside labour and downtime as the information is not captured through SAP. Therefore, it is possible the average estimate may be higher.

for costs associated with the provision of General Fleet Services:

- a) Move to a Full costing model for Fleet Services -
 - Builds accountability across stakeholders,
 - Enables external comparison of performance measures,
 - Best approach to include capital costs.
- b) Fleet customers should determine the level of maintenance for each equipment category and are pay for repairs and services on a time and materials basis.
- c) The charge back mechanism should be divided into two components. When operating departments require a vehicle or piece of equipment, they would be required to budget for two components:
 - Fixed Rate - monthly expressed in dollars per month -covers depreciation (capital asset) plus inflationary portion to build reserve to buy future replacement without borrowing. Other fixed overheads including - insurance, facilities, etc.

Formula:
$$\frac{((\text{Purchase price} - \text{PV}(\text{salvage value}) \text{capital recovery factor}) / \text{life expectancy in months} + \text{other fixed costs})}{\text{life expectancy in months}} = \text{monthly fixed rate.}$$

 - Variable Rate - cents per kilometre or dollar per hour that covers all maintenance costs. This should be based on the average maintenance and fuel costs of the rate class. Overhead costs should be included for parts, fuel, subcontracted work, tire repairs and general fleet improvements.

Transfer Pricing Approach:

Item	Costing Factor	Operating	Capital Reserve
Insurance - Fixed	Actual	Yes	
Facility Costs - Fixed	Actual	Yes	
Labour - Repair/Mtce - Variable with O/H	Blended	Yes	
Fuel - On Usage- Variable	Blended	Yes	Yes
Parts- Variable	Blended	Yes	Yes
Vehicle Depreciation - Fixed	Blended	Yes	Yes
Subcontracted work-Variable	Actual	Yes	
Administrative Support - Fixed	Actual	Yes	

- d) Separate costs associated with the "extension of life cycle" as capital costs vs operating (activity type).
- e) Determine the carrying cost of inventory for General Fleet Services in preparation for the calculation of overhead to parts.
- f) Financial Services, Inventory and Asset management should charge overhead on parts. Some municipalities currently charge parts at 110%.
- f) Fuel charges should include a mark up to cover operating and capital improvements costs.
- g) Include the cost of preparing newly acquired equipment for the road as acquisition costs.
- h) Set labour charge out rates yearly based on previous yrs actual results plus changes to Collective Agreement. Monitor unit costs at least quarterly to ensure that charge out rate is sufficient to meet overhead.

1.1.2.3 Fleet must operate within budgeted allotment based on actual value. Fixed costs must always be covered. Business Units would be charged a minimum annual amount, based on planned usage plus nominal overhead charge to cover vehicles not being used and/or returned by end user.

1.1.2.4 Increase and smooth out financial impacts for new capital or replacement acquisition.

- a) Create a new reserve, "Capital Replacement Reserve" to ensure on-going capital replacements are funded. The reserve should use inflation adjusted dollars, not constant dollars, given the life cycle of the equipment.

Fleet reserves - opening balance + depreciation + salvage revenue + net income = source of fund - replacement program and other capital expenditures = closing balance

1.1.2.5 Reporting:

- a) Reporting of selective performance measures should occur, at least monthly, quarterly or annually for the following items:
 - < Monthly - Down time (quota) to baseline established in report
 - < Monthly - Mechanical utilization
 - < Monthly - Scheduled PM02's made and missed
 - < Monthly - Repair time between kms
 - < Quarterly - Vehicle utilization - liters used per km
 - < Annually - Internal/External Services - type, cost

C) Business Processes

2.0 Regulatory Compliance

2.1 Mandate

There are a number of overlapping pieces of legislation that affect the delivery of Fleet Services. Under the Municipal Government Act (“MGA”), streets within the HRM are “vested absolutely in the municipality.”⁸ Section 312 of the MGA authorizes Council to “design, lay out, open, expand, construct, maintain, improve, alter, repair, light, water, clean and clear streets in the municipality.” HRM Council may also “expend funds for the purpose of clearing snow and ice from the streets, sidewalks and public places in all, or part, of the municipality.” Council is granted status as a “local authority” under the Motor Vehicle Act allowing them to control the use and post signs about that use on public streets.

The operation of motor vehicles is also a highly regulated activity. The Motor Vehicle Act “regulates the registration and identification of Motor Vehicles and the use of the Public Highways.” It sets out the minimum operating standards for various gross weights⁹ of equipment and the licensing requirements for operators of that equipment. The Act authorizes Provincial employees to conduct spot inspections in order to confirm that operators are in compliance with the various regulations enacted under the Act.

Under the Apprenticeship and Trades Qualifications Act, regulations have been enacted to license persons that carry out service on specific equipment. Finally, regulations grant qualified individuals the right to inspect and issue safety inspection stickers on behalf of the Minister of Public Works and Transportation. Regulations enacted under the Occupational Health and Safety Act also apply to General Fleet Services. Appendix 2 page 128 highlights the various regulations by Act affecting the operation of General Fleet Services.

As noted earlier, approximately 74.5% of all services provided by Fleet is in support of Public Works and Transportation Services who carry out repairs and maintenance on public streets including snow and ice control using what the Act and Regulations define as “commercial vehicles.” Compliance with the Acts and Regulations are a key component of everyday life in General Fleet Services.

⁸ An Act Respecting Municipal Government, Chapter 18, Acts of 1998, Bill No. 47, PART XII, Streets and Highways 308(1)

⁹ Commercial Vehicle Maintenance Standards defines a “commercial vehicle” as a truck, truck-tractor, c-dolly, or trailer, or combination thereof exceeding a registered gross vehicle weight of 4500 kg

2.1.1 Issues and Observations

Regulatory Compliance:

Confirmation that General Fleet is in compliance with the numerous regulations cannot be easily quantified through HRM records. The HRM does receive an annual "Carrier Profile Abstract Report" from Service Nova Scotia and Municipal Relations Vehicle Compliance Division which outlines the results of randomly conducted Audits, CVSA (Commercial Vehicle Safety Alliance) Inspections and the number of reported events resulting in convictions, collisions and traffic offence reports (warning tickets) issued against operators of HRM equipment.

Table 16: Summary Results from SNMS audits, inspections of HRM

Year	Points Accum	Audit History	CVSA Inspections Total	CVSA Inspections Failed	Collisions Reported	Convictions	Traffic Offence Reports
2001-2002	3	Dec 4, 2001 - non-compliance	2	0	4- property damage 1- Personal Injury	2 - no seat belt 1 - speeding school area	1 - carrier failing to keep logs 1- inadequate equipment 1 - improper functioning brake lights
		Feb 21, 2002 - compliance					
2003-2004	0	NA	6	2	9 - property damage 3 - personal injury 1 - fatality	None	2- inadequate equipment

The basis of the December 4, 2001 audit included reviewing mandatory elements of the National Safety Code such as driver records, licences and abstracts; training documents records; hours of work from log books or time records; vehicle maintenance records for preventative maintenance, trip inspection reports and records of repairs; and vehicle information including vehicle permits, insurance liability policy and a copy of the MVI form. A total of 20 out of 234 commercial vehicle files and 20 out of 350 driver files were reviewed by the Carrier Safety Officer.

The results of the audit indicated that General Fleet Services was in 100% compliance with required record keeping for all 20 vehicle files but only in 55%

compliance with the required record keeping for driver information. Over 40 violations were observed, resulting in the issuance of a "Traffic Offense Report" under the Motor Vehicle Act. A verification audit was conducted on February 21, 2002 which resulted in full compliance. There has been no further independent audit conducted since that time.

Trades Certification:

Under the Apprenticeship and Trades Qualifications Act, specific regulations certify trades persons based on training or experience acceptable to the licensing body. The job description and assignment of mechanical staff within HRM is structured so that there is little opportunity for overlap between the light duty shop and the heavy duty shop. Each shop requires different certification. Some mechanical staff do hold more than one certificate but there is no hiring or employment requirement.

Table 17: Technical Position Distribution

Trade Certificate	Number of Positions
Automotive Service Technician	9
Motor Vehicle Body Repairer (Metal and Paint)	2
Heavy Duty Equipment Technician	13
Truck and Transport Mechanic	0
Welder	4

An Automotive Service Technician is licensed to repair and maintain all mechanical and electrical devices on automobiles and light trucks. A Motor Vehicle Body Repairer can repair, replace or paint motor vehicle body parts. A Heavy Duty Equipment Technician is limited to mechanical repairing and maintenance of heavy, wheeled or track type construction and off highway type vehicles. Finally, Truck and Transport Mechanics can carry out repairs to mechanical components and maintenance of heavy road vehicles such as passenger buses and transport vehicles. Truck and Transport Mechanic Trade Regulations allow for a limited cross-over of up to 6 months if the work is temporary and occasional and the employee holds a certificate of qualification in the automotive service technician or heavy duty equipment trade. After six months, the individual must apply for certification as a Truck and Transport Mechanic.

Once an employee has received certification under a specific trade and registered with the Province of Nova Scotia they are authorized to carry out Motor Vehicle Inspections and issue Safety Inspection Stickers. Certification provides a higher level of

accountability and expectation that the work completed by the licenced mechanic will meet industry standards.

The welding trade is also certified by the Province of Nova Scotia. A welding certificate indicates that the individual is versed in laying out, fabricating, repairing, installing and modifying metal assemblies, and includes the use of plastic materials to carry out the work using shielded metal (SMAW), gas tungsten (GTAW), gas metal (GMAW), flux cored (FCAW) and/or high pressure pipe welding using the SMAW process. HRM currently requires a Class A welding certificate which refers to certification as a journeymen under the prior regulations.

Motor Vehicle Safety and Inspection Stickers:

Mechanics licensed by the Province of Nova Scotia may conduct safety inspections and issue annual stickers indicating that the equipment meets the operating regulations under the Motor Vehicle Act.

Vehicle and Operator Records:

Vehicle records consist of the daily inspection check list which is required to be completed by HRM policy on all equipment at the start and end of each shift. The daily checklist is passed into the operators' supervisor who is required to review for repair and/or maintenance issues. General Fleet Services may see a daily check list if the operator has indicated that there is a need for repairs or maintenance work and/or if the vehicle is involved in a reported incident or accident. Business unit supervisors are required to maintain the check lists for a specified period of time (approximately 6 months) before destroying the copies.

Under the Regulations, operators' records detailing the hours of operation of equipment by operator can be accomplished through the use of log books or time cards. HRM does not require operators to record their driving time in a log book. Instead, supervisors are required to complete a daily time sheet and report the hours of operation for each driver by vehicle. Operators do not normally advise the supervisor of the actual hours of driving. Prior work (SNIC) completed by the Review Team indicates that this method is less than accurate. Vehicle identification may not be recorded on the time sheet when it is filled out for a variety of reasons. It is also assumed that total driving hours is equal to the length of the shift, once an operator has been assigned to a vehicle.

Vehicle files are maintained by the General Fleet Administrative Clerk who is located in the main office of General Fleet Services at Turner Drive. It is her responsibility to maintain and file all documentation pertaining to the repairs and maintenance of the vehicle. Official vehicle files are located in a separate but secured

location within the building, accessed through the Stores Warehouse. Employees can gain access to the vehicle files through Administration Staff and/or Supervisors, if requested. Proof of ownership (Title) and registration papers are also maintained in these files and are available once access has been obtained.

Occupational Health and Safety

Most trades staff working in General Fleet Services would/could be exposed to materials of a hazardous nature such as fuel, oils, anti-freeze and transmission fluids. In addition, welding staff may be required to work at heights above six feet or mobile mechanics may respond to service calls on public roadways. Most staff has received Hazardous Material Handling and Traffic Control training.

2.1.2 Recommendations

2.1.2.1 *Ensure regulatory compliance, on an on-going basis:*

- a) *Establish policy and procedures to provide for spot checks on vehicle and driver files on the mandatory elements of the National Safety Code*
 1. *Driver qualifications,*
 2. *Service hours (log books),*
 3. *Compliance with commercial vehicle maintenance standards,*
 4. *Trip inspection reports,*
 5. *Records of dangerous goods training and transportation, and*
 6. *Existence and appropriateness of management procedures.*

2.2 Bylaw and Policy Compliance

Municipal legislation and policies affecting the General Fleet Services operation include:

1. HRM No Smoking Policy - employees are not allowed to smoke in HRM vehicles or buildings.
2. HRM Cell Phone Policy - while driving, employees are not to operate cell phones with out the appropriate hands off equipment
3. Vehicle and Travel Policy - employees are not to use HRM equipment for personal use.
4. Equipment Operation Training Manuals - operators must have the appropriate Motor Vehicle licence and operate equipment according to training. In-house training is provided.
5. HRM Occupational Health and Safety Policy and Procedure Manual - reiterates the OH&S Act requirements; specific to vehicles are policies/procedures relating to accident and incident reporting and investigation and automotive vehicles and construction equipment

(18.01)

6. HRM Human Resources Policy - for areas not covered directly by collective agreements. Conditions of work and compensation for supervisors.
7. CUPE 108 Collective Agreement - conditions of work and compensation for trades employees
8. NSUPE 13 Collective Agreement - conditions of work and compensation for administrative and clerical employees.

2.2.1 Issues and Observations

During the course of the review, on three separate occasions, employees of General Fleet Services were observed smoking in the building and in vehicles and using cell phones while driving. These occurrences are in direct violation of HRM policies.

2.2.2 Recommendations

- 2.2.2.1 *Review current HRM Policies with staff in General Fleet Services, including penalties for non-compliance.*
 - a) *Once reviewed, have staff sign off that they have read and understood the policies. Maintain record in employee's personnel file.*

3.1 Asset Management

Effective management of assets is critical to decisions made by General Fleet and the end user. Complete and accurate information on the costs of acquiring, operating and replacing a piece of equipment is necessary to ensure efficiency and effectiveness of business operations and future strategies. An understanding of the organization's asset complement begins with a record of the complete inventory, business unit assignments and assigned use. Stratifying the inventory into similar components provides valuable information on consumption, operating costs and repair and maintenance trends.

Another benefit of a centrally managed asset base is the ability to rationalize the use of the equipment across the organization. Under utilized equipment in one area may be redirected to another area, increasing operational efficiency at lower cost. Useful life calculations can be accurately predicted and replacements planned.

3.1.1 Issues and Observations

The Review Team was unable to confirm that the electronic asset records accurately reflect the true numbers of equipment on hand. In fact, interviewees

confirmed that the electronic small equipment records were overstated. Others confirmed that as operational needs dictated, they had acquired vehicles and equipment through rental or purchases that have occurred outside of the established practices. General Fleet Services is not aware of any “spare” equipment that can be used across the organization to offset downtime resulting from repair and maintenance. For a number of years during the business planning process, General Fleet Services had attempted to acquire confirmation of equipment held by each business unit but without complete success. A full physical inventory of all equipment assets has not been completed since amalgamation occurred in 1996.

The assignment of known equipment between business units may also be inaccurate. The Review Team was unable to quantify the level of inaccuracy. Miss-assignment can occur when equipment used seasonally by one business unit is physically transferred to another business unit without notifying General Fleet of the transfer or General Fleet may not complete the necessary physical and electronic processes to transfer the operating costs to the new business unit. This can also occur when supervisors or managers are re-assigned within business units with different cost centres. The equipment is attached to the supervisor, not the work function. When the re-assignment results in the assignment of a different cost centre responsibility, the equipment may be transferred to the new cost centre although it is still being used for the former activity. General Fleet Services staff may continue to contact the former supervisor to arrange for repairs or maintenance if the electronic records are not amended properly at the master data and the maintenance plan levels. These real scenarios contribute to the level of frustration expressed by both parties during the interview process.

The current assignment of rolling stock by business unit is summarized in Table 18.

Table 18: Rolling Stock

Business Unit	Light ¹	Heavy	Other	Total
Public Works	129	149	29	307
RPAM	133	81	48	262
EMS	22	21	1	44
Planning	37			37
Housing	12			12
Transit	11			11
Recreation	9	1	1	11
Library	9	1		10

Business Unit	Light ¹	Heavy	Other	Total
General Fleet	3		4	7
Financial Services	4		3	7
Governance	5			5
Forum	2			2
GHEP	1			1
Total	377	253	86	716

¹Approximately 94 vehicles are leased vehicles. Source: SAP IH08 - Equipment List

An analysis of equipment types identified 66 different categories, excluding small equipment. The breakdown by frequency is summarized below.

Table 19: Equipment Frequency Categories

	Number of equipment types	Number of rolling stock
5 units or less	33	69
6 to 10 units	11	91
11 to 20 units	13	199
21 to 50 units	7	204
50 to 100 units	2	153

Source: SAP IH08 - Equipment List

Current use of the SAP Plant Maintenance module does not provide an efficient reporting function to breakdown costs by equipment type. In order to assess costs by equipment types, 66 different reports would be required. The ability to conduct life cycle cost analysis within the current Configuration of SAP is cumbersome. However, a cost summary by month or individual equipment broken down by material and labour costs with a count of planned and unplanned orders can be obtained. One can identify the seasonality of planned and unplanned orders. Additionally, the report can compare repair and maintenance costs over time for similar types or specific equipment. Currently, there is no ability to capture the data in one specific function within SAP.

Life cycle analysis and replacement planning for light and heavy equipment has been designed to reflect past allocation and need, not future requirements. There is no life cycle planning or replacement plan for small equipment.

3.1.2 Recommendations

- 3.1.2.1 *A full inventory should be conducted of all assets for which General Fleet Services is responsible to repair and maintain.*
- A) *Confirm the existence of all rolling stock assets; location and assignment to Business Unit/Section/Manager.*
 - a) *Record condition, age, identifying numbers.*
 - b) *Establish acquisition and/or Book value and salvage value.*
 - Small Equipment*
 - a) *Complete full inventory and record on system.*
 - b) *Update annually.*
 - < *Business Units confirmed to have equipment missing without having filed a lost/stolen report should be charged a surcharge for non-compliance.*
 - B) *All assets should be permanently tagged, pictures taken, locations verified and storage areas secured outside of the annual update.*
- 3.1.2.2 *Decisions on whether to lease or own equipment should flow through Fleet Services and be based on cost/benefit analysis.*
- 3.1.2.3 *Improve information on file of all equipment.*
- a) *Capture/update acquisition dates and values for current rolling stock and object types.*
 - b) *Conduct an assessment of the current fleet's condition.*

4.0 Information Management

4.1 Electronic Processes

General Fleet Services relies heavily on the SAP Enterprise System to record and report on its activities. In particular, the Plant Maintenance Module (PM) has been configured to provide automatic preventative maintenance scheduling and the assignment of costs to work orders attached to equipment. The PM module was originally developed to deal with fixed assets. It has been configured to manage rolling stock but certain physical data on assets and functionality required for good decision making was not easily configured. The PM module is also used by Transit Fleet, Police and Fire Fleet and Real Property and Asset Management employ it to manage buildings and other fixed assets.

4.1.1 Issues and Observations:

General Fleet uses the SAP Plant Maintenance and Controlling modules to gather and process information for equipment, maintenance and repairs. If any analysis is required, information is downloaded to a spreadsheet for data analysis. Although data

is captured, there are no standards or bench marks to measure against. In addition to a lack of measures, there are limited processes to ensure that the data gathered is accurate, complete and relevant. It is the Review Team’s observation that emphasis is placed on processing data without analysis except on an ad-hoc basis.

Data capture is initiated when a new vehicle is acquired by HRM through the capital process or short and long term leases (operating). When a new vehicle arrives, the Fleet Administrative Coordinator enters some information into the SAP Plant Maintenance module for the equipment. However, General Fleet has not established standards or mandatory fields that must be entered into SAP. Where there are mandatory fields, these have been imposed by SAP configuration in order to process data between the Plant Maintenance and Controlling modules.

A review of the equipment list (SAP Transaction IH08) highlights the following fields that should be mandatory and do not now have data. The list has been filtered to only include General Fleet Equipment that has a system status of installed. The result was 976 pieces of equipment. The installed pieces of equipment can be grouped into 87 different categories. Of the 976 pieces of equipment including small equipment:

Table 20: Proposed Mandatory Entry

No Object Type (Category) ¹	43
No acquisition value	576
No acquisition date	540
No Construction Year	145
No Gross Weight	435
¹ Included in the 43 pieces of equipment, were gas cards issued to supervisors not attached to a physical piece of equipment and general fleet supplies. Source: SAP IH08 - Equipment List	

The relevance for the above identified fields is that they would provide an effective way to assess the replacement costs of the equipment, align the pieces of equipment between the Heavy and Light Equipment Shops efficiently and facilitate any life cycle and ageing analysis of the equipment without having to manually locate the original acquisition paperwork or conduct a search of text fields.

Currently, two fields in the equipment list are used to identify registration fees and renewal dates. The renewal dates are entered into a text field and not a date field. SAP does provide a date field that could be used to better identify the renewal dates for equipment. Alternatively, work orders could be utilized on a scheduled basis to identify the renewal dates. Data is recorded in SAP; however, the date functionality is not used and as a result, SAP is used manually. The use of a text field compared to a date field

may allow a HRM vehicle to miss a renewal date and therefore operate with an expired registration paper and tag. Anecdotal information from interviewees confirms that this has happened.

General Fleet captures data at the work order level. Equipment is brought in for maintenance or repair work. The following table summarizes the number of work orders created by planned and unplanned orders.

Table 21: Summary Work orders; Planned/unplanned by FYE

FYE	Total Number of Orders	Number of planned Orders	Number of unplanned Orders	Percent Planned Orders	Percent Unplanned Orders
2000	17,608	2,176	15,432	12.36%	87.64%
2001	21,117	1,837	19,280	8.70%	91.30%
2002	18,829	1,753	17,076	9.31%	90.69%
2003	20,878	2,268	18,610	10.86%	89.14%
2004	19,849	2,228	17,621	11.22%	88.78%
2005	8,377	1,330	7,047	15.88%	84.12%

¹FYE 2005 is for the six month period ended 30 September 2004. Source: SAP - MC18 - Cost Analysis.

The term “planned” refers to regularly scheduled maintenance and unplanned is repair related work. As highlighted in the above table, a significant amount of the work conducted by General Fleet is repair related. Additionally, the number of work orders created do not accurately represent the number of times a vehicle is brought in for a repair or maintenance.

When a vehicle is repaired, a separate work order is generated for each type of repair work. For example, a vehicle may have repairs carried out for brakes, exhaust and engine. Three separate work orders are created for each repair versus one work order with three different operations. The reason for the creation of separate work orders for each repair type is to facilitate cost allocation. SAP work orders can accommodate different repair types on a single work order. However, at the work order cost allocation level, all costs default to the first repair type. Therefore, one would not be able to easily analyse the costs by repair type per vehicle.

As an example, the Review Team selected repair orders for a 1991 Michigan Loader for fiscal year end 2004. The vehicle had sixty-five (65) work orders generated, with a total cost of \$38,113. The actual number of times the vehicle was brought in to

General Fleet was thirty-nine (39) times.¹⁰ In addition, to the increased paper work generated from this practice, the generation of multiple work orders will strain HRM's technological hardware over time.

To work around this limitation, General Fleet provides some description in a text field on the work order. However, there is no consistency or standard as to what text should be entered on the work order. Where repairs are outsourced and multiple repairs are carried out, this may or may not be reflected on the SAP work order.

As a result, there is not an effective and efficient way to analyse repairs by type and/or cost within SAP. Some of this is due to General Fleet not using the Notification Process functionality within SAP. The information that can be viewed under the current process is costs by:

1. vehicle;
2. planned or unplanned order basis;
3. month; and
4. functional location.

An additional option available is to view costs within SAP is by maintenance activity type. However, this data is not captured or used by General Fleet on the work orders. The SAP report will provide a breakdown of costs by Material and Wages for each of the categories discussed above. Table 22 provides a summary of costs by fiscal year.

Table 22: Summary of Costs for Work Orders by FYE

FYE	Wages	Material	Total	Numbers of Equipment
2000	2,071,868	1,483,173	3,555,041	870
2001	2,248,605	2,698,946	4,947,551	1,001
2002	2,451,338	2,769,573	5,220,910	958
2003	2,621,299	3,060,754	5,682,053	1,014
2004	2,498,405	2,824,134	5,322,539	1,065
2005 ¹	1,023,611	1,058,968	2,082,578	813

¹FYE 2005 is for the six month period ended 30 September 2004. Source: SAP - MCI8 - Cost Analysis.

A key performance indicator for fleet is availability. Using the wage cost information from the table above, we can prepare an estimate of the General Fleet overall availability. Alternatively, it can be viewed as equipment downtime due to repairs and maintenance. The average availability and downtime for General Fleet is summarized below in Table 23.

¹⁰Source: SAP IW39 Display PM Orders - Equipment 10000787, Order Type PM01 for release dates beginning 1 April 2003 through 31 March 2004.

Table 23: Average Availability/Downtime by Fiscal Year

FYE	Wages	Availability % ²	Downtime %
2000	2,071,868.40	97.4%	2.6%
2001	2248605.4	97.5%	2.5%
2002	2451337.5	97.2%	2.8%
2003	2621298.5	97.1%	2.9%
2004	2498405	97.4%	2.6%
20051	1023610.55	98.6%	1.4%

¹FYE 2005 is for the six month period ended 30 September 2004. Source: SAP - MCI8 - Cost Analysis.
²Availability is estimated using \$45 per hour rate used by General Fleet, an 8 hour day and 250 days required to be available.

The table above is an average of availability/downtime only. The information in SAP does not discount for additional time charged by staff to work orders for non-repair/maintenance work or account for time incurred by outside service providers. Therefore, availability may be understated and down time overstated. In addition, the above does not reflect any seasonal effects of repair related work.

Another area that is critical to work order use are certain date fields. The following table summarizes for Fiscal Year End 2004 the different results using different date fields in SAP.

Table 24: Date Field Results for FYE 2004

Selection Source	No. W/Os	Unplanned Order (\$'s)	Planned Order (\$'s)	Total (\$'s)
MCI8 ¹	19,841	4,897,228	425,311	5,322,539
Period	19,840	5,129,984	427,458	5,557,442
Created On	19,061	4,787,990	440,200	5,228,190
Actual Start Date	14,489	4,011,069	366,447	4,377,516
Actual Release Date	19,076	4,848,581	419,301	5,267,882
Scheduled Start	18,965	4,781,126	424,145	5,205,271
Basic Start Date	18,999	4,786,377	433,678	5,220,055
Basic Finish Date	18,990	5,015,464	420,268	5,435,732
Date Entered	19,061	4,787,990	440,101	5,228,091

Source: SAP
¹SAP Transaction MCI8.
 All other data summarized using SAP IW39 - PM Orders.

As highlighted above, using different dates results in a different number of work orders and amounts. One of the key differences in the results from the MCI8 and Period amounts in the table above are timing differences and SAP authorizations. The MCI8 and Period amounts are tied to the same date field known as a "Reference Date." This is the date field that captures when a work order is completed. The number of work orders are different by one due to the authorization access to one work order in

the PM Orders (SAP:IW39) selection.

The MCI8 report captures costs that are recorded within the date parameters set in the Reference field. The Period amounts however, include cumulative amounts recorded. This is a result of changes to the Reference Date in SAP. Both MCI8 and Period capture work order data that precede the selection period parameters. Some causes for this include attempts to close purchase orders, record invoices or complete work orders that have been either started or completed in a previous period.

The difference between work orders closed and created can be demonstrated by taking the difference in the number of work orders based on the Actual Release Date parameter compared to the MCI8 and Period parameters (19,076 - 19,841 = 765). On the surface, the difference would indicate that 765 work orders required some adjustment or were initiated in a prior period and closed within the date parameters selected.

One issue that was presented to the Review Team centred on the timeliness of closing work orders in SAP. A review of the work orders for fiscal year end 2004, based on actual release date, is summarized below.

Table 25: Timeliness of Using Work Order for Fiscal YE 2004

Date Range ¹	\$'s		No. Work Orders	
Negative date differences	\$161,475	4.3%	699	7.3%
1 to 5 days	1,440,177	38.6%	5274	54.9%
6 to 10 days	598,165	16.0%	1592	16.6%
11 to 30 days	803,843	21.6%	1223	12.7%
31 to 60 days	366,772	9.8%	343	3.6%
61 to 90	109,871	2.9%	140	1.5%
91 to 120	62,656	1.7%	84	0.9%
121 to 180	111,648	3.0%	154	1.6%
181 to 210	22,989	0.6%	33	0.3%
211 to 240	5,331	0.1%	16	0.2%
241 +	46,035	1.2%	57	0.6%
Total	\$3,728,962		9,615	
Total Number of Work Orders			19,076	
Percent of Total Work Orders			50.4%	
¹ Date range is based upon the number of days between the SAP Reference and Release Dates. The Reference Date is the field used to identify when a PM work order is technically complete and/or business complete within SAP.				
Source: SAP IW39 (Excludes any work orders that were created and closed on the same day)				

As highlighted in Table 25, approximately 86% of the selected work orders are closed between 1 to 60 days. Almost 700 work orders had closing dates that preceded

the release date of the work order and the remaining work orders were closed over the sixty day period. As stated previously, some of this is attributed to work orders being reopened for various adjustments.

Reopened Work Orders

A review of 348 work orders that were reopened during fiscal year end 2004 shows the range of dates between the changed reference date and release date.

Table 26: Re-opened Work Orders, FYE 2004

Range	Number of work orders	Percent of total orders
Negative dates	4	1.1%
0 to 30	127	36.5%
31 to 60	53	15.2%
61 to 90	27	7.8%
91 to 180	32	9.2%
181 +	105	30.2%
Total	348	

Source: Reopened work order binder General Fleet and SAP IW39 Display PM Orders for the period 1 April 2003 through 30 April 2004.

General Fleet indicated to the Review Team that reopening work orders was a significant issue. Based on the above, approximately 47% of the work orders are re-opened and re-closed over 60 days from the release date of the work order. However, out of approximately 19,000 (FYE 2004) work orders generated annually, the amount of reopened work orders represent approximately 2% of all work orders. The total cost of the work orders above was approximately \$260,000, representing about 5% of all work orders annually. This cost does not indicate the amount of any adjustments to the work orders.

Staff indicated that work orders are re-opened for changes to purchase orders with different prices than the invoices received, closed purchase orders, and credit for wrong parts issued against the work order. Sometimes, Staff also indicated that vendors send invoices without referencing an HRM purchase or work order which also results in re-opening of work orders. Tracking of the reasons for work orders to be reopened is not systematic. Therefore, an analysis could not be conducted to identify the number of times and reasons work orders are re-opened.

As discussed in the Financial Processes section, tracking of parts does not exist for items purchased that are not stocked. There is not a readily available report that identifies parts repaired by vehicle. For example, if an alternator is repaired more than once, there is not a report to identify such. The only means to review such multiple

repairs on the same vehicle for the same part is a detailed research of individual work orders for the vehicle. This applies whether the vehicle was repaired by HRM or an outside service provider. As a result, General Fleet and/or Stores does not have a means to identify parts that may be defective or covered under warranty.

Fuel System:

The fuel system currently in place for HRM does not have any automatic or electronic control to ensure accurate odometer readings are entered by vehicle operators. Therefore, there is no ability to quantify vehicle utilization and fuel efficiency. The fuel system does not automatically feed odometer and fuel consumption readings into the Plant Maintenance module. This does not allow General Fleet to identify vehicles that may be performing poorly and require repair or for rationalization of the fleet size.

An analysis of the fuel system uploaded to SAP indicates that 573 vehicles and gas card holders used the system for fiscal year end 2004. In an attempt to identify how many cards had negative odometer readings the review team found that the report (SAP:ZMOD - Fuel Usage Report) had internal inconsistencies. For example, vehicle B162 had different odometer readings when viewed in isolation or part of all general fleet equipment. All other parameters were equal. The consumption and dollar amounts of the report were equal. The following table summarizes the reported odometer differences for the vehicle.

Table 27: Reporting Differences: B162, Fuel Consumption

Odometer readings for Vehicle B162		
Location Assignment	All General Fleet Summary	Vehicle B162 in isolation
H-01-E05-0001	(20,607)	(20,607)
H-01-E06-0001	0	20,607
H-01-E06-0002	(2,950,558)	8,701
Total Km Reading	(2,971,165)	8,701
Source: SAP ZMOD Fiscal Year End 2004		

The above example is an indicator that the fuel usage reports are not being reviewed and corrections requested. The lack of monitoring of the report indicates that there is a lack of data integrity and internal control procedures. This is also evident in the lack of standards used to populate short and long text fields.

Conclusion:

The Review Team identified issues with data accuracy which have resulted in users developing off-system electronic and manual processes in an attempt to compensate for their mistrust of the system. The system appears to work as it was configured, if not as it was intended. According to interviewees, the development of the PM module for General Fleet Services was not completed prior to the implementation date. More attention was placed on setting up Transit Fleet which was considered the greater risk area given its mandatory obligations under the Nova Scotia Utility Review Board. Since 1999, according to interviewees, little improvements have been made to the system that have benefited the General Fleet operation.

SAP currently has the capability to automate maintenance scheduling based on accurate detailed maintenance records which are tied into a reservation process which pre-ordered parts for PM's and other repair codes, when set up. A recent SAP upgrade has enhanced the PM module for fleet's use by adding two new tabs (FM) where data, specific to fleet equipment can be used to store pertinent information. A project has been ongoing since May 2004 to configure this functionality.

Over the last six years, technology for this industry has developed innovative solutions to common activities. Global Position Satellite Systems (GPS) is available with new equipment which can provide an accurate record of equipment usage, speed and location to assist in the calculation of consumption. Fuel management has also moved into the electronic age and can record fuel consumption with limited human intervention. This technology could resolve and improve a number of information management issues currently facing General Fleet Services.

On-going IT support has become an issue for General Fleet Services. Currently, one individual has been assigned to support the PM module. There is some indication that, given the demands of the end users, this support is insufficient at this time. The Review Team attempted to gather clarity around the use of certain fields and functions within PM, only to be advised that resources were not readily available to fully respond to the questions asked.¹¹

4.1.2 Recommendations

4.1.2.1 *There is a need to reduce the number of individual work orders created to charge costs to multiple line items. This might be achieved by creating a purchase requisition prior to creating a purchase order. This option should be investigated further.*

¹¹ A full listing of questions and answers posed to IT support, employees, supervisors and clients is provided in the appendices, Appendix 4, page 138

- 4.1.2.2 *Data Gathering:*
Modify work orders to improve the data captured and reporting functionality.
- a) *Work Orders should print out specific task plans for activity or maintenance type.*
 - b) *Make it mandatory to fill out the mileage field when entering work order details to the PM module.*
 - c) *Make it mandatory that all time be captured to appropriate down time work orders.*
 - d) *Require mechanical staff to provide a description of work completed and appropriate cause code.*
- 4.1.2.3 *Creation of Work Orders:*
Improve internal controls by eliminating open work orders used during night shift and when Service Advisors are not available:
- a) *Supervisors should be trained and able to create work orders.*
- 4.1.2.4 *Scheduling of registration and licence fees should utilize current functionality in SAP.*
- a) *Use the expiry date field in the equipment master list to identify when the licence registration and renewal is due. The safe guard to this approach is that no new charges can be posted to the equipment once the expiry date has passed. If the renewal is missed, this is another control to identify the requirement to register or renew.*
 - b) *Use the date monitoring report to monitor upcoming expiry dates and prepare PM02 order when due.*
- 4.1.2.5 *New Series Work orders:*
Improve the accuracy of data collection:
- a) *Create work orders to capture down time - For example: time spent on cleaning, waiting for internal/ external parts, union time and travel time.*
 - b) *Set reporting threshold at 15 minutes, minimum.*
 - c) *Down time work orders should be used by supervisors to account for all paid time.*
- 4.1.2.6 *Internal Control:*
Improve general internal controls in work flow processes:
- a) *When planned/scheduled work orders are created and printed they should be initialled by Service Advisor or Supervisor as authorization*

to the mechanic to carry out the work and obtain the standard list of materials needed. This would only apply to preventative maintenance and regulatory inspection work. (PM 02 A, C and MVI.)

- b) Once initialled by SA or Supervisor, the employee would take the hard copy of WO to Stores who will only issue of the authorization is noted on the form.*
- c) Once work has been completed by mechanic, the work order is returned to the supervisor who reviews and signs off prior to forwarding the document on to be technically closed. Supervisor reviews the work order to verify the reasonableness of the repairs and parts used for the given cause and repair code.*
- d) Supervisors must review and sign off all work orders/packing slips of completed work.*
- e) On a random basis, Supervisors should regularly check the work completed against work order details submitted by mechanics, including verification that parts and materials were necessary and replaced.*
- f) Establish data standards for use with short and long text fields. Determine the nature of data to be captured and monitor for compliance.*

4.2 Manual Processes

As stated earlier, users of the PM module do not have a great deal of confidence in the system's ability to provide the information needed to perform job functions. This lack of confidence has developed for a variety of reasons.

- < Residual carry over from original configuration process and implementation.
- < Poor relationship with IT service provider.
- < Lack of on-going training and understanding of system.

4.2.1 Issues and Observations

Daily log sheets:

Each Service Advisor maintains a separate listing for each shop (Light and Heavy Duty) of equipment scheduled for maintenance or dropped off for immediate repair work. The Light Duty Shop Service Advisor maintains the listing manually, carrying forward to the next day, any equipment still in the shop. The Heavy Duty Shop Service Advisor maintains a listing in a Lotus spreadsheet. Any heavy equipment not completed on one day is reentered to the next days sheet. The spreadsheet is comprised of individual tabs for each day of the month. Access to the sheet is restricted. Each Service

Advisor creates a separate listing for the day, night shifts and vehicles sent outside. When the Heavy Duty Shop Service Advisor is unavailable, the other Service Advisor does not have access to the log sheet and must create another listing.

Managing up to 7 lists a day can be quite cumbersome. The Review Team completed an analysis of the calendar year 2003 in order to validate statements made by General Fleet Staff that client business units accounted for a number of "no-show" appointments. The Review Team also needed to quantify productivity across shifts. Although half the data was in electronic format, given the structure of the spreadsheet, it was not possible to manipulate the data electronically. All records had to be printed off, reentered and compiled into useful data.

SAP PM provides an on-system solution to managing scheduled work that could replace the manual processes developed by staff. Automatic Deadline Monitoring is a functionality not yet explored or used by HRM. SAP PM also allows for rescheduling of units for which maintenance has not yet started.

Parts Management:

The parts management approach utilized by General Fleet Services can best be described as "facilitation of parts." Parts are not really managed. There is an assumption that someone is monitoring the in/out flow of parts but there is no evidence that it occurs regularly. Parts that are acquired are not recorded so that they can be identified as to type or use. Reporting on parts usage can not be confirmed. There may be an off-system process but the Review Team was not made aware. The acquisition of special order parts has developed into an extensive manual process.

Where work has begun on a piece of equipment and parts are stocked and available from the Turner Drive Warehouse, the process proceeds smoothly. However, as has been pointed out earlier, 79% of the time, parts or material are not readily available from Stores and the "Special Order Parts Process" kicks in. Recording of these one-off purchases into SAP does not provide sufficient detail for tracking. Service Advisors rely on the Parts Buyer to advise them of the tentative delivery date/time for non-stocked parts through the use of an off-system spreadsheet, made accessible to the Service Advisors. The Parts Buyer enters the work order number, equipment number, tentative delivery date and continues to update the spreadsheet if the information changes. All parts not picked up by mechanical staff are delivered to Turner Stores.

Parts delivery to Turner Stores is received by a Stores Person who processes a goods receipt (GR) in SAP and prepares the part for warehouse storage. A label is created by the Stores Person and attached to the part. The label lists the work order number, equipment number, date received and storage location. This information is also entered into a log book located on the Stores Warehouse counter. The Stores Person will

then broadcast a message to General Fleet Services that the part has arrived over the PA system. The PA system can only be heard by employees situated in the Heavy Duty Shop. Service Advisors are not notified that special order parts are in.

In cases where the mechanic has picked up the part rather than wait for it to be delivered or where the part has been received prior to the Parts Buyer creating a purchase order, the Parts Buyer processes the goods receipt(GR).

Much of this manual process can be eliminated or replaced through the use of the SAP Materials Management Module (MM). Attaching material master numbers to all special order parts would reduce the down time associated with special order parts:

- 1) By providing better information to the Inventory Buyer who determines new items to add to stock.
- 2) Better Tracking of non-stocked items by using material master numbers for special order parts
- 3) Better control of goods receipts and issues to Fleet Services. Currently once an item has been received by Stores and a goods receipt completed, the transaction is immediately posted to the work order. Other than the manual log book maintained at the Store's counter there is no other record of when the part was actually issued to the mechanic and placed on the equipment.

Time Capture:

Capturing time for work order details and payroll purposes involves three different paper sources. The employee fills in the work completed on each piece of equipment to the work order copy provided when the work is assigned. The time recorded on the work order is eventually input to the Costing Module (CO) in SAP by the Fleet Administrative Coordinator. The employee also fills out a daily time card and records the time worked against each work order. The supervisor uses the time card to complete an electronic weekly time sheet which is submitted to the HRIS Support Staff who prints it off and prepares the biweekly payroll.

General Fleet Services staff are set up to process payroll using "Exception Reporting" which means that the system generates a daily work schedule based on preset parameters. HRIS Support Staff change the wage type from "Regular" to an appropriate wage type for each day that an employee does not work regular earnings. For example, when an employees is off work due to sickness or vacation. Overtime wage types are added in addition to the regular time worked.

The opposite to "Exception Reporting" is "Positive Reporting." Time is entered

each day into the Cross-Application Time System (CATS) or directly into the SAP HR module. If the CATS module is used, then a work order number must be provided when the time is entered. Once entered into CATS, the time is posted automatically to the Costing Module through the work order and to the SAP HR module for future payroll processing.

All manual processes could be eliminated by employing SAP technology currently available and in use in some business units and enhanced by acquiring newer technology. Using the SAP CATS option, time could be captured from one source and entered into both the Costing (CO) and SAP HR (payroll) modules automatically, eliminating the duplicating efforts of three employees.

Ideally, time worked should be provided by the employee, reviewed and approved by the employee's supervisor, processed by the HRIS Support Staff and finally authorized by the supervisor's manager. This would support good internal controls by providing two authorizing signatures for the payroll. In some organizations this is accomplished with the use of electronic time card systems or employees automatically entering their own time as it is worked into a costing component. Entering time can be accomplished using bar code technology to reduce input errors and/or scanning technology to reduce down time resulting from entering data. Bar codes could be created for employee numbers, work order numbers, repair codes, part numbers, etc.

Once hours of work completed by work order has been entered into the Costing System, the details are recorded against a "settlement order" and not the Business Unit (FI) cost centre. Financial Services processes a monthly journal entry to post the labour hours into the FI cost centres. This, too could be an automatic process.

4.2.2 Recommendations

4.2.2.1 Special Ordered Parts

1. *Material Master Numbers/Vendor Numbers and OEM:
The use of off-system processes should be eliminated and the functionality built into SAP used to capture delivery dates for special order parts.*
 - a) *Implement the use of material master numbers for all special order parts and special services which would allow reporting on specific parts and material or general categories to capture volume, type, vendor and price information.*
 - b) *Create broad categories of MM# to capture non-stocked parts and outside services¹² for both capital and operating expenditures.*

¹² See Table 11 on page 36 "General Category" for suggested broad categories for MM #

2. Utilize the Material Master Module to record and track the physical location of special order parts, just like stocked items which are facilitated through the use of MM's.
 - a) Create sub location of Fleet within Stores, Turner
 - b) Provide access and training to available or new reports to Supervisors, Service Advisors, Mechanics, Stores personnel, Parts Buyer and FSR.
3. Re-explore the utility of the Material Master Reservation process for PM02 work.

4.2.2.2 Implement use of SAP Deadline Date Monitoring functionality to eliminate use of daily log schedules and to provide useful reports. Functionality should allow for stratification of work based on:

- a) equipment type,
- b) light or heavy duty shop,
- c) supervisor,
- d) employee,
- e) business unit responsibility centre, etc.

4.2.2.3 Move to capture time worked, utilizing the work order as source and the "positive reporting" functionality provided with the CATS module instead of the current "exception" process to support the payroll process.

This would:

1. Eliminate the duplicate effort of capturing and entering hours worked on work orders, time cards and to weekly time sheets.
 2. Facilitate the automatic loading of labour hours into CO and PM modules directly to the end users.
- A) Labour hours of work completed should be entered directly into CATS from the work order details provided by the employee and approved by the supervisor.
- a) Activate the process to allow the CATS module to automatically populate both the payroll and PM processes.
 - b) Modify the work order document to allow for time to be manually recording by mechanical staff. The Mechanic should record the Activity Code, Cause/Damage Code against the WO#. In addition, the start time, end time (if same day) and hours worked on each WO.
 - c) Assign the input of time details into CATS to Fleet Administrative Staff within Fleet Services.
 - d) The supervisor would then review, approve and release the file

- (manually or electronically) so that it can be processed and sent to PM, CO and SAP HR without any other intervention.
- e) The above process is seen as a transition to an E-solution. Ideally, each employee would electronically enter his/her own time against a work order at the time it is completed.
 - f) The use of bar codes, hand held units would facilitate input time and reduce errors.
 - < Develop bar code technology to provide for the shop floor entry of time worked by employees.
 - < Design and implement system checks at supervisor and HRIS Support Staff levels.

In the short term and utilizing the current process:

- B) Supervisors should
 - a) Validate the daily time card to the submitted work order details on a daily or weekly basis.
 - b) Authorize the biweekly payroll after it is generated by HRIS. Supervisors should ensure that HRIS staff have a record of all non-productive time and absences.

4.2.2.4 *Improve the functionality and reduce the costs associated with the duplication of effort from manual processes.*

- a) *Automate accounting transactions for settlement orders.*

5.0 Process Efficiencies

Business process improvements are necessary in order to:

- < eliminate duplication of effort and redirect resources to value added functions.
- < eliminate manual processes where there is an electronic solution and to redirect resources to value added functions.

Process improvements can be achieved through a variety of means:

- < using current system configuration and data, correct stored data, implement processes to avoid future problems
- < using current system configuration and data, implement processes to ensure that future data is clean
- < redesign system configuration , implement process to capture clean data and archive old data (Start over).

A number of business process improvements have already been mentioned in Section 4.2 Manual Processes. This section will focus on Planning, Repair and Maintenance, Fuel Management, Equipment Utilization, Equipment Acquisition,

Equipment Disposal, Accident/Incident Investigation and Outside Services processes.

5.1 Planning (Scheduling)

Preventative Maintenance is carried out using the planning functionality within the SAP Plant Maintenance (SAP-PM) module. There is a one to many relationship between a piece of equipment and multiple maintenance plans. Each piece of equipment can have a number of plans attached but the same maintenance plan can not be attached to multiple pieces of equipment. If there are 716 pieces of equipment requiring a PM(A) plan then there are 716 uniquely identified plans, potentially all the same, one for each piece of equipment. There is the ability to copy the maintenance plan details from one plan to another plan. However, the larger the asset base, the greater the numbers of maintenance plans.

5.1.1 Issues and Observations

While the intent of General Fleet Services is to perform preventative maintenance, most work carried out is not planned. Table 21 on page 51, summarized the number of work orders created for planned and unplanned work. The annual average for planned work for fiscal years 2000 to 2005 (½ yr) is approximately 11%. Best practice for this industry suggests that planned work should encompass 70% of all work undertaken.

According to General Fleet Services, each piece of equipment is scheduled for some form of maintenance, every four months. Using the current assignment of rolling stock extracted from the equipment master files (716 pieces) and the number of planned work orders (4 per year, including Motor Vehicle Inspections) we can calculate whether or not General Fleet Services has completed the planned maintenance to its rolling stock. According to this calculation General Fleet has not kept to its planned work schedule (See Table 28). The Review Team was advised, that on occasion, when unplanned work has been brought in, PM02 work may have been completed. The degree to which this may have occurred is unknown. There may also be a time delay in the reporting dates. The analysis assumes a stable rolling stock of 716 pieces of equipment throughout the calendar year.

Table 28: Planned/Unplanned Variance

FYE	Planned (716 pc X 4/yr)	Actual	Variance	%Actual
2000	2,148	1,354	794	37%
2001	2,148	1,337	811	38%
2002	2,148	1,261	887	41%
2003	2,148	1,449	699	33%
2004	2,148	1,527	621	29%

2005	1,074	932	142	13%
Totals	11,814	7,860	3954	32%

Date fields are critical components to the planning process. There is a close relationship with the date fields maintained during the work order, material management and accounts payable processes.

- < Start of Cycle, Scheduling Date - Equipment Master or Plans (used automatically)
- < Created On Date - Work Order (used automatically)
- < Actual Start Date - Not used regularly
- < Actual Release Date - Used automatically
- < Actual Finished Date - Not used
- < Available Start Date - Not Used
- < Available Finished Date - Not Used
- < Scheduled Start Date
- < Scheduled Finished Date
- < Basic Start Date
- < Basic Finish Date
- < Date Entered
- < Reference Date Field - Two processes affect and overwrite this field
 - 1) Technically Complete Process Date
 - 2) Business Closed Process Date

After the initial set up of equipment and maintenance plans has been completed, a date process is run based on the counter selected. A counter can be time based or usage based. General Fleet Services' plans are time-based, not utilization-based. When a monthly schedule is run, maintenance calls are automatically generated, if the next scheduled date falls within the call parameter. Work orders are not actually created or printed at the time the schedule is run, although they could be. Work orders are not printed until the equipment (and keys) arrive at Fleet Services.

When the work has been completed, the Administrative Clerk records the date that the work is completed in the "reference date" field. This date is used by the planned maintenance program to start the clock for the next planned maintenance cycle. There is a plan created for 120 days and 365 days from the original "start cycle" date. The reference date also fills in the "technically complete date" which is the trigger for the procurement and costing modules to stop accepting new charges against the work order and purchase order.

Not all date fields within SAP are being used and staff can override a number of

them. The Review Team was unable to obtain clarification on the available date fields and the use they were designed for from the HRM Information Technology group. Independent research suggests that some date fields could be populated for use in subsequent value added processes reducing the amount of manual work around processes. With the fields populated appropriately, General Fleet could recall work orders through the IW39 - Display PM Orders selection screen to identify vehicles that have had repairs and/or maintenance completed and ready for pick up by business units. In addition, when a business unit picks up a vehicle the Service Advisors could have the ability to record the pick up date in an update field.

General Fleet Services has not fully developed the functionality in SAP to their advantage. There are a number of reports within SAP that staff could use to extract useful information for decision making. This would include transaction IW39 which provides costing information by "technical object" and a Cost Analysis Report which can be used to determine the availability of equipment. Other functionality already configured in SAP is the use of notification, activity and cause codes in setting up and closing off work orders.

5.1.2 Recommendations

- 5.1.2.1 *Improve the use of information currently available in SAP PM or enhance the functionality of the system:*
 - a) *Utilize and train on the use of the "technical object" report (FL). This can be done indirectly from the work order parameter selection screens using Transaction IW39 - Display PM Orders. It can not be done through the Cost Analysis Reports which would be the ideal.*
 - b) *Use the available Cost Analysis Report to report on the availability of equipment (downtime).*

- 5.1.2.1 *To facilitate better decision making and enhance system functionality:*
 - a) *Begin to use notification, activity and cause codes when setting up work orders.*
 - b) *Define date field usage and configure processes to comply. Open up applicable reports for analysis of planned maintenance and begin monitoring and reporting on the performance of scheduled work.*
 - c) *Maintain original scheduled date for equipment and record actual arrival date in separate field (to monitor no-shows).*

- 5.1.2.2 *Develop policy or practices to use the date fields in SAP.*
 - < *Investigate with the HRM SAP-BMG staff what date fields are available within SAP-PM to track scheduled maintenance and work completion.*
 - < *Train General Fleet Staff in the use of the SAP reporting tools*

utilizing the date fields to be investigated from step 1 above.

5.2 Repair and Maintenance

Unplanned work is captured in SAP as PM01 orders. These orders can be generated at the time staff are conducting a PM02, (planned maintenance work) or when a request for service occurs. Most unplanned work occurs during the day shift and in the heavy duty shop and can include responding to breakdowns, damage due to accidents, capital improvements, outside services and other general repairs not captured during regular preventative maintenance work. This work accounts for 89% of all work orders processed by General Fleet Services.

5.2.1 Issues and Observations

Although 89% of all work completed by General Fleet Services is unplanned, there is no ability to easily categorize the work into useful information because of the use and configuration of the system. Work details are entered into a short or long text field without any standard data entry rules. Stratifying the data with any clarity must be completed manually. As a result the Review Team can only give an estimation of the type and value of unplanned work completed by General Fleet Services by part type. (See Table 11 on page 34 - Expenditure Breakdown.)

Table 11 identified ten repair or part categories without material numbers which accounted for 50% of all line items for FYE 2004. In comparison, a total of 2,234 different part types were issued from Stores using material master numbers. The Material Master Data file can provide a breakdown of parts issued by broad categories but there is no evidence that Fleet personnel regularly review or monitor the data. The majority of stocked parts are used in scheduled preventative maintenance (PM02(A) and PM02(C)) work.

Communication between General Fleet Services and end user Business Units on the nature and cost of repair work has been categorized by most clients as unsatisfactory. Full details on this finding from the interview process will be discussed in detail in Section 7. However, giving the lack of detail available to General Fleet Services' employees on the nature of repairs, parts delivery dates and costs, it is not surprising that communication may not meet the end user's needs.

5.2.2 Recommendations

5.2.2.1 Improve the ability to quantify and stratify the type of unplanned work completed, the new categories of work order types should be created and used, as applicable.

- a) *Separate work order type for capital improvement costs and acquisition preparation - PM03.*
- b) *Separate work order type for Accident Repairs - PM 04.*
- c) *Separate work order type for Snow/Seasonal preparation and operating costs - PM05.*

5.2.2.2 *Improve communication and information flow to business unit managers, Fleet Services' employees and Stores Personnel.*

Action Plan:

- a) *Give system access to read work order information to all business units, mechanics and Stores Personnel.*
- b) *Provide access and training to all PM reports to Supervisors, Service Advisors, Mechanics, stores personnel, Parts buyer and FSR.*

5.2.2.3 *Use the material category field in Purchase Orders*

- a) *Develop system methods to measure delivery dates to return dates for outside services, repeat repairs/service and parts failures/returns.*

5.2.2.4 a) *Develop policy and procedure for dropping off equipment. Build this in to service agreements with each business unit.*

1. *Assign and mark specific locations for vehicle drop off.*
2. *Re-align non fleet parking at Turner Drive to outside of designated fleet area.*
3. *Record name and supervisor of the party dropping off equipment and marked parking location.*
4. *Keys and vehicle are signed in by operator to the Service Advisor/Supervisor.*

- b) *Supervisors/ should be made aware of all delays in repair so he/she can re-assign the employee to another piece of equipment or not.*

- c) *Develop priority criteria for the order and allocation or repairs:*

1. *Essential equipment - maintained in-house,*
2. *Emergency equipment - maintained in-house,*
3. *Non-essential equipment - maintained externally, and*
4. *Safety in operation.*

5.3 Fuel Management

The acquisition and management of bulk fuel is a function of Financial Services, Inventory and Asset Management. The extent and nature of that responsibility focusses primarily on the acquisition of bulk fuel and management of a computer based tracking system. Accountability for the policy, procedure development relating to the operation

and maintenance of fuel depots or responding to fuel spills has not been assigned to Financial Services.

From General Fleet's perspective, an effective fuel management system not only provides timely, sufficient commodities but accurate and reliable information which can be used in subsequent operations such as calculating fuel consumption by vehicle, type or component. This requires that the infrastructure be maintained and upgraded, as necessary.

The Computrol System used by HRM is a legacy system from the former City of Dartmouth. System features include the ability to read microchips and electronically transmit fuel allocated by unique equipment number to manage appropriate inventory levels in numerous locations. Not all bulk storage units are tied to the Computrol System as they were installed by other business units after amalgamation and must be monitored manually. In addition, transmission of data from some locations is via dial-up modem, often resulting in a loss of data during transmission. Clerical staff must verify every transaction and reconcile all totals prior to loading into the SAP system.

Each fuel card is attached to a piece of equipment and HRM manager/supervisor by a "functional location number." The functional location number is attached to a cost centre in SAP through the use of Settlement Orders. Summary Fuel consumption records are processed by an Inventory Clerk assigned to Financial Services on a monthly basis and transmitted into SAP against SAP Settlement orders. Equipment fuel information and work order charges are then posted by journal entry into the FI cost centre by an Accountant in Financial Services. Both these charges flow through the General Fleet Services Clearing Account (R970).

5.3.1 Issues and Observations

A small fuel spill occurred at the Sackville Street Depot in December 2003. A review of the incident conducted by RPAM and BSCG staff resulted in the establishment of a project team to develop and implement an action plan to address recommendations in the report. The findings indicated that internal controls restricting the extraction of fuel by volume and/or the number of card uses per day do not exist. In addition, accurate odometer readings are not required to obtain fuel. Work completed under the Snow and Ice Operational Review also indicated that some cards were used to fill up multiple vehicles ("Piggy-Back") resulting in a skewing of consumption figures.

The decision made at the time of the roll out of SAP was not to use a utilization - based counter in designing maintenance plans. This was partially due to the limitations of the Computrol System and partly due to a lack of resources to monitor and manage the appropriate use of fuel cards. Consequently, General Fleet Services stands alone in the industry in not using fuel consumption as a counter in developing maintenance

plans.

Although SAP does provide for the use of multiple counter plans, the inaccurate fuel data would require a great deal of correction to ensure appropriate schedules are generated. In the absence of consumption records, General Fleet Services relies on a time counter. This may mean that some equipment is over or under maintained. It is more likely that equipment is under maintained given that, on average, 32% of the time equipment does not receive its scheduled maintenance. (See Table 28, page 67)

Pertinent recommendations provided in the Fuel Spill Review suggested to improve the management of fuel included:

- < Conduct a Safety Audit of all fuelling depots to identify and resolve operational deficiencies relating to the fuelling of vehicles and spills.
- < Conduct formal environmental assessments of all fuel sites to quantify the current level of risk associated with past practices and develop appropriate remedial activity to resolve identified issues.
- < Review the current in-house snow and ice driver training manual for use in training all HRM operators.
- < Training/reminders of appropriate fuel and spill handling including a formal sign off by employees.
- < Update the current fuelling system and integrate with SAP. At minimum, the software configuration should restrict the volume of fuel pumped per card swipe; the number of card swipes allowed per day/week ;and appropriate and valid mileage should be captured for each fill up.
- < Regular and centralized monitoring and reporting of all fuel usage, at least monthly. Supervisors and Managers, in conjunction with Fleet Services, should review and address anomalies appropriately.
- < Securing of fuel cards should be the responsibility of each supervisor. Keys and cards should be locked away and only accessible to supervisors.

According to a draft report prepared by the project team established by RPAM and Financial Services, staff have accepted and completed a number of recommendations given in the report.

- 1) Engaged Fire Prevention Services to conduct safety audits of all fuelling depots.
- 2) Reviewed and revamped the existing driver training manual in regard to fuelling and fuel spills and distributed to all employees using HRM vehicles and/or who refuel at HRM bulk re-fuelling sites.
- 3) Implemented a procedure for formal sign-off by employees assigned vehicles that they have read and understood the requirements for fuelling and fuel spills.
- 4) Reconfigured the Computrol system to limit the volume of fuel pumped per card swipe.
- 5) Drafted a Fuel Spill Response and Spill Prevention Procedure has been developed.

Staff has also recommended upgrades to the physical sites and software and have addressed the on-going maintenance and accountability issues by recommending that

accountability for HRM fuel depots be officially assigned to Financial Services who would be responsible for:

- < Operations and Maintenance
- < Implementation of Fuel Spill Response Procedure
- < Implement of Spill Prevention Procedure
- < Analysis of current bulk re-fuelling sites and recommendations on future or divested sites
- < Re-mediation of deficiencies identified in safety inspection of bulk refuelling sites conducted by HRM Fire Services.
- < Increase operational funding for clerical position to monitor and maintain fuel inventory at 10 sites, as primary function.

The Review Team fully supports the work completed to date by the project team and the proposed action plan outlined above.

5.3.2 Recommendations

5.3.2.1 *Components of fuel management should not be a General Fleet Services responsibility. The Review Team fully supports the formal assignment of fuel management to Financial Services*

5.3.2.2 *Capture accurate record of equipment usage (KMS, Hrs) on a regular basis.*

5.3.2.3 *Move to preventative maintenance plans based on actual usage and determine the efficiency of equipment operation as per manufacturer's recommendations.*

- a) *Adopt a policy and practice of capturing accurate consumption records by equipment number. To ensure reliability of information:*
- < *Operator should sign for fuel cards.*
 - < *Cards should be secured when not in use.*
 - < *Regular monitoring and follow through should occur to amend fuel consumption records to keep them accurate.*

5.3.2.4 *Re-design maintenance plans to meet change to utilization - based scheduling.*

5.3.2.5 *Fuel charges should be posted directly to Business Unit cost centres. General Fleet Services should receive consumption data only.*

5.3.2.5 *Fuel charges should include a mark up to cover operating and capital improvements costs.*

5.4 Equipment Utilization

Sound fleet management practices include reviewing the current status and use of the rolling stock; identifying and reacting to emerging repair and maintenance trends; and making sound decisions on what equipment to acquire or divest.

Optimizing equipment utilization results in efficient operations, especially where equipment can be shared across business units. As noted previously, HRM maintains a fleet comprised of 716 different pieces of rolling stock. Heavy equipment makes up 35%, light equipment 53% and specialized equipment 12%. Analysing each equipment class to determine that individual equipment is being utilized as intended can identify under utilized equipment eligible for trade in or transfer to other areas of the organization, resulting in lower acquisition costs.

Analysis of equipment utilization starts with an understanding of the life expectancy of equipment within each class for the work intended. Accurate capturing of usage records is critical. Standardization of equipment can improve flexibility and reduce down time when responding to end user demands.

5.4.1 Issues and Observations

There is no indication outside of the annual capital acquisition process that General Fleet Services conducts regular reviews of equipment utilization. This is not surprising given the fact that they do not capture accurate odometer or hour usage information at source. Nor is there a requirement to record acquisition cost, date of purchase or calculate salvage value for all equipment. For newly acquired equipment, purchase information could be captured at the point of acquisition. Salvage value could be estimated based on industry utilization standards and adjusted for the HRM environment.

There are, however, at least three process points where odometer data could be captured. Each operator is required to carry out a daily check of the equipment prior to the start and at the end of a shift as required by HRM Policy and Provincial Legislation. Included is the requirement to record the starting mileage at the start of the shift. In addition, whenever an operator fuels the equipment, there is a system requirement that the current odometer reading be entered prior to the system dispensing fuel.

Finally, when a piece of equipment is brought into General Fleet Services for repairs or maintenance, technical staff are required to record the current odometer reading on the work order. This information may be subsequently entered to a text field associated with the work order by administrative staff. Unfortunately, the information is not able to be used in other processes. Nor is there a mandatory requirement that the information be entered, even when it is available.

As mentioned earlier, the fuelling system does not have adequate controls to ensure that the odometer reading is accurate. However, employees' supervisors receive the daily vehicle check list and are required to review the form for identified maintenance requirements that are to be referred to General Fleet Services. The daily check list is a mandatory requirement for commercial equipment under the Motor Vehicle Act and a policy adopted by the HRM under the Occupational Health and Safety Manual.

Interviewees have suggested that in some parts of the organization, the commitment to comply with the daily check list policy is not a priority with supervisors and operators. This may be partially due to the fact that there is no one in HRM tasked with conducting random checks to ensure that supervisors and operators are in compliance. Complacency can occur when there is little evidence that the organization truly supports its own policies.

5.4.2 Recommendations

- 5.4.2.1 *All equipment should be tracked for usage by kilometres or hours on a regular basis so that maintenance schedules can be generated by actual usage.*
- a) *Request Financial Services transmit accurate odometer records when transmitting fuel consumption data.*
 - b) *In the short term and at a minimum, obtain a monthly reading from the Business Units and forward to General Fleet Services for input by the Fleet Administrative Clerk who enters the information into SAP PM.*
- 5.4.2.2 *Improve the ability to understand and compare costs on acquisition, disposal and repair of the rolling stock:*
- a) *Require the mandatory entry of the following fields into the equipment data file: (FM tabs)*
 - i *Acquisition costs,*
 - ii *Charging cost centres,*
 - iii *Year manufactured,*
 - iv *Vehicle Identification Number (Manufactured),*
 - v *Measurement type for usage - hours, mileage, other.*

5.5 Equipment Acquisition

HRM acquires approximately \$3 million worth of vehicles and equipment each year. Funding sources include the General Fleet Reserve Account (Q-204) and debt funding assigned during the capital budget process. The Reserve was established in March 2000

“To provide for replacement of fleet vehicles and equipment with a useful life of less than 10 years for Public Works and Transportation Services, Parks and Recreation Services and Metro Transit Vehicles.”

“The requirement for vehicles and equipment fluctuates from one year to the next depending on the service level provided by line departments to the public. By funding these assets from the Reserve rather than directly from the operating budget, fluctuations in the operating budget can be avoided.”

“The Reserve is primarily intended to provide funding for the purchase of vehicles and equipment with a useful life of less than 10 years.”

According to the Reserve Business Case, the source of this reserve is to be through appropriation as required from the operating budget of Fiscal Services, the sale of surplus vehicles and from interest paid to the reserve. The opening balance on April 1, 2000 (\$1,888,970) consisted of funds held in the former Equipment Reserve Account (Q-201; \$188,711), the former School Bus Reserve Account (Q-208; \$19,006), the former Works Vehicles Reserve (Q-204; \$1,564,704) and interest and proceeds from sales for the year.

Occasionally, at year end, staff recommend to Council that certain funds be transferred into the Reserves when a budget surplus exist. There is no formula used in the process but discussions may occur with stakeholders of the various reserves. To access Reserve funds, Business Units must obtain approval from Council.

Table 29: Reserve Balances

Item	2000 to 2001	2001 to 2002	2002 to 2003	2003 to 2004	2004 to 2005
Equity, Previous Yrs	\$1,888,970	\$1,715,536	\$1,111,493	\$1,298,894	\$1,450,331
Interest Revenue	\$90,982	\$61,870	\$33,040	\$40,211	\$34,744
Proceeds from Sales	\$218,955	\$49,487	\$166,776	\$111,225	\$224,627
Transfer from Operating					\$333,330
Transfer from Capital			\$7,247		
Total Revenues	\$2,198,907	\$1,826,893	\$1,318,556	\$1,450,330	\$2,043,032
Transfers to Capital	\$435,338	\$705,000	\$19,662	0	
Transfers to Operating	\$48,033	\$10,400			
Total Transfers	\$483,371	\$715,400	\$19,662	0	\$0
Ending Balance	\$1,715,536	\$1,111,493	\$1,298,894	\$1,450,331	\$2,043,032

For the fiscal periods 2000/01¹³ to 2004/05, HRM has divested of 158 pieces of equipment and acquired 143 pieces. Although proceeds from the sale of surplus

¹³ Source: Files of Capital Disbursement Team, Equipment Reserves

equipment have been deposited into the Reserve Account, funding for the purchase of new equipment was not solely from the Reserve.

General Fleet Services, in consultation with its client Business Units, identifies and prioritizes equipment for capital replacement. Specifications, prepared in 1998, are used for tendering standard equipment used in snow and ice operations and regular construction work and light duty vehicles such as crew cabs and passenger cars. Specifications for more specialized equipment are developed by the Business Units and would include equipment such as sewer jets, street sweepers, farm tractors, etc.

The behind the scenes process of distributing the capital envelope among business units apportions the envelope based on a weighted average of held equipment and a review of who received what in the prior year. This approach was established by General Fleet Services management to respond to decreasing capital funding and increasing demands from its primary user, Transportation and Public Works.

New vehicle/equipment acquisition projects are long-term in nature and readily lend themselves to planning, scheduling and prioritizing. Procurement practices are important to the process as the correct approach can save money and improve delivery times. HRM uses both the Tendering and RFP process to acquire equipment. The Tendering process is used when price is the only criterion and the low bidder wins. Clear technical specifications are critical as HRM gets what it has asked for. The RFP process provides greater flexibility in choice by trading off price against delivery, support, warranty, etc. The tactful use of each approach can achieve cost effective results.

5.5.1 Issues and Observations

In applying the current apportioning methodology, PWT Streets and Roads has the largest proportion of rolling stock. Therefore, they would normally be given a larger portion of the capital envelope. In subsequent years they would continue to receive the lion's share. This approach does not adequately considered the age, cost of use and condition of rolling stock used by all clients. Calculations for useful life of the rolling stock have not been fully developed, as has been discussed in the previous section. General Fleet "ball parks" useful life based on a range established by the manufacturer or industry but it is not been quantified under HRM use and working conditions.

Business unit managers have noted a positive improvement in the level and type of communication and consultation occurring on capital budget needs over previous years and appear more satisfied with the results. This can be attributed primarily to a "fairness" approach offered by General Fleet Services when allocating the limited budget envelope. Additionally, General Fleet Services has moved away from the requirement that multi-purpose equipment be purchased for snow and ice and ground maintenance purposes, reducing the level of dissatisfaction between the two primary users.

5.5.2 Recommendations

- 5.5.2.1 *Planning for the acquisition and disposal of equipment should be based upon a life-cycle model.*
- 5.5.2.2 *Capital funding to support the planning model should be generated from usage and included in the rate structure.*
- 5.5.2.3 *Prioritization for vehicle acquisitions should be based on a objective model and include:*
- operational requirement - emergency, operational needs vs non-mandatory,*
 - standardization of fleet,*
 - age of equipment and useful life,*
 - condition and opportunity to rebuild and extend useful life,*
 - operational costs including parts availability, and*
 - estimated usage.*
- 5.5.2.4 *The equipment acquisition recommendation process should involve all stakeholders including:*
- Business Unit end user,*
 - Mechanic staff,*
 - Supervisors and Superintendent,*
 - Procurement Officer, and*
 - Inventory and Asset Management (parts).*
- 5.5.2.5 *Delay the acquisition of new and replacement equipment for one year to allow for preplanning analysis to set replacement priorities.*
- 5.5.2.6 *Equipment replacement analysis should occur at least semi-annually or cyclically rather than annually.*
- 5.5.2.7 *Develop a re-assignment policy based on life cycle analysis, utilization and identification of needs of other business units prior to deeming equipment as surplus.*
- 5.5.2.8 *Include the cost of preparing newly acquired equipment for the road as acquisition costs*

5.6 Equipment Disposal

Equipment may be declared surplus by Business Units or General Fleet, in

consultation with the Business Unit.

Once a piece of equipment has been declared surplus, it is turned over to Financial Services, Asset and Inventory Management for disposal. Rolling equipment is turned over to a variety of vendors awarded through the procurement process and the net proceeds from the sale are credited to the General Fleet Reserve account - Q204. (See above Section 5.5 for fund details).

5.6.1 Issues and Observations

General Fleet Services has recently established a practice of not retaining useful gear that has been deemed as excess because of the future impact on capital funding. On occasion, General Fleet Supervisors will hold back a piece of equipment from surplus for use internally. However, there is not a formal policy on retaining surplus gear and once the equipment has passed its useful life for one business unit, it is not possible to obtain a replacement, even if work demands require it.

5.6.2 Recommendations

5.6.2.1 *Cost benefit analysis should be conducted to determine which equipment should be retained or divested.*

5.6.2.2 *Develop a Repairs Status Policy to be applied prior to disposing of and replacing equipment.*

- a) *Trade in value less than repair cost.*
- b) *Safe Operation.*

5.7 Accident/Incident Investigation

Best practice of fleet management includes the establishment of processes to detect and mitigate actions resulting in unnecessary costs from equipment damage and personal and property claims on the organization. This includes the implementation of comprehensive operator training programs, evaluating the appropriateness of the use of equipment, and conducting investigations to determine cause and remedy.

The HRM Occupational Health and Safety Policy and Procedure Manual (2004) provides clear instructions on the operation of HRM vehicles and equipment and outlines the process to follow when an accident/incident has occurred. According to the Automotive Vehicles and Construction Equipment policy,

"d) All accidents or incidents involving personal injury or any damage to vehicles

or property from any cause must be reported to the owner department as soon as possible.”

Under the Accident/Incident Reporting & Investigation Policy,

- 6.3.1 It is the responsibility of all employees to immediately report all accidents/incidents to their supervisor.
- 6.3.2 It is the responsibility of every supervisor to ensure the procedures outlined in this section are followed for all accidents/incidents.

The procedures require that all motor vehicle collisions that occur with injuries to HRM employees and all near-miss incidents be investigated. All accidents/incidents are to be reviewed by the appropriate Occupational Health and Safety Committee (OH&S) for additional suggestions on the prevention of reoccurrences. The supervisor and a member of an OH&S committee are to follow up to ensure that corrective actions have been completed and are working as intended.

Under the Occupational Health and Safety Act, the HRM is required to actively participate in health and safety activities through the establishment of OH&S committees with each of its various employee groups. HRM Management and technical staff participate and support 5 different OH&S Committees.

5.7.1 Issues and Observations

During the review of Snow and Ice Operations completed in 2004, the subject of the cost to repair equipment damaged from accidents and incidents was raised by participants. The Snow and Ice Review Team collected and analysed accident reports for the calendar year that had been filed with the Safety and Training Coordinator for the calendar year 2002. Additional information was subsequently obtained from Financial Services, Claims and Insurance Section. The data has now been compiled and updated to include the calendar year 2003 and is presented in the following tables.

Not surprising is the finding that PWT has the highest incident of accidents, partially attributed to the fact that they operate the greatest number of pieces of equipment (42.9%). Employees from RPAM (Parks Services) have the second highest number of reported accidents and the second highest number of assigned equipment (36.6%).

Table 30

Accident Frequency by Business Unit				
Count of Cause	Calendar Year			
Business unit	2001	2002	2003	Grand Total
EMS		1	2	3
FERRY			1	1
FIN SVC		1		1
FIRE			2	2
FLEET		2		2

FORUM			1	1
LIBRARY			2	2
P & D			1	1
PARKS		7	25	32
POLICE			1	1
ST & RD		39	50	89
TRAFFIC		1		1
TUGS		12	9	21
unknown	2	6	18	26
Grand Total	2	69	112	183

The cause of most accidents occurs when operators are backing up or when driving by an object (side swipe). The third major cause of accidents occurs from third parties (no fault).

Table 31

Calendar Year	(All)														
Count of Code	Business unit														
Code	EMS	FERRY	FIRE	FLEET	FORUM	LIB	TRAFFIC	TUGS	unknown	ST & RD	FIN SVC	PARKS	P & D	POLICE	Grand Total
Sideswipe	1	1	2	1	1	1	1	11	7	49		15		1	91
backing up				1				6	2	20		8			37
no fault	1					1		3	8	12		7			32
unknown									6	3		1	1		11
Load Insecure	1								2	4					7
theft								1	1						2
contractor									1						1
fire												1			1
passenger haz										1					1
pedestrian											1				1
Grand Total	3	1	2	2	1	2	1	21	27	89	1	32	1	1	184

There is no centralized location where accident reports or data is maintained. Supervisors may submit accident/incident reports to the Safety and Training Coordinator and third parties may report accidents/incidents to Financial Services Claims and Insurance Section. Once a third party reports to Financial Services, a claims file is opened, pending a resolution.

The review of the data provided from all sources identified gaps in collecting the information. For example, the request to the Safety and Training Coordinator was to forward all accident reports for the period June 1, 2003 to December 31, 2003. The request included a listing of 38 files from the Claims and Insurance database. The Review team received 8 of the 38 requested reports from the Safety and Training Coordinator. The majority of records not found fall under the cause code "unknown". An additional 13 reports were provided by the Safety and Training Coordinator that were not on the Claims and Insurance listing which suggests that no third party was involved or, if involved, a report was not filed.

Contrary to the Accident/Incident Reporting and Investigation Policy, most investigations were not completed by supervisors but by the Safety and Training Coordinator. Although all supervisors have received investigation training, the incumbent is called in or participates in the investigation of most accidents. As a subject matter expert, this position could provide technical feedback into the investigation and validate the findings rather than participate directly in the investigation.

Additionally, accident and investigation data should be monitored and reviewed from an organizational perspective. The data indicates an increase in the frequency of accidents by cause "side swipe" and "backing up" over the last two years. There is no indication that the organization complies with its policy to submit reports for review to

the various OH&S Committees, as required by the OH&S policy. Anecdotal information also indicates that corrective action is not normally taken or where action is taken, that it is effective.

5.7.2 Recommendations

Reduce costs associated with accidents and incidents:

- 5.7.2.1 *Re-assign responsibility to investigate the cause of all accidents to Supervisors and employees.*

- 5.7.2.2 *In addition to complying with the current OH&S policy which requires the referral of accident reports to the respective OH&S Committee, the HRM should establish a Steering Committee tasked with:*
 - a) *reviewing the accident statistics on a quarterly basis,*
 - b) *reviewing the results of corrective actions taken,*
 - c) *recommending additional corrective action and/or training for operations and/or supervisors, and*
 - d) *monitor and report on compliance on a regular basis, at least annually.*

- 5.7.2.3 *Develop a disciplinary model applicable to all operators of HRM equipment. The approach could be based on number of occurrences, nature and extent of damage, etc.*
 - 1) *Steering Committee should be tasked with monitoring and report on the results of applying the discipline policy.*

- 5.7.2.4 *Insurance claims processing should capture and generate data on cause and effect of all claims, reviewed regularly and programs designed to reduce incidents of common causes such as backing up and sideswiping accidents.*

5.8 External Services

It would not be viable for a fleet operation to carry out all specialized forms of repair and maintenance in-house. Nor is it necessary to maintain resource levels for extraordinary events. Determining what services should be outsourced should be based on the costs - labour, tools, training, overhead, etc. Internal costs are compared to the external market and then a determination is made on what speciality services will net significant savings.

General Fleet Services currently contracts out services for tire repair, replacement and maintenance; major body work, some engine work, hydraulic work and all

transmission and heavy duty equipment spring work. Preventative maintenance work is also contracted out on an as-needed basis.

Currently, mechanically staff assess the required work and advise the Service Advisor or Supervisor who make the decision to do the work in-house or external. A call is placed to the service provider and the equipment transported off-site. After the equipment has been returned to the HRM, a Purchase Order is created and along with the goods receipt, exchanged with the service provider by fax.

5.8.1 Issues and Observations

The Review Team could not accurately attribute the dollars paid to outside services due to the way the data is captured. An estimate can be derived from applying the percentage of time equipment was sent outside from the daily log sheets and extrapolating that figure into that portion of total costs attributed to special parts and outside services. For fiscal year 2004, the total expended for parts and services was \$2.9 million. Non-stocked items account for 79% or \$2.3 million. The analysis of daily log sheets for calendar year 2003 indicates that 23% of the time, equipment is sent out for service. This equates to \$526,930 expended for outside services. The Review Team can not break this down into the various services obtained. This issue was also discussed under the heading "Parts" found in Section B, Financial Processes.

General Fleet Services does not have a formally adopted policy on when and what services are carried out by external service providers. A number of external services are covered by standing orders established through the normal procurement process. In the case of the standing order for tires and services, the itemization is so detailed, support staff have resorted to cataloguing goods receipts to the miscellaneous line.

In most cases, however, material master numbers are not used with the purchase order resulting in the inability to quantify individual services. Functionality within SAP and a change in process may provide the solution. By assigning generic material numbers for a limited number of services/parts and using the "Material Group" in the material master, monitoring and reporting would be improved.

5.8.2 Recommendations

5.8.2.1 *Currently, there is no way to easily break out costs associated with outside services on work orders. The information may be recorded in a "text field," therefore:*

- a) *Create 10 generic material master numbers specifically for external services.*

5.8.2.2. *Purchase orders should be created and detailed instructions created prior to*

equipment being transported to an external service provider. (Fax or in person).

- 5.8.2.3 *The vendor providing external services must provide a “shop slip” of all work completed under the purchase order. This slip will be used as the goods receipt (GR) and is returned with the equipment to the Parts Buyer who processes as a goods receipt. This would only apply to services obtained externally, not parts.
< Request Procurement assistance to implement this change with vendors.*
- 5.8.2.4 *Service Advisors should receive a copy of shop slip details and enter the details to work order by activity type and cause codes prior to technically closing WO. (See section on Support Services for full details)*
- 5.8.2.5 *General Fleet Services should review all expenditures relating to outside services to ensure that there is a cost/benefit to using the external services. This should be conducted on a regular basis such as annually.*

6.0 Internal Controls

Control is the process of making certain that directed action is carried out as planned to achieve a stated outcome. It is management’s responsibility to establish and maintain good internal control over the operation. This can be accomplished through the establishment of policies, procedures, rules and standards which aid in decision making and work practices that support the organization’s objectives and goals.

Internal controls can be preventative (to avoid unplanned expenditures), corrective (after the fact management of expenditures outside of budget) or detective (proactive decision making) in nature.

Policies tend to pre-decide issues, help avoid repeated analysis and give a unified structure to other types of plans. They permit managers to delegate authority while maintaining control. Policies are general guides for action. They channel thinking and action in decision making. They allow a certain amount of discretion. Otherwise they would be rules.

Procedures are specific guides. They prescribe action but do not channel thinking. Procedures detail the exact manner in which a certain activity must be accomplished. They are a sequence of steps to accomplish a task.

Rules are the simplest plans. They allow for no discretion. They must be followed as stated.

Standards are norms against which activities are measured. They help determine whether actions comply with plans. When used to determine whether actions meet these norms, they assume the

attributes of controls.¹⁴

Controls can be imposed or self-directed. Traditional controls are imposed and include measuring performance against stated standards, taking corrective action through the people responsible and following up to see that the action works (proactive). Self-control looks to the process of management and the function and attempts to improve the managerial process rather than merely to correct individual deviations (reactive).

A good control system consists of policies, procedures, standards and rules for all critical activities and should be a balance of pro-active and re-active controls in its design. The role of the reviewer is to determine how well managers exercise the principles of management control in handling their own operations.

Controls are used in data preparation, data entry, transaction processing and report production. The seven objectives of internal control are:

- a) Validity
- b) Completeness
- c) Authorization
- d) Accuracy
- e) Classification
- f) Accounting
- g) Proper period

Appropriate control procedures expected to be observed in a Fleet operation are:

1. Competent, trustworthy personnel
2. Proper authorization of transactions and activities
3. Adequate segregation of duties
4. Design and use of adequate documents and records
5. Controlled access to assets and records
6. Periodic, independent comparison or verification
7. Error-checking routines ¹⁵

Internal controls basically take care of themselves when an operation has staff who have a full knowledge of the business, ensure accuracy and validity of documents and operate under clear lines of communication.

¹⁴ Excerpt from Lawrence B. Sawyer and Mortimer A. Dittenhofer, "Principles of Management, Sawyer's *Internal Auditing: The Practice of Modern Internal Auditing*, Fourth Edition (Altamonte Springs, Florida: The Institute of Internal Auditors, 1996), Chapter 21, page 1112

¹⁵ CGA Canada, BACS 476/AU1, Level 4, 7th Edition, Auditing 1, Wally J. Smieliauskas, University of Toronto

6.1 Planning and Internal Controls

Planning is the first step to effective management. All managers and supervisors should regularly participate in formal planning of their work assignments. Planning is necessary because from it flows organizing, directing and controlling.

Identifying the repair and maintenance cycle and equipment needs for the organization precedes determining the resources necessary to complete the functions. Planning is the selection of the best choice of action from a number of choices.

Decision making is a planning function. In order to make the best choice, one must first be able to gather the pertinent information necessary to the decision. Good information management supports good decision making.

6.1.1 Issues and Observations

General Fleet Services prepares an annual budget and business plan during the HRM Business Planning process which is submitted and approved by Council. The budget and business plan are developed primarily by the Fleet Manager with limited involvement of other Managers and Fleet Supervisors. Results from the questions asked of interviewees rating the level of participation in the planning process indicated an average of 58%. However, when queried as to the nature of policies relating specifically to General Fleet Services, few were able to provide examples. They focussed on general corporate policies. This indicates that where policies exist they are not well known. This may also indicate that if they are not well known they may not be followed.

Table 32

Group	Aware of Policies	
	Yes	No
Support Services	4	5
Clients	2	10
Technical Manager	2	2
Technical Staff	6	3
Totals	14	20
% of Each Question	41.18%	58.82%

Included in the budget is an estimate of the total charges to be billed to clients. As has been mentioned in Section 1, Financial Processes, the budgeted expenditures (without fuel) have increased by 2.4% while actual expenditures have increased by 7.7%. This may indicate that there is a significant gap in funding for General Fleet Services or the operation is less efficient. A lack of good, clear data makes analysis and, therefore, planning difficult.

6.2 Repairs, Maintenance and Internal Controls

The appropriate use of internal control techniques to prevent or detect irregularities in costs associated with repairs and maintenance activities are key to the efficiency and effectiveness of a fleet operation. Labour and parts purchases make up 81.9%¹⁶ of the total average actual cost of General Fleet Services.

Work Orders and Assignment of Work:

Service Advisor positions are the channel by which work flows in and out of the operation. In General Fleet Services the work is structured so that only Service Advisors (SA) can generate work orders for repair and maintenance, whether planned or unplanned. This occurs once the equipment has come into the shop. Work orders covering the work of mobile mechanics and night shift employees are generated after the work is completed and from handwritten notes or verbal comments transmitted by the mechanic. The ability to efficiently coordinate planned work is hampered by the lack of communication between the Service Advisors and the Supervisors on the availability of resources.

There are also times when Service Advisors are unavailable such as on the night shift and on some overtime shifts. Between October 2004 and December 2004, the Review Team observed this on two occasions. Since Stores will only issue goods to a work order, a series of blank work orders are created, printed and left for unplanned work or when Service Advisors know, in advance, that there will not be coverage. The details of the work are captured manually by technical staff and upon the return of the Service Advisor, the electronic records are updated. There is some control of the process as Service Advisors are required to account and replace each used work order with another blank work order. A similar process occurs with blank Purchase Orders left by the Parts Buyer.

There is no off-system log maintained of blank work orders or purchase orders. Nor is there any indication that supervisors or managers verify that all work orders are accounted for.

¹⁶ Table 5 "Average Percentages of Gross Expenditures", page 32

Once work has been completed, Service Advisors receive the work order so that they can contact the client to arrange pick up of the equipment. Ideally, work orders should be signed off by the supervisor who verifies and reviews the work completed and the parts used. However, it is more likely that Service Advisors receive the work order prior to it being signed off by the supervisor. Even though they receive notification that the equipment is ready, Service Advisors do not contact the client until after the supervisor signs off the work. This can delay the release of the equipment.

The Service Advisors are not able to technically close work orders. The work order is technically closed by the Administrative Support Clerk, after it has been signed off by the supervisor. This position also enters in all the work order details to the long text field as a means to track what work has been done to the equipment. Once the work order is flagged as technically complete, no new purchases can be charged against it. However, stores issues can still go through. Once the details of the work order have been entered, the work order filed, the Fleet Administrative Coordinator completely closes the work order, no later than at the end of the month.

There can be up to two weeks delay in technically completing work orders due to the volume of work of the Administrative Support clerk. It has been suggested that this works to the advantage of the processes, as delaying the close of a work order provides sufficient time for the accounts payable process to occur without creating additional work for General Fleet Services to re-open work orders to accommodate the payable cycle. cursory work conducted indicates that the issue may be partially due to the level of tolerance set between the value of the purchase order and the actual invoice amount. In order to process the invoice, a change must be made to the original purchase order for the difference. If the work order has already been flagged as technically complete, it must be re-opened to allow for the change to the purchase order and then re-closed. (See Table 26)

If the work order was created from a PM02 schedule, the scheduling programs cannot begin to count to the next PM(02) until after the last one is closed.

For the most part, all work is assigned to individual mechanics by the supervisor. Service Advisors do not appear to have the authority and/or knowledge needed to assign specific tasks to the appropriate technician. Nor are they made aware of the day to day operation so that additional work can be scheduled as time permits.

Capturing of time:

Once the work order has been assigned to a mechanic, the mechanic is responsible to keep track of and record all time worked. There is no indication that the supervisor reviews the details during the course of the job. The mechanic is required to

fill out a daily time card which lists the total hours worked in one day by individual work order. The time card is presented to the supervisor who authorizes and uses it as the foundation for filling in a weekly time sheet for payroll purposes. There is no indication that the supervisor compares the time card details to the work order details. There is indication that errors occur between the electronic time sheet submission and the daily time cards. Supervisors miss accounting for the employee's full eight hour day. This can be picked up by the Fleet Administrative Coordinator, the HRIS Support Staff or the employee.

In addition, interviewees have indicated that time recorded against individual work orders may not be accurate. Although unusual, there are times when staff do not have equipment available to work on. This can occur when scheduled work does not come in or parts are not available. In these cases, the employee's time is recorded against any vehicle parked in the yard or to the last vehicle worked, if the work order is still open. General Fleet Services do not use work orders to record non-scheduled downtime.

Equipment Records:

General Fleet Services maintains individual files for each piece of rolling stock. Files are located in a secured area adjacent to the upstairs Turner Drive Stores Administration Offices. Access can only be gained by going through the Stores Warehouse locked door from the Fleet Offices. Access to the keys are limited to the Supervisors and Fleet Administrative Clerk.

Stored within the hard copy files are copies of all work orders, Motor Vehicle Inspection Records and Title papers. Files are purged six months to a year after a piece of equipment has been disposed of. The history of repairs and maintenance remains in the file until that time.

Most General Fleet mechanics are authorized to inspect and issue Motor Vehicle Inspection Stickers on behalf of the Province of Nova Scotia. Sticker books are stored in a secured compartment located next to the Heavy Duty Shop in a parts and tool crib. All employees authorized to issue MVI's have access to the compartment. The official records are subject to external audit by the Province of Nova Scotia. General Fleet Services does not conduct a separate review of the MVI records or verify the inventory.

Special Ordered Parts:

Most parts and materials necessary to complete repairs are not stocked in the warehouse. Stores inventory is for common supplies needed during preventative maintenance work. The Parts Buyer position locates, prices and orders "special" parts and material requested by technical staff. Supervisors must approve the parts order prior to cutting a purchase order. Delays occur when Supervisors are not available. There is

not a practice of assigning the approval process to “lead hands” or others, as Acting Supervisors.

Ordered parts may be delivered to Turner Drive Stores or picked up by technical staff. In either case, the goods receipt (GR) or sales slip is turned in to the Parts Buyer for processing. The Parts Buyer arranges for the purchase, assigns the vendor, confirms the price and processes the GR to indicate that the part/material has been received. When an item has been received through the Stores Warehouse, the packing slip is signed by the “receiver,” entered into a log book, tagged and placed on a shelf, awaiting pick up. However, if the part was picked up directly from the vendor, it is very unlikely that the Parts Buyer has seen the item. He relies solely on the fact that he has received a packing slip and assumes that the part was received and installed. There is no requirement for staff outside of Stores, to sign the packing slip indicating receipt of the item.

Storage and Acquisition of Tools:

There are different practices in the security and storage of HRM tools between the Heavy Duty, Light Duty Shops and the Night Shift. The Light Duty Supervisor stores and secures HRM tools within his office space. Tools can only be accessed through the Supervisor or Lead Hand, in the Supervisor’s absence. The Review Team was advised that the Light Duty Supervisor has also allowed individual mechanics to take HRM tools off the premises for personal use as part of a reward system. There is no indication that this practice has resulted in any loss.

Tools in the Heavy Duty Shop are available to all staff, as needed. There is no record kept of the available tools and the area where the tools are stored was unkempt and disorganized at the time the Review Team observed it. The Night Shift Supervisor also maintains a selection of tools for the use of the night shift in his locked office.

Storage and use of Safety Inspection Stickers

General Fleet Services currently stores safety inspection documentation and stickers in a locked cabinet within the Heavy Duty Shop. All certified mechanics have access to the cabinet. We were advised that management does not conduct regular counts or checks on the inventory. They rely on the integrity of the individuals who have access to the stickers and on the buddy system to monitor compliance. Once a vehicle has been issued a safety inspection sticker the record of inspection is retained in the booklet and only sent into the Registry of Motor Vehicles as each booklet is used up. The issuer’s copy of the inspection is retained for an unspecified period of time within the secured cabinet not with the official vehicle file.

Unplanned Work:

PM01 work orders are created to record completed unplanned work. The initial creation is the go ahead for the mechanic to do an assessment on what work will be required. This is in contrast to the issuance of a PM02 work order where the mechanic carries out the work when he receives the work order. After the assessment is complete, a decision is made on whether to carry out the repairs and obtain the parts. The mechanic may make the decision to carry out repairs if he is comfortable with what he believes to be the estimated cost to repair. If not, he approaches his supervisor to discuss the matter and obtain approval. When parts are needed, and they are stocked by Stores, parts are issued without additional authorization.

As noted earlier, when parts are not in-stock, the Stores personnel must initial the request form to indicate "not in stock" and the mechanic must return to the Supervisor for authorization to request the Parts Buyer to obtain the part. Significant delays can occur if the Supervisor is not available. Repair work in this category is usually urgent in nature and extended delays can affect the end user's operation.

All three supervisors purchase parts using assigned VISA Purchase Cards. The card is issued in the individual's name and the terms of agreement states that no other person will be allowed to use the card. The Procurement Policy specifically provides for the use of VISA Purchase Cards for "automotive repair by field personnel". Both mobile mechanics have been issued VISA Cards.

The process of acquiring external services lacks good internal control. Purchase orders outlining the nature and details of the work to be completed are not normally prepared until after the work has been completed and the equipment returned to General Fleet Services. No written instructions are provided at the time the equipment is dropped off, it is unclear as to when the equipment will be returned, nor does the service provider provide a detailed listing of the work completed when the equipment is picked up. There is no apparent management of external services by General Fleet or Stores/Procurement staff.

Internal Control Criteria Evaluation:

Table 33

Internal Control Criteria	Review Findings/Opinion
Competent, trustworthy personnel	Staff are well qualified to carry out the technical aspects of the work. There is no evidence that staff are not trustworthy.
Proper authorization of transactions and activities	There are issues with proper authorization of transactions in the flow of documentation through to the supervisor and on to subsequent operations.
Adequate segregation of duties	Segregation has served to fragment processes and build in unnecessary inefficiencies.

Internal Control Criteria	Review Findings/Opinion
Design and use of adequate documents and records	Numerous processes are duplicated. Blank open work and purchase orders are used with minimal security and review.
Controlled access to assets and records	Security of ownership papers (Title) and MVI Safety Inspection records are inadequate. There are no records of HRM tools inventory and storage security is questionable.
Periodic, independent comparison or verification	Vehicle files and MVI stickers subject to external verification.
Error-checking routines	Reliance on users to determine errors. No regular process to check for errors.

6.2.2 Recommendations

- 6.2.2.1 *Service Advisors should be able to technically complete work orders and enter task details into the system after the supervisor has signed off on the work. The use of an asterisk in the long text of the work order screen to indicate that work is complete should cease.*
- 6.2.2.2 *To improve the internal control on ownership records and provide appropriate access to vehicle history details:*
- a) *Registration/ownership (Title) papers for equipment should be stored in a separate, secured location from repair/maintenance history detail..*
 - < *A written record should be maintained of employees accessing ownership files. The record should record date, time, purpose and employee signature and be maintained separately from the repair/maintenance records.*
 - b) *Work order detail files should be available to technical employees while electronic solution is developed.*
 - < *Review the procedure for maintaining vehicle records and provide easier access to repair and maintenance information for mechanical and technical support staff.*
- 6.2.2.3 *To improve administrative and non-technical work flow processes:*
- a) *Admin Clerk should continue to file work order hard copy in a separate folder from ownership papers.*
- 6.2.2.4 *Review the work around processes put in place to accommodate the night shift to ensure that all applicable policies are being followed. This would*

include the use of VISA Purchase Cards and blank Purchase Orders.

- 6.2.2.5 The position of Parts Buyer should not process Goods Receipts (GR) where he has also created a Purchase Order.
- a) All parts/materials should be delivered to Stores Warehouse. When a part is picked up by mechanical staff, the part should be taken into stores for processing. At a minimum, a stores person is provided a signed goods receipt by the mechanic or supervisor indicating that the part has been received.
 - b) All goods receipts should be entered by Stores personnel.
 - c) The night supervisor should provide a signed GR (indicates HRM received material) and pass it over to Stores daily, who will complete the GR the next day.
 - d) In order to facilitate the above all Purchase Orders must have Material Master Numbers, Vendor Number when created.
 - e) Creation of 10 generic material master numbers of specific, as needed.
 - f) Service External PM02 should remain as PM02 but use appropriate type in the Material Master either when attached at the Purchase Order point with the Material Master - Material Group "tag" option is "outside service".
- 6.2.2.6 Improve the utilization of the position of Service Advisors and subsequently improve work flow processes and services:
- a) Service Advisors should be authorized to approve PM02 work orders and the acquisition of resulting parts/materials from stores.
- 6.2.2.7 All MVI stickers should be inventoried and issued by Stores.
1. Assign a Material Master Number to MVI Stickers.
 2. Inventory and relocate all MVI stickers to a secure location within Turner Stores.
 3. Monitor MVI booklets to ensure that stickers are used and accounted for in sequential order.
- 6.2.2.8 All HRM Tools should be inventoried and issued from Stores
Action Plan:
1. Inventory, tag and relocate all tools currently on site into a secured area.
 2. Develop and implement a process to sign out tools from Stores.
 3. Monitor tool and equipment returns to ensure that tools are returned on a timely basis.
- 6.2.2.9 Service Advisor should be authorized to approve the purchase of special parts for repair estimates of a set amount. Suggest: <\$1,000 per work

order. Supervisors would be required to authorize repairs above this amount.

- 6.2.2.10 Review and increase the use of Standing Orders for frequently acquired services or parts.
- a) Decision to include as a standing order should be based on purchase volume and frequency of use of the vendor - This is important, especially for the night shift as they use blank purchase orders and VISA for most purchases.

- 6.2.2.11 Establish data standards for use with short and long text fields. Determine nature of data to be captured and monitor for compliance.

6.3 Service Agreements and Internal Controls

Service Agreements are excellent tools to build relationships, enhance communication, set performance standards and assign roles and responsibilities. Fleet Services had developed a draft agreement in 2001 but there is no indication that it was finalized. A draft Service Level Agreement with Fire Services for Emergency Fleet Services has been under discussion since August 2004. Guiding principles from the August 2004 document state:

The principles of this Service Level Agreement demonstrate each parties commitment to:

- < Establishing a solid working relationship between EFS and HRFES
- < Providing quality services that add value to each party's priorities and operational goals.
- < Assuring mutual accountability and transparency of process.
- < Continually improving the quality, efficiency and effectiveness of the services provided by EFS and HRFES.
- < Ensure cost effective use of resources and that overtime costs for services will not override operational readiness.

The purpose statement found in the draft 2001 Service Level Agreement outlines the control framework for the delivery of services:

The purpose of this agreement is to outline the services and time lines that Fleet can provide to its clients, by communicating what we do, what is expected of us and what our standards are.

The following items are addressed in this agreement:

- a) The services which are provided by Fleet.
- b) The set up of time lines.
- c) Seasonal equipment requirements
- d) A procedure to resolve service issues.
- e) The roles and responsibilities of Fleet and its clients.

6.3.1 Issues and Observations

As of the writing of this report, neither Service Level Agreement has been signed off by General Fleet Services and its clients.

6.3.2 Recommendations

6.3.2.1 *Improve accountability for the operation and maintenance of equipment.*

- a) *Enter into formal service agreements with all clients. Agreements should include the following elements, at a minimum.*
 1. *Set a minimum dollar value as a cost baseline with each client group/business unit*
 2. *Obtain and maintain accurate odometer readings under which baseline costs are attributed.*
Action Plan: In first year, conduct a pilot project to test costing by usage for three object types.
 3. *Set standards on repair turnaround time and acceptable cost estimate variances.*
 4. *Set standard costs for PM02 work based on average cost to conduct a PM02 (A) and PM02(C) by object type.*
 5. *Include a standard drop off and pick up process for equipment, including the written authorization from supervisors.*
 6. *Assign responsibility for damages resulting from accidents and abuse directly to Business Unit.*
 7. *Adopt time-frame and process to confirm that transfers between business units occur as intended.*
 8. *Recognize authority of Fleet Services to remove equipment from operation due to safety issues.*
 9. *Include mark ups on fuel, parts to cover overhead and capital improvements (Financial Services).*
 10. *Provide accessibility to SAP PM Reports including training requirement for General Fleet Services' clients.*
 11. *Include agreement that the final decision on specifications for new equipment resides with the business unit.*
 12. *Include the method, topic and frequency of communication regarding the operation and maintenance of equipment.*

Data Analysis and Monitoring

Currently, General Fleet Services is transaction focused without an understanding of what direction it is headed in. This was evident to the Review Team by the lack of any formal analysis and/or monitoring of operational activities. General Fleet does not have any procedures that analyze or monitor mechanics' activities or parts usage. Other sections throughout this report have provided examples of this issue.

Another example, not included elsewhere, to support this issue was the identification by the Review Team of bus parts charged to a Ford Focus Wagon on a preventative maintenance work order (PM02) of \$690¹⁷.

There are reports currently available within SAP to conduct reasonableness checks on vehicle repair and maintenance costs. However, based on discussions with General Fleet Services, the report was not accessible or they were unaware of the report's existence. The only means for General Fleet Supervisors to review cost reasonableness is on a one-off or repair-by-repair basis.

Each of the three General Fleet Supervisors could have the fleet split amongst them to periodically review costs by vehicle types. In addition to the General Fleet Supervisors reviewing costs, HRM Business Units should be able to review the same reports. As General Fleet implements service level agreements, a time period could be established as to when a client can question the validity of costs subsequent to gaining access to the cost reports.

¹⁷Source: SAP PM Work Order 45046741.

D) Organizational Structure

7.0 Governance Model

7.1 Organization Understanding.

Prior work considered by the Review Team, such as the Snow and Ice Review and the Staff Committee considering transfer pricing for HRM, indicated that there was no agreement throughout the organization as to which business unit was responsible and/or accountable for different aspects of equipment management. This trend continued throughout the interview and analysis stage of the review.

7.1.1 Issues and Observations:

Interviewees were asked whether General Fleet Services or the end users (Business Units) were primarily responsible for the management of the equipment. There was no consistency in responses among General Fleet Services or Client Business Unit employees.

Table 34

Fleet solely responsible	18%
Business Unit solely responsible	64%
Both Fleet and Business Units responsible	18%

The lack of clarity around responsibility and accountability has escalated to the senior levels of the organization. Lack of a clear accountability structure can be seen in the inability of Business Unit managers to predict cost variances, increased numbers of preventable accidents and dissatisfaction with the service received. Dissatisfaction with the service focussed primarily on the down time experienced and the lack of meaningful communication on equipment status once a piece of equipment has been turned over to General Fleet, rather than the quality of the work. The perception of excessive down time has resulted in Business Units avoiding scheduled maintenance times, which may result in more unplanned visits to General Fleet.

In an effort to validate the perception on the part of Business Units that down time was excessive, the Review Team compiled and analysed a table of data captured from manual records created by General Fleet Services' Service Advisors. As identified in Section 4.0, of this report, a manual listing is kept of scheduled equipment on a daily basis for the various shops by shift. Equipment not completed on one shift/or shop is carried over to the next day or shift and recorded on the next day's list. From this data we obtained a fairly accurate understanding of work productivity and flow. Table 35

shows the flow of work in and out of each shop.

A total of 14,397 records were tabulated for the period January 1, 2003 to December 31, 2003. The data indicates that equipment was carried over shift-to-shift a total of 9,582 times. This equates to 67% of the time. Equipment scheduled for repair or maintenance work that did not show up occurred 287 times or 2% of the time. The Heavy Duty Shop (H) had the greatest level of carry overs for both the day and night shift.

Table 35: Work Flow for Calendar 2003

Shift	Data	Total	Per %	Per of Tot
Days L	Sum of Totals	4300		30%
	Sum of C/O	2912	68%	
	Sum of No shows	201	5%	
	Sum of Ready	849	20%	
Sent Out L	Sum of Totals	1138		8%
	Sum of C/O	777	68%	
	Sum of No shows	5	0%	
	Sum of Ready	406	36%	
Night L	Sum of Totals	1470		10%
	Sum of C/O	347	24%	
	Sum of No shows	80	5%	
	Sum of Ready	529	36%	
Days H	Sum of Totals	5382		37%
	Sum of C/O	3822	71%	
	Sum of No shows	1	0%	
	Sum of Ready	851	16%	
Sent Out H	Sum of Totals	2104		15%
	Sum of C/O	1724	82%	
	Sum of No shows	0	0%	
	Sum of Ready	407	19%	
Total Sum of Totals		14394		
Total Sum of C/O		9582		
Total Sum of No shows		287		
Total Sum of Ready		3042		
			14394	
	Carried Over		9582	67%
	No Shows		287	2%
	Ready		3042	21%

7.2 Functional Structure

Physical Delivery Model:

General Fleet Services' operation is centrally located with the use of two mobile mechanics to augment day-to-day work demands. For the most part, equipment must be brought to the Turner Drive location before any work is completed, regardless if the

work is planned preventative maintenance or unscheduled repairs. Business Unit supervisors may be instructed to drop off or pick up a piece of equipment from an external service provider but this must be pre-arranged with General Fleet.

Each day mobile mechanics report to Turner Drive and then relocate to operational depots in the central region at Oakmount, Bedford and the western region at McKintosh Street, Halifax where they await calls. Mobile units complete minor repairs and determine the general nature of repairs prior to sending the equipment to Turner Drive. Occasionally, mobile mechanics may send equipment directly to an external service provider without going to Turner Drive first.

During the snow and ice season General Fleet reassigns two mechanics on separate shifts to work from the McKintosh location. Staff must first report to the Turner location, pick up a service vehicle and travel to and from McKintosh each day. The mechanics carry out minor repairs or maintenance while the vehicles are parked at the depot, assist operators in preparing the equipment for snow work and may respond to breakdown calls, if available and/or needed. Mobile mechanics continue to provide roadside service, as well.

At Turner Drive, General Fleet is comprised of a Light Duty Shop which looks after on-road equipment of less than 3 ton weight and a Heavy Duty Shop which is responsible for all equipment 3 tons and heavier, including front end loaders, back hoes, sweepers, sewer hogs, etc. Both the Light Duty Shop (L) and the Heavy Duty Shop (H) operate a day and night shift. Day staff working in the Light Duty Shop are assigned to specific bays. Heavy Duty Shop Day and all Night shift employees work from any available bay. Welders also work on day and night shifts and support both shops.

Small equipment such as chain saws, hand mowers, and ride-on apparatus are also repaired and maintained at Turner Drive. There is limited planning associated with this repair work. Most equipment is repaired and maintained when and if it is brought into the small engine shop. On a seasonal basis, business units are contacted and directed as to when to bring gear in for maintenance. Once the gear arrives work orders are created, parts are ordered and the work is completed.

Work Distribution Across Shifts:

Once a piece of equipment has been dropped off at Turner Drive, the work is assigned to the applicable shop and mechanical staff. As noted earlier, if the work is not completed during one shift, it is carried over to the next day and/or shift. During periods of time when mechanical staff are working overtime to support a snow and ice event, equipment repairs not completed on one shift will be re-assigned to a mechanic on the next available shift. This is not the norm during regular non-snow and ice events.

7.2.1 Issues and Observations

Physical Structure:

There is a marked difference in the tidiness and cleanliness between the Heavy Duty and Light Duty Shops and morale between the day and night shifts. This may be partially attributed to the physical set up of the shop. Work environments where employees do not have any space to call their own can not be easily held accountable for the condition of the work area. Supervisors may desire to maintain clean work areas but can not easily assign responsibility or ownership of the space to any one or group of employees. Employees can easily deny responsibility and the supervisor cannot clearly attribute responsibility. The cleanup work is done by the entire group or no one.

Reassignment of work space based on a "buddy system" would have a number of measurable benefits. Employees who share space would be accountable to their space mate for the cleanliness and orderliness of the area. Supervisors would be better able to assign responsibility to specific individuals and encourage compliance with shop standards. Assignments pairing more senior employees with less senior employees would encourage the sharing of practical work experiences and improve the skill level of the employees. Younger employees can bring experience and training in newer technologies, while senior employees can share practical experience in repair practices.

Governance and Accountability:

Based on the responses received during the interview process, there continues to be unresolved issues in understanding the roles and responsibilities of delivering General Fleet Services. The following excerpt from the Snow and Ice Report describes the issues reported by Streets and Roads Staff and recommendations proposed by that Review Team that are consistent with the responses received from different interviewees.

Comprehensive Snow and Ice Review 2003

Currently, Fleet Services is housed at the Turner Drive depot. Two mobile mechanics travel to West and Central regions to provide onsite servicing during snow events. Mobile mechanics are equipped to complete minor repairs and most often, equipment must be transported to Turner Drive for proper repair.

The relationship between Streets and Roads and General Fleet Services supervisors are described as amicable. Communication difficulties had arisen a number of years ago but since 1999 the parties have been working together and communicate regularly during the winter season and especially, during a snow event.

Three areas of concern were raised by Streets and Roads Supervisors regarding the level of service or support received from General Fleet. It must be pointed out that the following comments are anecdotal. Neither of the regions can quantify their concerns with tangible records.

< The centralization of General Fleet to Turner Drive - West and Central supervisors

out

- < perceive that their gear does not receive an appropriate level of attention compared to East's gear.
 - < Travel time from West and Central areas is perceived as unreasonable. The triage approach provided by mobile mechanics results in more down time than the previous operation where mechanics were stationed at the depots appropriately outfitted to carry repairs.
 - < All sidewalk equipment must be floated by trailer or flat bet to Turner Drive which results in excessive delays.
 - < Supervisors are not adequately involved in designing the specifications for equipment replacements. They do not understand why requested specifications cannot be accommodated.
 - < Streets and Roads supervisors believe that the equipment is "owned" by General Fleet.
 - < General Fleet believe that the equipment is "owned" by Streets and Roads. General Fleet's role is to repair and maintain it in operational condition.
 - < Supervisors are unaware if there is an equipment replacement plan.
 - < Equipment is scheduled for maintenance based on an artificial assumption of hours of use. Some equipment is used more than others but does not receive an appropriate level of maintenance. Other gear is hardly used but still receives the same level of maintenance.
 - < Sharing of equipment between Business Units has resulted in a compromise in equipment acquisition.
 - < Down time is excessive due to the use of a limited number of external contractors for specific repair work.
- Recommendations:
- < Review the state of equipment and validate the life expectancy:
 - < Review equipment specs - cost/benefit - suspension, axles, wheel hubs, accessory weighting (e.g. alloy metal).
 - < Improve access to Fleet services in Central and West by re-establishing additional mobile service support.
 - < Request a review and modification of the current Fleet Service delivery model to re-establish accountability charges.
 - < Request a review of the best location of maintenance garage(s) to best suit Snow & Ice program.
 - < Request a review of vehicle usage in light of concerns with service delivery model.
 - < Partner with Financial Services, Inventory management and RPS Fleet Management to implement proper internal controls and monitoring of fuel consumption. (Software costs \$42,000 for 10 sites)

The absence of clear lines of accountability has created an opportunity for the parties to deflect or avoid accountability for current or emerging issues. The common mantra has become "its not my responsibility" or "its their responsibility". Defining accountability (roles and responsibilities) will result in clear lines of authority being established across the HRM and improve communication, relationships and operational effectiveness by reducing down time, damage and abuse to equipment.

Service Delivery Models:

There are three options that the HRM could consider in determining the best

strategy to provide services to meet operational requirements. One strategy is to outsource the repair functions to commercial garages and the administrative functions to fleet management companies. However, legislative requirements for heavy equipment would make the job of managing compliance more difficult given the size of the fleet. Cost and convenience for users are also issues that support providing the service internally.

A second strategy is to formally assign responsibility of equipment and vehicles to the individual business unit managers. The advantage with this approach is that end users can manage all aspects of their equipment to suit themselves. However, this approach results in duplication of work across business units, loss of purchasing leverage, potential for non-compliance and resulting liability issues.

The final strategy is a "focus and manage strategy"¹⁸. That is, using the existing centralized model, the division can build a high performance culture that enhances productivity and improved customer service using an appropriate service delivery model.

Under the "focus and manage" strategy, there are a number of service delivery models to consider. General Fleet Services is the technical expert in operating and maintaining the equipment. Operational units understand best what work they need to complete and how best to complete it. Under a "focus and manage" strategy, General Fleet Services can operate as "gatekeeper," a "service provider" or a combination of both. There should not be any ambiguity as to which business unit carries the "ownership" role.

Ownership:

Ownership of the equipment should reside with General Fleet Services. They would be responsible to maintain the inventory and ensure the equipment is registered, and operational, as needed by the business units. They would be responsible for developing policy/procedures and monitoring all issues relating to the rolling stock, once it has been acquired. Given the symbiotic relationship between General Fleet Services and its clients, Gatekeeper and Service Provider roles could be assigned as follows.

The Gate Keeper Role provided by General Fleet Services could include:

- < Decision making to extend the life of a piece of equipment scheduled for replacement (in consultation with Business Units)
- < Decision making regarding safe operation - full authority to pull vehicle from operation (by appropriately communicating with Business Units)
- < Decision making on the disposal of equipment - based on a rational model
- < Decision making on equipment rationalization based on usage

¹⁸ City of Hamilton, Central Fleet Strategic Plan 2004, Page 35, Appendix A - PW03147a

- (communication with Business Units is critical)
- < Policy Lead on the use of HRM equipment - personal or business use - partner with FS, HR, SS
- < Decision making on the use of external services - when and whom

The Service Provider Role provided by General Fleet Services could include:

- < Maintain and keep equipment operational up to its assigned useful life or after a life extension decision has been made.
- < Consult and coordinate equipment acquisition needs with Business Units.
- < Accidents - Estimate and repair of the equipment, not investigation of the cause of the accident. Investigations should be conducted by Business Unit supervisors. May also participate in a 3rd party review committee (Risk management committee)
- < Training - no direct involvement in training of operators except to note unusual deficiencies or issues observed through repair and maintenance activities. Training should be provided by the HR Safety and Training Section.
- < Costing, transaction processing - Support and provide input into corporate decision. Financial Services would take on the Gatekeeper role, with Business Units monitoring outcomes.
- < Carry out repairs and maintenance of rolling stock using in-house or external resources.

Model:

In order to adequately meet the revised service provider role envisioned for General Fleet Services, the service delivery model needs to be modified. Although General Fleet Services would reiterate that services are provided from a centralized model, the mobile response units and seasonal reassignments indicate a move to a more decentralized model. However, work assignments are not planned or scheduled for the decentralized services. Given this approach, it is very difficult to adequately stock the material, parts and supplies necessary to complete the unplanned work.

At this time, all planned preventative maintenance work is funnelled through Turner Drive, including PM02(A) work which includes fluid changes or top-up and brake inspections and the PM02(C) inspection which includes all the (A) inspection services and transmission inspection and fluid changes and engine tune-ups. All rolling stock is scheduled quarterly each year for PM02(A) and annually for PM02(C) maintenance. Staff attempt to schedule one PM02(A) at the same time as a PM02(C) resulting in three scheduled visits per year for a piece of equipment.

Preventative maintenance work at the PM02(A) level is expected to take between 2 to 4 hours of direct mechanical time. It is anticipated that PM02(C) work will take between 8 to 12 hours, depending on the size of the equipment. Additional repair work

(PM01) identified during a PM02(A) or (C) may result in the equipment remaining in Fleet Services until all work has been completed. In cases where the nature of the repair is not safety related, the equipment may be released back to the operational unit and rescheduled at a mutually agreed upon time. Waiting for the necessary parts to complete a repair may also delay turning the equipment back over to the operational unit.

Table 36 shows the number of days between the creation of the work order which is the date in which the equipment physically arrives at Turner Drive to the work order reference date which the date when the work is completed. The data indicates that over 46% of the time the work is finished the same day. (The negative numbers result from General Fleet Services staff entering a finished date prior to the work order release date. This can occur with work completed by the night shift and/or mobile mechanics.)

Table 36: PM02: Special Orders Calendar Yr 2003

Number of Days b/t WO Release & Finish Dates		
Range	Frequency	Percentage of Total
below -9	20	0.7%
-9 to -1	19	0.6%
0	1,357	46.3%
1	275	9.4%
2	151	5.2%
3	95	3.2%
4	109	3.7%
5	95	3.2%
6 to 10	345	11.8%
11 to 15	130	4.4%
16 to 30	176	6.0%
31 to 60	76	2.6%
61 to 90	30	1.0%
91+	51	1.7%
	2,929	

Operational units expressed displeasure with the length of down time resulting from the need to transport gear to and from Turner Drive and the length of time the equipment is out of service once it has been dropped off for maintenance. As Table 36 shows, operational units may lose their equipment for repair work from one to 5 days 24% of the time and over 6 days for 27.5% of the time. Most business units do not have "spare" equipment to offset down time for repairs and maintenance. This can have

a direct impact on operational productivity. Business units try to compensate for down time by doubling up on crew sizes and re-assigning work but because they do not know when they might receive the equipment, planning is difficult.

Not factored into the above table is down time due to delivery and pick up times covered off by the operational unit. Equipment scheduled for repairs or maintenance is required to be dropped off by 4:00pm for night shift or next day scheduling. Often work scheduled for the night shift can not be completed due to a variety of reasons such as over-booking of equipment to available resources, outstanding parts and insufficient time to complete scheduled work, to name a few. The current practice in the Light Duty Shop between the night and day shifts is to leave equipment unrepaired until the same shift can complete the work on their next shift. For the night shift, this could mean up to four days delay between the time the equipment was first dropped off and the time the work is completed as the night shift works ten hour shifts Monday to Thursdays. This is considered an unacceptable reason for delay.

General Fleet Services may also send the equipment out to an external service provider. Down time attributed to external services is built into the above table.

As stated previously, repairs and maintenance services were offered out of the McKintosh, Turner and Oakmount depot locations prior to centralizing the service to Turner Drive in 1998. These locations still retain much of the infrastructure necessary to store and use fossil fuel products. Certain regions now believe that the travel time has significantly increased as a result of centralization. Supervisors advised that it takes two employees between 2 and 3 hours each way to drop off or pick up a piece of equipment. The Review Team could not confirm this statement as there is no recorded information. Business Units do not capture travel time to and from Turner Drive as a cost of business.

Coupled with the additional time the equipment is held at Fleet Services for repairs, Business Units consider utilizing this service as prohibitive. The suggestion that there has been an increase in down time once equipment is dropped off for maintenance work can not be quantified. However, down time for the calendar year 2003 can form a base line for comparison in future years. (See Table 36)

Staff of General Fleet Services expressed concern that the number of scheduled no-shows was a major problem and affecting the overall operation of the equipment and the shop. Table 35 indicated a 2% rate of scheduled no-shows. This figure, by itself, may appear to be insignificant. However, the majority of scheduled no-shows (99%) occurred with equipment scheduled to report to the Light Duty Shop. This is a significant finding indicative of a number of issues such as:

- < scheduling difficulties,
- < lack of due diligence of operational units, and/or
- < communication difficulties.

In summary, the perceived increase in travel time to drop off or pick up equipment and the actual length of time equipment is held at Fleet Services are the primary reasons supervisors are hesitant to bring gear in to meet scheduled preventative maintenance. Preventative maintenance is critical to the operating life of the equipment and the approach taken by some supervisors is not valid. However, given the lengthy period of time (1 to 5 days) taken to complete minor maintenance, it is not surprising that operational supervisors would not be willing participants. There must be a balance struck between the maintenance requirements and the end user needs.

Depot Rationalization:

In December 2003, the Director of Public Works and Transportation commissioned a study of the travel patterns for Public Works and Transportation (PWT) Services in the delivery of services. Currently, PWT provides services from five main depots - McKintosh Street, Turner Drive, Oakmount Street, Bissett Rd and Mann Street. The study quantified the current services based on total kilometres travelled to and from each depot by the number and type of rolling stock. A number of scenarios and locations were analysed for both current and future demands. The study did not look at the impact the potential changes would have on supporting services such as Fleet but it did quantify the percentage of space used by PWT at Turner Drive as 50%.

The level of activity per depot is provided for each region. The following table summarizes the number of trips in and out of the depots by region. Table 37 is an excerpt from the report.¹⁹ This data would appear to support the need to provide more de-centralized services to the end user Business Units.

Table 37

	West Region	Central Region	East Region	Totals Trips
Existing Trips	19274	7988	9135	36,397*
Future Trips	18740	9196	10040	37,976*
Total Trips	38014	17184	19175	74,373*
* Totals adjusted to reflect correct addition				

7.2.2. Recommendations

¹⁹ Taken from Table 3 - Annual Activity for PWT Crews & Depot Interactions, HRM Consulting Services Public Works and Transportation Depot Rationalization Study Alternatives Development Working Paper, 03-2587-0100, Submitted by Dillon Consulting Limited

- 7.2.2.1 *Reduce the operational impact to client business units resulting from down time due to repairs and maintenance.*
- a) *Analyse capacity to repair small equipment and rolling stock to determine cost benefit of internal vs external service provider.*
 - b) *Fleet maintenance services for light duty equipment such as PM02(A) should be offered on site at the McKintosh and Oakmount facilities to improve scheduling response time for light duty equipment.*
Action Plan:
 - 1. *Equip and locate light duty mechanical staff between McKintosh and Oakmount on a three month cycle.*
 - 2. *The use of mobile mechanics could facilitate the service.*
 - < *Conversely, General Fleet Services should explore the opportunity to acquire external resources located closer to the operational unit depots to improve down time and reduce costs.*
 - c) *Review the work completed by mobile mechanics and re-assign work based on need and capacity.*
Action Plan:
 - 1. *Reassign the work start location to a secured off site location such as McKintosh, Oakmount, Bissett Road or Cowie Hill on a rotating basis to reduce loss of productivity time due to travel time.*
 - 2. *Assign specific (PM02(A)) tasks daily to one mobile unit, while retaining the second unit for unplanned work. This would need to be modified during snow events.*
- 7.2.2.2 *Cost benefit analysis should be conducted to verify the appropriate service model for various equipment types (Internal vs external)*

7.3 Management Structure and Physical Location

The current structure of General Fleet Services includes three front-line supervisors, and one superintendent reporting to the Manager of Fleet Services. The Light Duty Shop Supervisor works days, Monday to Friday (8:00am to 4:00pm) and is responsible for the repair and maintenance of all light equipment (3,000 KG and under), one mobile mechanic, the body repair shop and the small equipment repair shop.

The Heavy Duty Supervisor also works days, Monday to Friday (8:00am to 4:00pm) and is responsible for the repair and maintenance of all heavy equipment (>3,000 kg), one mobile mechanic and the welding shop. The Supervisor for the night shift works Monday to Thursday (4:00pm to 2:00am) and is responsible for employees working out of the Light Duty, Heavy Duty and Welding Shops. During peak times, supervisors may be required to work 12 hour shifts for extended periods of time. Both

the Light and Heavy Duty shops are assigned a specific Service Advisor to assist in scheduling. These positions will be discussed in greater detail under "Administrative Support."

The Light Duty Supervisor oversees a compliment of 14 technical staff and one support employee and an equipment base of 377 pieces of light duty equipment, about 1,000 pieces of small equipment. The Heavy Duty Shop Supervisor is responsible for 10 employees, including support, and 339 pieces of equipment. The Night Shift Supervisor oversees 10 employees. Each shift is provided an independent schedule which they are required to complete, along with the unplanned work that might occur throughout the shift. The majority of unplanned work outside of snow events, occurs during the day. Both the Light and Heavy Duty Shop Service Advisors schedule for the day and night shifts, independent of each other. This includes the assignment of work to external service providers.

Prior to 2002, supervision of the night shift was carried out with the use of a "Lead Hand ." The current night shift structure was carried over at amalgamation from the former City of Dartmouth. Subsequent contract negotiations marginally increased the number of staff working the night shift. The replacement of a supervisor position into this location occurred as a result of a workplace accommodation.

When General Fleet Services was centralized to the Turner Drive location, a minimum amount of design and construction changes were undertaken to fit the additional services into the new location. As a result, the Light Duty Shop was located to six bays formerly used as storage areas for speciality trucks and small tool cribs. Walls were taken down between the bays to enlarge the area. Hoists suitable for light equipment were installed in five of the bay areas. Four other bays were set aside for small equipment work, office space and a library. Similar changes were made to accommodate the welding shop at the other end of the building.

7.3.1 Issues and Observations

The Heavy Duty Shop Supervisor has a work station located in an office off the shop floor. The work station is situated in the centre of the work pod, behind the Service Advisor's station. The office configuration does not provide viewing of the Heavy Duty shop floor. During the night shift this office is closed and only accessible to the Night Shift Supervisor.

The Night Shift supervisor has an office located just off the Heavy Duty Shop floor which provides for some ability to observe the shop floor. However, this position also supervises night shift staff working in the Light Duty and the Welding Shop. The Welding Shop is located at the far end of the building, well away from the other two shop areas.

The Light Duty Shop Supervisor is located down the hall from the Heavy Duty Shop in a self-contained location. The Light Duty Shop Supervisor is able to view a large portion of the floor area under his control but does not have direct access to the Service Advisor, Parts Buyer or other support positions. Anecdotal information indicates that the physical set up may impair communication between the Supervisor, Service Advisor and mechanical staff.

The physical layout of services without including accommodation for support staff has affected the flow of information. Although the two Service Advisors are assigned specific shop responsibilities, it is difficult for the Light Duty Shop Service Advisor to provide timely and accurate information to the Light Duty Supervisor and/or its client base. According to interviewees, the parties do not engage in regular and daily communication on work flow issues. Interviewees also indicated that time spent on the floor by all supervisors is insufficient. Delays occur while waiting for approval for special order parts or in consultation on unusual matters.

Communication challenges are also exacerbated by the management style of the incumbents. Communication between supervisors, mechanical staff and Service Advisors is limited. For example, information regarding the number of mechanics available each shift is not provided prior to the Service Advisor finalizing the daily schedule. Planned and approved absences should be provided to the Service Advisors and incorporated into the daily planning schedule. Team meetings between mechanics and supervisors have been held on an irregular basis. Service Advisors and other support staff have not been included in these meetings.

Communication between the Night and Day Shift Supervisors has been described by interviewees as ineffective. The Night Shift Supervisor attends work 15 to 30 minutes prior to the start of his shift to meet with the Service Advisors in order to confirm the work assignments for the shift. The information provided may be incomplete or the equipment may not show up, leaving the supervisor with unassigned resources. Since there is not a normal sharing of carry over work between the day and night shifts, the Night Shift Supervisor is not apprised of outstanding work so it can be re-assigned and completed. There is no office support provided for the night shift, except for the Stores Warehouse which issues stocked parts to mechanical staff.

Work flow processes have not been formally reviewed to reflect the increase in formal supervision and responsibility for the night shift. This would include creating and authorizing work orders, special order parts, external service assignment and repair decisions. There have, however, been changes made in work flow process which appear contrary to acceptable internal control practices. The Night Shift Supervisor is a heavy user of VISA for purchases, primarily due to the lack of administrative support. Specifics relating to the use of Visa purchases by user have been addressed under Section 6, Internal Controls.

7.3.2 Recommendations

7.3.2.1 *Establish regular communication meeting times between supervisors at the end of the day shift, prior to the beginning of the night shift.*

Action Plan:

1. *Work orders should be signed off between the shifts.*
2. *All new assigned work for each shift should be formally accepted by initialling work order copies.*

7.4 General Fleet Administrative Support

The two Service Advisors are located in an office adjacent to the Heavy Duty Shop floor, and next to the Turner Drive Stores and Warehouse. These positions are part of the CUPE 108 work force. Fleet Administrative Support and the Heavy Duty Shop Supervisor also have assigned work stations in this office. They share the space with Financial Services' Parts Buyer and Field Support Representative positions. The Fleet Administrative Coordinator, Superintendent of General Fleet Services and Vehicle and Safety Trainer have offices located at the opposite end of the building. All other non-supervisory staff except for those working in the Stores Warehouse who are CUPE 108 members, belong to the NSUPE 13 work force.

The Service Advisors work in close proximity to each other. If both Service Advisors are off at the same time, employees from the CUPE work force are supposed to fill in. The Review Team was advised that there is no overlap of time off between the Service Advisor positions. Back filling for the Parts Buyer and Field Support Representative positions are covered by Financial Services staff from NSUPE Bargaining Unit who work in the building.

7.4.1 Issues and Observations

There is very little sharing of work between the two Service Advisor positions, except when covering off. On two occasions the Review Team observed periods of time where there was no Service Advisor or back up available to assist the operation. Service Advisor work load is not distributed equally between the two positions. The Light Duty Service Advisor has 50% more equipment to coordinate, excluding the small equipment as this is not included in pre-planning activities. The Heavy Duty Service Advisor has the responsibility to activate the monthly scheduling module which generates the list of equipment due for preventative maintenance. As noted earlier, the list is then manually added to a Lotus spreadsheet and manipulated in readiness to advise individual business units of equipment requiring scheduled maintenance. Appointments are not actually sent out. Business Unit Managers must call in and make an appointment sometime within the scheduled month.

Service Advisors maintain open work order lists but are not responsible for closing

a completed work order. In order to monitor the status of work and respond to client's inquiries, they have developed a practice of inputting an asterisk (*) into the text field of each work order once advised that the work is completed. When a work order remains open while waiting for special order of parts, the Parts Buyer enters the tentative delivery date into an off-system spreadsheet stored on the R:drive and accessible to the Service Advisors.

In order to comply with Collective Agreement provisions, the back up for the Service Advisors, Parts Buyer and Field Support Representative position must come from the applicable union work force. All work assigned to these employees is primarily clerical or administrative in nature. There is very little technically applied knowledge carried out by the Service Advisors. However, their back up must come from the mechanical work force. Acquiring, training and sustaining volunteers from the immediate CUPE work force to act as back up to primarily clerical positions has been difficult.

The Review Team observed that the Service Advisors are not used effectively or efficiently, in comparison to the use of similar positions in the private sector. Service Advisors are not kept aware of the on-going status of equipment and do not normally make decisions on what additional equipment can be accommodated during a shift or sent off site for repairs. They do not have any financial signing authority so can not facilitate a quicker response to repair work. Their main function appears to be to initiate the monthly schedule, generate work orders and respond to phone calls and email requesting unplanned service and/or serve as a communication funnel between the supervisors and the clients. Because they are not kept apprised of the status of equipment they can not provide timely or proactive advice to their clients.

Each Service Advisor monitors the flow of equipment on a separate list. Supervisors are provided with printed work orders after the equipment has been physically dropped off to General Fleet Services. The work order is passed on to the mechanic. Once the work is completed, it is returned to the Service Advisor who, once signed off by the supervisor, advises the client that the equipment is ready to be picked up. If the work order indicates that additional work is required beyond that which initiated the service, new work orders are created and printed off and the cycle begins again. Clients are not normally advised of the additional work requirements by the Service Advisors. Supervisors may contact the client if the additional work exceeds an arbitrarily set amount determined by each supervisor.

In an effort to improve response time and reduce down time due to repairs and maintenance, General Fleet Services initiated a requirement that when business units dropped off a piece of equipment, the equipment was to be parked in a specific location within the yard and the keys passed in to the Service Advisors. According to interviewees this does not happen on a consistent basis. Service Advisors advised that they have received calls from Business Unit Supervisors inquiring as to the status of the equipment,

only to be told that General Fleet was not aware that the equipment was in the yard. A number of supervisors have confirmed this example. In addition, when equipment is dropped off, there is no requirement to capture the name of the individual who is dropping the equipment off or for whom. Following up on repair and maintenance work becomes time consuming when the equipment database is incorrect and there is no other information to rely upon.

Throughout the day, mechanical staff enter the enclosed office to contact the Parts Buyer for unstocked parts or to see the Service Advisor for clarity around a work order or to pass in completed work and keys. The Parts Buyer is located at the back of the office, which can potentially interrupt the work of others. The work flow process requires that the mechanic provide a "Request For Purchase" form which has been initialled by Stores staff that the part is not in stock. Although there is an access door into the Stores area from the office, the door is kept locked. Access to the Stores staff occurs at the main window or through the locked office entrance. The Inventory Parts Buyer and the Inventory Clerk responsible for managing bulk fuel are located above the warehouse in the secured area. The physical vehicle files are also stored here. Access to the upstairs offices is designed so that one must go through the warehouse. Internal control practices have recently been implemented to reduce the flow of unauthorized employees into the warehouse. Unfortunately, this hinders those staff and mechanics that do need access to vehicle files or the staff located in the upstairs office.

The Inventory Buyer is responsible to monitor and maintain the flow of stocked items. Additionally, this position is responsible for identifying and obtaining new additions or deletions to the stock. As mentioned earlier, the Parts Buyer and Field Support Representative carry out 79% of all parts and outside services purchases. The current use of technology and the physical layout of the offices does not allow the Inventory Buyer to easily identify new items either through the use of the system or direct communication with key employees.

7.4.2 Recommendations

- 7.4.2.1 *Service Advisors should function as one unit, regardless of what equipment is in for service. Remove the segregation of equipment responsibility between the two Service Advisors.*
- 7.4.2.2 *Explore the possibility of moving the Service Advisor positions from the CUPE 108 Collective Agreement to the inside union to improve management flexibility in work assignments and back filling.*
- 7.4.2.3 *Review the design and layout of the Light Duty Shop and supporting services to ensure the timely and accurate exchange of information is possible. This may be accomplished by moving the Service Advisor into the Light Duty Shop area with the Supervisor.*

- a) *Relocate the Parts Buyer and Inventory Buyer together in the Stores area so that they are able to identify the changing needs of Fleet and respond more effectively to mechanical staff.*
- b) *Relocate all clerical and administrative staff to one central location, readily accessible to each other for sharing of information and work load.*

7.5 Mechanical and Technical Positions

Technical employees are certified by the Province of Nova Scotia to carry out mechanical or body repairs on specific equipment. HRM has established a single trade certification requirement for each position based on the shop structure. Employees who hold more than one certification may voluntarily agree to work on equipment in another shop where they provide certification about the work completed. Most employees only hold one certificate.

As a result of a number of unpleasant events occurring between mechanical staff and mechanical staff and supervisors, General Fleet Services undertook a human resources study to determine the underlying cause of discontent and low morale among the work force. The Review Team was made aware of the work environment during the interview process. The focus of this review has been on process but consideration has been given to the environment during the development of recommendations.

7.5.1 Issues and Observations

The current requirement for single certification restricts what equipment an employee can be assigned. It does not mean that they can not work on other equipment outside of their certification, if the work is minor in nature. However, licensed mechanics often hesitate to accept work completed by non-licensed parties without extensive verification. This can create delays. As stated earlier, work that has not been completed in one shift is not normally re-assigned to the next available mechanic/shift. It is held until the same employee is available to complete it. This is not the norm during snow and ice events and employees appear to work through that process without major disagreement.

Supervisors assign work based on the trade certification held by each employee and the priority of the work is matched to the employee's skill level. Once the work has been passed to the employee, there is little supervisory involvement in determining the nature of the work or the parts needed. There are no formal standards or procedures requiring the supervisor to authorize work based on the initial evaluation completed by the mechanic. Supervisors do not regularly check work completed by the mechanics or examine parts or material replaced.

After the work has been completed, the mechanic records the work done, attaches

any special ordered parts slips and passes it into the Service Advisor. Interviewees suggested that completed work orders are supposed to be passed into supervisors first. Because Service Advisors currently receive the unauthorized work orders before the supervisor, the Business Unit is not contacted to pick up equipment until after the supervisor signs off.

In addition to recording work completed, employees are required to fill out a daily time card. The daily time card captures the work completed by work order for each day and must be passed into the supervisor. There is no requirement to match the work order details with the time card submission. The time card is used to process payroll, while the work order is used to populate the CO (costing) Module in SAP.

7.5.2 Recommendations:

7.5.2.1 *Improve work flow processes and reduce down time for clients:*

- a) *Work not completed on one shift should be completed by the next available.*
- b) *Determine acceptable reasons for the carry over of work. This might include waiting for parts or while considering whether or not repairs should be done. Include reasons in the Service Agreement.*

7.5.2.2 *Supervisor should regularly verify work estimates prior to the commencement of the work, if the work being completed is not regular maintenance.*

7.5.2.3 *Improve operational flexibility with mechanical staff:*

- a) *Expand the requirement for new hires to hold multiple licenses or current employees to acquire additional certification to augment future work opportunities for employees and flexibility for HRM.*

8.0 Resource Capacity

8.1 Calculation of Capacity

The value of good information in calculating an operation's capacity can not be understated. Service providers need to carefully coordinate the services rendered with the necessary labour. Management must ensure that there is the right skills available at the right times. Understanding the need of clients, setting realistic performance standards and carrying out quality assurance practices ensures that the right things are done right.

8.1.1 Issues and Observations

General Fleet Services was unable to provide the Review Team with a complete

and accurate listing of all the assets owned and operated by HRM for which they believe they are responsible. As a result, it is difficult to confirm if General Fleet Services has sufficient or excess capacity to maintain the asset base to an acceptable standard.

A separate review conducted by Business Systems and Control between December 2003 and March 2004, determined the level of security and status of “non-inventoried assets” held within HRM. Comments and concerns raised during that project indicated that the potential for HRM to lose assets through theft or misuse is high. Again, during this project, interviewees also confirmed this finding.

Records are not captured or maintained of the kilometers each piece of equipment is driven. This is partially attributed to short comings in the fuel management system described earlier in the report and a lack of appropriate monitoring processes. This leads to an inability to determine if the rolling stock (equipment) is used to capacity.

9.0 Management and Supervision

9.1 Management Practices

The concept of self-managed teams (autonomous work groups) has become a frequent by-word in recent years. This is especially true in work environments where the work is repetitious and technical in nature. Self-managed teams are groups of workers without a formal, company-appointed supervisor who decide among themselves most matters traditionally handled by a supervisor. The team typically decide daily work assignments, the use of job rotation, orientation for new employees, training and production scheduling.

The approach is outcome based, rather than directive based. Management provides the vision, performance standards and required outcomes for the team. Communication between the parties is open, two-way and frequent. Supervisors act as coordinators and assist the teams by focussing on the timely and efficient acquisition of the tools, material and equipment needed to complete the work. If the outcomes are achieved, then the clients are satisfied.

Management can exercise a “loose” or “tight” control on the work force. Under loose control there is limited monitoring of the operation during the year. In an environment where there are formal, working policies, standards and procedures, loose control may be appropriate. A tight control system has two important benefits over a loose control system. First, tight control tends to prevent managers from becoming wasteful or inefficient. Secondly, consistent pressure motivates the managers to search for better ways to perform existing operations and to initiate new activities.

Tighter controls can also produce dysfunctional behaviour such as short term actions, avoidance of useful long term actions, sole focus on meeting budget regardless

of opportunities and data manipulation to reflect goal achievement.

9.1.1 Issues and Observations

Management exercises a “loose control” approach to the operations of General Fleet Services but in an environment where there are few formal working policies, standards and procedures. Supervisors and employees are left on their own to develop practices to deal with issues unless moved on by employees and/or union involvement.

The response from interviewees indicates that the one-on-one relationship between supervisors and clients is considered amicable, when it occurs. However, there is an overall negative perception of General Fleet Services as a service provider. Much of this can be attributed to the lack and type of communication flowing between the two. When asked if there was sufficient and appropriate communication on the work requirements, 55% of the client base said “no.” Areas where communication could be improved included:

- < Status of equipment - availability, length of time out of service
- < Nature and cost of repair - estimates and actual costs

In those areas where clients were satisfied with the level and type of communication, clients had made a point of establishing a closer working relationship with General Fleet Services. They made a point of contacting Fleet rather than waiting for Fleet to contact them.

Communication on the shop floor and between co-workers was ranked poor with an average dissatisfaction of 72%. All (100%) technical supervisors felt that they did not receive or relay appropriate communication. In contrast, only 78% of the technical staff felt that they did not receive sufficient information. This may be partially attributed to a greater reliance on non-substantiated communication brought in by outside sources.

Table 38

Group	Sufficient Communication	
	Yes	No
Support Staff	33.0%	67.0%
Client	45.0%	55.0%
Technical Managers		100.0%
Technical Staff	22.0%	78.0%
Totals	30.3%	69.7%

During the course of this project, the Manager of Fleet Services established an

employee based focus group to develop solutions to help in rebuilding morale in the work place identified as an issue in the Ray Kemper Report. The Fleet Focus Group came up with 21 recommendations, of which eleven (11) relate to communication.

- < Monthly meetings of day and night shifts
- < Share day and night shift meeting notes and actions taken as a result
- < Time limit for clear responses with explanations to questions on operation and/or staffing related issues where possible
- < Set up a Peer Group Committee to develop consider operational issues such as external services, code of conduct, respect in the work place, consultation with employee group on changes in the workplace.
- < All supervisors are up to date on information - day and night shift supervisors to communicate so all staff are aware of the same information
- < Director to visit work site on an annual basis
- < Clarity around role of supervisor and superintendent communicated to all staff
- < Standardized form for meeting results created
- < Conduct tailgate meetings - informal and team building (approximately 10 minutes)
- < Training provided to supervisors (if required) to hold effective meetings and evaluate the effectiveness of the meetings.
- < Provide access to RPAM business plan and communicate how they are contributing...understand the direction of the business unit

The Review Team supports the recommendations developed by the Fleet Focus Group in their entirety.

9.1.2 Recommendations

9.1.2.1 *Accept and implement the recommendations developed by the Fleet Focus Group. Develop on-going monitoring mechanism to ensure actions are achieving the desired outcome.*

9.1.2.2 *Improve communication and resulting decision making, employee morale and customer relations:*

- A) *Internally, ensure that information is provided on a timely basis to Fleet Support, Supervisors, Mechanics, Stores, Buyers and clients.*
Action Plan:
 - a) *Hold daily check in meetings to discuss attendance and work schedules to determine what work can stay in/go out.*
 - b) *Assigned work to night shift should be after the confirmation of known attendees. Attendees should be required to report in by 12 noon to the day supervisor or Service Advisor.*
 - c) *Hold regular monthly meetings of all staff either at the end of the workday or start of new day. Discussion should centre on work related and up coming events and safety talks.*
- B) *External communication between Fleet and Business Units should improve. Supervisors and mechanics must provide timely information to the Service Advisor in order to relay it to Business Unit managers.*

- C) *Business units must meet planned maintenance and repair times and communicate on a timely basis when unavailable. Missed appointments would result in flat fee charge applied to business unit and. (Exceptional circumstances should be defined in service agreements)*

10.0 Supporting Services

10.1

Administrative support staff are responsible for capturing, recording, maintaining and monitoring data held the information system . The information should be timely, relevant, useful, complete and accurate to be of value to decision makers and end users. Data standards and consistent processes are the foundation blocks to good internal control and effective monitoring. Job functionality which utilizes shared or overlapping responsibilities ensures management flexibility within the operation.

10.1.1 Issues and Observations

Staff that support the function of General Fleet Services are separated physically and organizationally. Within General Fleet Services, the function responsible for maintaining master data and ownership records is located apart from the information gatherers and end users of the information. Functional tasks are split between positions based on union affiliation. For example, Service Advisors (CUPE 108 member) generate the monthly work schedule, create the daily work log and print off work orders. They are first to be advised that work is completed but they can not technically close a work order. This task has been assigned to the Administrative Clerk who is a NSUPE employee. The Administrative Clerk then enters the details to the work order and then closes the work order.

Employees fill out time cards based on the work completed which has also been recorded on the work order. Supervisors sign and record the employee's daily time to an electronic time sheet which they submit to their HRIS Support person. The hard copy of the time card is sent to the Fleet Administrative Coordinator who then enters the work order time to the CO module and voluntarily double checks the daily time cards to ensure that the employee has been credited with a full day of pay. Finally, the documents are returned to the Administrative Clerk who files them away.

Material and parts functions are separated physically from each other and from the coordination point of the work. The Inventory (MRP) Buyer has no regular contact with the Parts Buyer, mechanical staff or supervisors even though one primary responsibility is to ensure that sufficient and appropriate supplies are available. The absence of material or vendor part numbers on items purchased by the Parts Buyer makes it almost impossible for the Inventory (MRP) Buyer to effectively support General

Fleet Services.

Information processing of accidents, damages and other claims are housed in another part of the HRM, with limited two way communication between the Business Units. Most communication is focussed on gathering data and very little looks at identifying and resolving cause .

General Fleet Services has not established any data standards for collecting or inputting data into text fields within the Plant Maintenance module of SAP. As a result, extracting useable information is not possible. Where data structure has been established, the variety of options available to the end users serves to discourage use rather than encourage it. There is very little monitoring of information on a regular basis by support staff except when an anomaly is discovered during a subsequent operation.

E) Bench Marking and Performance Measurements

11.0 Bench Marking

Bench marking is the practice of comparing the results of an organization's activities with those that are common to other relevant organizations. During the course of this project, research was conducted by ICURR (Urban Rural Research). ICURR contacted a number of municipalities and, based on the questionnaire developed by the Review Team, obtained information on organizational and governance structure, costing models, and operational practices such as acquisition and replacement policies from five respondents. A full breakdown of the survey questions and responses has been included in the appendices. In addition, four of the five comparative communities considered by the Review Team had undergone operational reviews in the past two years. The communities providing a response included Edmonton, Alberta; Winnipeg, Manitoba; Hamilton, Ontario; London, Ontario; and Moncton New Brunswick. Unfortunately, the Review Team was not able to obtain similar information from the private sector.

11.1 Issues and Observations

All of the five municipalities reported that they delivered services from a centralized model and that all used external services to some degree. In addition all five maintained in-house fueling facilities and provided some form of driver training. However, methods of funding and allocation of costs across the organization varied greatly. Four of the five respondents confirmed that depreciation was included in expenses, while three municipalities operated as "enterprises" or charged internal rental charges for acquisition, maintenance and use.

Four municipalities reported that they included yearly funding for updates and enhancement of their fleet management system in the charge out rates. Only one unit reported that they did not have a policy established for acquisition and replacement or a defined life cycle cost model.

The City of Hamilton developed a strategic plan to address the findings and recommendations of a detailed operational review of their Central Fleet which called for the reformation of the role of Central Fleet and the redefining its purpose and mission. From the report and strategic plan there appear to be close similarities in size, complement and client base between the HRM and the City of Hamilton. The City of Hamilton Central Fleet Strategic Plan was developed to address²⁰:

- a) *the need to improve Central Fleet's credibility and capability to support operating divisions.*

²⁰ Excerpt from Central Fleet Strategic Plan, Appendix Z - PW03147a, Page 4 of 24

- b) *the opportunity to improve the use of the fleet information system to improve workshop efficiency and management reports to customers.*
- c) *the availability of repairs and maintenance staff only on a single shift, when vehicles should be in service doing the jobs they were purchased for. Users do not have sufficient spare vehicles to fill in for vehicles out of service for repairs, causing service interruptions and downtime for operations crews.*

The use of a dedicated project lead facilitated the development of a robust and focussed action plan.

11.2 Recommendations

11.2.1 *Contingent on the acceptance of some or all of the recommendations presented in this report, Fleet Services should establish a project team led by a dedicated project leader, reporting to RPAM Business Planning and Quality Control, to develop and roll out a Strategic Action Plan to implement the recommendations.*

12.0 Performance Measurements

Realistic and relevant performance measurements provide the best diagnosis of the health of a service. They are a key component to management's control of operations. Performance measurements should reflect and match the strategic and operational objectives of the organization. Performance measurements help define success, measure service efforts and accomplishments and look at customer satisfaction.

Management professionals generally categorize performance measures into three broad categories - results, process and social indicators. Results measure (outcome measures) is a measure of the output that is related to the organizations objectives. For example, the number of pieces of equipment maintained by Fleet Services might be an indicator of relative output. The measure says nothing about how well the work was completed but does give an estimation of productivity.

Process measure relates to an activity of the organization. These are useful in measuring current, short-run performance and are easier to interpret because there is usually a close causal relationship with the inputs. Examples would be the number of pieces of equipment repaired during a snow shift or the number of special order parts completed in a day by the Parts Buyer. Process measure relates to efficiency, not effectiveness. They measure what is done, not how it helps the organization achieve its objectives.

Social indicators are a broad measure of output that reflects results of work of the organization. Social indicators are affected by external influences and only give a rough estimation of the accomplishments of the organization. They are useful in long-range

analyses of strategic problems and of limited usefulness in day to day operations. Examples of social indicators might be the number of visible minorities hired and retained by Fleet Services over a given period of time. Another social indicator may be a reduction in the number of accidents caused by HRM operators resulting in third party injuries.

12.1 Issues and Observations

General Fleet Services has not adopted formal performance measures that are regularly monitored and reported on. They do review and report on overall budget to actual outcomes and occasionally will review actual costs by vehicle and compare to similar vehicles when making replacement decisions. But this cannot be considered a true bench mark practice.

In determining appropriate indicators for General Fleet Services, the Review Team referred to the work completed by David N. Ammons in "Municipal Benchmarks," Assessing Local Performance and Establishing Community Standards, Second Edition, in 2001.

"Because the availability of reliable equipment is crucial to many municipal departments, the demand for quality service is great."²¹

Mr. Ammons' work draws on a number of studies conducted by the National Association of Fleet Administrators and municipal governments throughout North America. The benchmarks used in this report draw from his work.

Table 39

Performance Element	HRM Rating	Median - Selected Cities (2)	Industry Norm	Upper Threshold (80 percentile)
Downtime Percentage light duty trucks	2.68%	2%	NA	1%
Kilometres between Breakdowns Light duty	NA	12473	NA	29478
Kilometres per Mechanic Hour	NA	802	NA	1528
Mechanic Utilization Rate (1)	60%	66%	66%	79%
Light Equip per Mechanic	23.6	NA	45	

²¹ David N. Ammons in "Municipal Benchmarks," Assessing Local Performance and Establishing Community Standards, Second Edition, Page 175.

Performance Element	HRM Rating	Median - Selected Cities (2)	Industry Norm	Upper Threshold (80 percentile)
Heavy Equipment per Mechanic	15.8	NA	45	
Total Vehicles per Mechanic	19.7	62	60	
Employees Per Supervisor	12.3	6.5	NA	
Percentage of repairs completed < 24 hrs (of selected PM02)	46.3%	81%	75%	100%
(1) Mechanic Utilization Rate is the percentage of mechanic hours available during a year that are spent doing maintenance and repair work as opposed to other work. A relatively low rate could reflect overstaffing of inefficient uses of mechanic time.				
(2) Selected Cities - Asheville, NC; Cary, NC; Des Moines, IA; Fayetteville, NC, Glendale, AZ; High Point, NC; Indianapolis, IN; Raleigh, NC; Richmond, VA; Rocky Mount, NC.				

Developing a list of performance benchmarks is the first step in monitoring and improving the efficient and effective delivery of fleet services. It does not address how to improve, only highlights those areas where improvement is needed. Tom C. Johnson , a Fleet Management Consultant for 17 years has analysed over 3,500 fleet operations. He has compiled much of his experience into a book, "If It Was Easy, They Wouldn't call It Hard. The 7 Qualities of the 100 Best Fleets In North America." The book focuses on the softer side of fleet management and the development of viable teams in fleet environments. His observations are very similar to that observed by the Review Team.

Following are the 7 qualities of the 100 best fleets in North America, according to Tom C. Johnson.

Seven Qualities of the 100 Best Fleets in America²²

1. Accountability - Set standards/goals and expect them to be met
2. High Technology - Shop is working from a position well supported by technology; fleet software system; diagnostic tools; fuel management system; etc
3. A High Trust Culture - Employees feel confident to contribute or even disagree
4. Acknowledgment - Skills and accomplishments are celebrated
5. Collaboration - Staff participation is sincerely encouraged
6. Creativity - Encourage employees to go beyond what is expected
7. Celebration - Have fun at work, enjoy being there

²² If It Was Easy, They Wouldn't Call It Hard, Tom Johnson, Page 31 - 37

12.2 Recommendations

12.2.1 *Develop processes to capture data to report on the following performance measures to augment life cycle analysis:*

- a) *Establish standards of achievement from best practice ratios for the following performance measurements.*
Or, determining the current level of performance and use it as the baseline to establishing future performance improvements.
1. *Fleet availability or downtime,*
 2. *Task Job standards (PM02-A),*
 3. *Ratio of vehicles to mechanics,*
 4. *Ratio of employees to supervisors,*
 5. *% of parts filled from inventory,*
 6. *% repairs completed within 1 day (by shop),*
 7. *% repairs completed within 3 days (by shop),*
 8. *Number of repeat repairs (planned, unplanned work),*
 9. *Mechanic utilization rate (% by overall, individual, shop),and*
 10. *Days (kms) between breakdowns (km utilization).*

12.2.2 *Improve regular reporting to Senior Management and Council.*

- a) *Report on performance measures on a quarterly and annual basis to the Director of RPAM and EMT.*

Appendices

Terms of Reference

Operational Review - General Fleet Services

Background:

General Fleet Services is a section of Fleet Services, Real Property and Asset Management. General Fleet Services is responsible to maintain the general fleet and small equipment base of the HRM in support of major operational units such as Public Works & Transportation, Environmental Management Services and Real Property & Asset Management's Parks & Ground and Facility Operations. Also included under Fleet Services is the maintenance of the emergency fleet for Police and Fire Services.

During the business planning process a number of business units raised concerns regarding the service delivery of fleet services. In addition, Business Systems and Control had identified a number of issues as a result of work completed in prior reviews and studies - specifically the Operational Review of Transit Fleet Services (2002), Snow and Ice Operational Review (2003) and the Fuel Depot Spill (2003.)

Objectives:

1. To ensure that the current service delivery model meets organization and end user objectives for accountability, efficiency and effectiveness.
2. To report on findings and provide recommendations (where necessary) for improvement in service delivery to meet the Corporate Scorecard objectives for "Excellence in Service Delivery."
 - HRM utilizes management tools that provide current information on the state of its finances, assets, human resources and service performance.
 - The delivery of HRM services has become more efficient and effective in meeting the needs of citizens, through greater integration and cooperation.

Scope:

1. The review will focus on the accountability, monitoring and reporting structure used in General Fleet to determine if the current strategies and processes are meeting its clients and the organization's needs. This will require in-depth analysis of:
 - Short and long term planning processes and procedures
 - Financial reporting structure - authority, accountability

- Internal controls to monitor adherence to planning objectives such as performance measurements
 - Reporting processes leading to decision making
 - Decision making and relationship structure between clients and service provider
2. The review will look at both manual and electronic processes and tools to confirm process efficiencies are in place and working as anticipated.
 3. The review will also identify the accountability structure and related processes in the delivery of emergency fleet services to determine if current strategies and processes are meeting client and organizational needs.

Methodology:

Drawing upon the details and findings of a variety of reports relating to fleet services such as the Fuel Depot Investigation, Snow and Ice Operational Review, Depot Rationalization Study and the Ray Kempster Report, the Review Team will:

- Conduct interviews with all stakeholders and other business units who are affected by or who affect General Fleet Services.
- Research and benchmark with other General Fleet Services and best practice with the public and private sectors.
- Conduct statistical, organizational and financial analysis

Outcomes:

A written report with supporting documentation that provides:

- Detailed description of accountability framework, planning processes and business practices for General Fleet Services with benchmarked data of current performance.
- Identification of significant issues affecting the delivery of service to clients and the organization.
- Recommendations for addressing problems and building on strengths.
- Recognition of efficient and effective practices.

Time frame:

The project is scheduled to begin September 2004, with a 1st draft of the report available by December 30, 2004. An interim report outlining significant issues identified to date by November 1, 2004.

Project Team:

The project team will consist of Abel Lazarus, Business Consultant, BSCG; Cathie Osborne, Team Leader, BSCG; and Maria Medioli, Lead Business Planning and Quality Improvement, RPAMS who will act as primary contact for RPAMS. The Team will also draw and rely upon in-house expertise of key stakeholders providing and/or affiliated with the delivery of this service. This will include the Manager of Fleet Services, Supervisor(s) of General Fleet Services and staff providing direct administrative support, scheduling and information technology services.

Business Unit Commitment:

Real Property and Asset Management Services commits to providing the staff resources identified above and access to the following information:

- policies, procedures, files, job descriptions, performance measures, service standards and/or agreements
- organizational chart
- list of clients, service providers (internal & external) and contacts
- access to all electronic and/or paper information necessary to complete the project
- Financial data including budget, actual reports, fleet inventory (vehicle & equipment)
- Operational Plans, goals & objectives
- Vehicle/Equipment - Procurement and replacement policies, strategies, life cycle plans.

Acts and Supporting Regulations, affecting General Fleet Services

Provincial Act	Supporting Regulations (Selected)
Occupational Health and Safety Act	Disclosure of Information Regulations Fall Protection and Scaffolding Regulations Occupational Health and Safety First Aid Regulations Occupational Safety General Regulations Temporary Workplace Traffic Control Regulations Workplace Hazardous Materials Information System Regs
Apprenticeship and Trades Qualifications Act	Automotive Service Technician Trade Regulations Motor Vehicle Body Repairer (Metal and Paint) Trade Regulations Heavy Duty Equipment Technician Trade Regulations Truck and Transport Mechanic Trade Regulations Trade Names Equivalency Regulations Welding Trade Designation
Motor Vehicle Act	Alcohol Rehabilitation Programs Classes of Vehicles to be Tested at Official Testing Stations Classification of Drivers' Licenses Commercial Vehicle Carrier Profile and Compliance Commercial Vehicle Drivers' Hours of Work Regulations Commercial Vehicle Maintenance Standards Commercial Vehicle Permit and Registration Commercial Vehicle Transfer of Registration Commercial Vehicle Trip Inspections and Records Regulations Equipment Approval Regulations Expiry Date of Licenses Identification and Proof of Registration Inspection Stickers Motor Vehicle Inspection Multi-Classification Vehicles Registration Fees for Commercial Motor Vehicles

Provincial Act

Supporting Regulations (Selected)

Registration Fees for Trailers

Seat Belt Regulations

Securing of Loads on Vehicles

Standards of Vehicle Equipment

Trailer Couplings and Other Safety Devices

Vehicle Warning Lights

Windshield Stickers

Weights and Dimensions of Vehicles

FINANCIAL SERVICES - Business Systems and Controls

MEMORANDUM

TO: Mike Aucoin, Acting Manager, Business Solutions, IT

FROM: Cathie Osborne, Team Leader, Business Systems and Control

DATE: November 10, 2004

SUBJECT: General Fleet Operational Review - System Questions

As you know Abel and I are conducting an operational review of General Fleet Services. We have been temporarily located at Turner Drive since October 4th. The focus of the review is to identify and evaluate business processes for efficiency and effectiveness and confirm overall corporate accountability. Although this review is sanctioned by Director Mike Labrecque, we are conducting the review from the corporate perspective as part of our overall business plan, approved by the CAO.

We have a number of systems related questions that appear to have direct impact on many of the business processes (off and on system) currently utilized by General Fleet. We need to clarify and put into perspective decisions made during SAP rollout and configuration to the current processes so we can develop appropriate short and long term recommendations. We believe your staff can provide some, if not all, of the answers we seek.

As with most projects, we are under a time constraint and need to finish all field work and prepare findings and recommendations by December 30, 2004. We are circulating our questions in advance of setting up a meeting with appropriate staff in an effort to accelerate the process. If you could let me know how much prep-time is needed, I will schedule a meeting accordingly.

Cathie Osborne, CGA, CMM

1. Settlement orders versus cost centre direct.
 - A) What were the parameters and/or issues that led to the use of settlement orders?
 - B) In some business units the use of settlement orders is more detailed. Any comments on the choice of detailed over general? Is there another process within SAP that can/does provide greater details. IE PWT uses SNOW, SALT which collect 500K in charges each year with little detail able to be broken out.
 - C) Can the settlement order function be used to create an automatic journal entry for FI posting? (It is currently just a report)
 - D) What led to the decision to not post labour hours from PM to another module? IE SAP HR or CO or CATS.
 - E) Under Organization tab in Equipment Master file there is a field title "cost centre, " as well as "settlement order." Are these two features mutually exclusive as a whole or can the system be configured to allow for either posting mechanisms?

2. Date fields within SAP within the Plant Maintenance Module.
 - A) Are there set definitions for the use of different dates? For example, what is the difference between the dates
 - B) Which date fields are available?
 - C) Which ones are used and not used?
 - D) What subsequent operations rely on which date fields?

3. Plant Maintenance Module - Maintenance plans
 - A) Each vehicle has its own unique set of maintenance plans. Is this configuration or system program issue? IE one vehicle –multiple plans
One plan –one vehicle

4. Complete (technically) vs Complete (Business) on work orders.
 - A) What is the difference in these processes? To subsequent operations.
 - B) Why can MM still post items through a Complete (technically) work order?
 - C) Does the tolerance levels set between a goods receipt and a final invoice affect either the technically complete or business complete processes? Is this a configuration choice? Why was it made?

5. Multiple account assignments on work order items and multiple line items on

Purchase orders, standing orders, req's.

- A) Is there a correlation between these to activities?
- B) If all charges were posted to work orders would PO line items and release strategy function properly?
- C) What is the basis for not using purchasing requisitions with work orders?

6. Work order - material commitments

- A) Explain the method of accounting used to move commitments to actuals?
- B) Do pending purchases from Fleet appear as a committed detail in FI or CO?

7. Vehicle Master File

- A) Can we assign attachments to primary gear? For example, a uniquely number front plow to a uniquely numbered heavy piece of gear?
- B) If so, what led to the choice to not capture accessory gear uniquely but bundled into a non-descriptive equipment number "SNOW?" Technical objects to Super Equip.
- C) Could we use Sticker # and License Expiry fields to capture registration information? Is there a subsequent process that could be run to trigger a scheduled event? Also "validity end date"?

8. Functional locations

- A) What is the relationship (if any) between the use of functional locations and settlement orders?

9. Planned Maintenance

- A) Where and who assigns a mandatory measurement point when closing a work order? *Create equipment, general data*
- B) Why do we not require that a measurement point be captured and input into the system when work is completed?
- C) Mileage information - Could it be fed from another system for a more accurate reading of vehicle usage? Say the Fuel system?
- D) Who and how is the task listing for each maintenance plan maintained?
- E) Object Item List - appears to be able to identify material needed to complete a specific maintenance plan and reserve it. Is this correct and can it be configured for HRM? (If tied to task list?)
- F) What can the "assign and issue permit" functionality available under equipment master be used for?

10. Vehicle specifications and fuel consumption.

- A) Is vehicle specifications a functionality of FM only? What about fuel consumption?
- B) Why does fuel not charge directly through to cost centre by vehicle?

- C) Can the Computrol system, if capturing accurate km's, feed automatically to a measuring document for vehicles within SAP?

Supervisor Questionnaire

Name: _____ Position: _____

Supervisor: _____ Hours/Days of Work: _____

1. General overview of services provided _____

2. How are these services provided and by who:
- a) Vehicle Assignments - Who would you say is the owner of the vehicle? If BU, what is Fleet Services' responsibility?
 - b) General or Preventative Maintenance - Is most of the work scheduled or unscheduled? What is the process under each category? What is the biggest issue?
 - c) Repairs and/or upgrades - Do you advise the BU of major repairs and how before they begin? Who is required to approve major repairs/upgrades? If you were the decision maker what criteria would you use to determine:
 - a) Yes, do the repair
 - b) Timing of the repair
- Are you familiar with the use of warranties? If so, what is the process?
- d) Emergency Repairs - What is the level of satisfaction with services provided by the BU? (Specific BU if possible)
 - e) Acquisition - Who has input into design - criteria used, decision making?
 - f) Disposal - Who has input into decision - criteria used
 - g) Financial - estimates, actual - Do you provide an estimate of the costs to operate, maintain or repair the equipment prior to repairs beginning? If so, what is the process you use to reach an estimate? Do you compare estimates to actual? If so, what steps (if any) do you take when the variance is unusual?
 - h) Financial - reporting, monitoring - How often do you receive or run a report

on the usage and costs of the equipment you are responsible to maintain?
What tools do use to monitor usage, costs, etc.?

- i) Vehicle registration - Who pays?
 - j) Vehicle insurance - who pays, what is the process to make a claim?
 - k) Accident and damage reporting and/or resolution - Explain the process that occurs when there has been an accident or damage noted. What is the most common type of damage seen?
 - l) Vehicle fuel - Do you monitor or track fuel usage by vehicle, cost centre, etc?
3. Considering the above listing, to what extent (if any) do you (or your staff) get assistance from another section/business unit in supporting the activity? (IE daily vehicle logs, vehicle delivery, etc)
4. a) Are you aware of any policies and/or procedures relating to the acquisition, use and/or disposal of vehicles?
Corporate
Business Unit
- b) When acquiring vehicles or equipment, what process do you use? (IE tender, Visa)
- c) What criteria would you use to select the type and/or class of vehicle or equipment used in your operation?
- d) Is there a procedure in place that considers whether to buy or lease a vehicle or equipment?
5. What three things would you change in the way Fleet Services operates? (IE communication, work assignments, charge outs, etc)
6. Planning and Strategy
- a) What is your vision for your section?
 - a) Next 2-4 years
 - b) 5-7 years
 - b) How has this been communicated to your employee group?
 - c) What, if any, input have the Foremen and staff had in this process?

- d) Do you have a service or operational plan? (Copy available?) How was this developed? (Who, when, what)

7. Monitoring Outcomes

- a) What outcomes do you monitor? How do you monitor? (Tools, systems, processes, etc) How often? What are the normal outcomes? How were the normal outcomes/standard measures developed? If there is a deviation from the normal outcome, how is it resolved?
- b) What information and how often do you provide it to the Superintendent or Paul? What do you use to support that information? Are any other staff utilized in assisting with the information provided?
- c) What standards of measurement do you review, how often and what is the process used to improve operational processes and outcomes?
- d) Do you have minimum delivery standards with any of your clients? IE winter gear

8. Human Resources and Organizational Structure

- a) What method or decision process do you use in determining if there are sufficient resources available to meet the operational requirements? Vacation, TOIL, training opportunities, etc?
- b) What is your assessment of staff's ability to perform the required job functions?
- c) Do you have a reward system? What do you reward ?
- d) What would you like to be able to do as a means of rewarding positive employee input, behaviour, etc

9. Communication

- a) How often do you communicate with employees, individually, small groups, formal meetings?

MEMORANDUM

TO: Staff and Employees of General Fleet Services

FROM: Cathie Osborne, Team Leader Business Systems and Control

DATE: November 16, 2004

SUBJECT: Opportunity to participate in Operational Review and discuss business processes

As you are aware, Abel Lazarus and I have been asked to conduct an operational review of General Fleet Services. An operational review looks at how work is carried out. We evaluate work flow processes and confirm what works well and what doesn't.

Over the past few weeks we have been focusing on gathering information on:

5. What type, numbers of equipment is maintained?
6. For who is the equipment maintained?
7. What are the processes to acquire, maintain and dispose of a piece of equipment?
8. What policies, procedures, guidelines are in place to direct the processes?
9. What staff and employee positions are involved in the process?

Up to this point we have been speaking with General Fleet Supervisors, Support Staff and various Client Representatives. We now need to clarify work flow from the point of view of the employees that actually carry out the technical work. That is, from you.

Given the time set aside to complete this project it is not possible for us to speak with every employee in General Fleet Services. Nor is this necessary as the way work is assigned and completed will be similar across positions. However, there may be differences depending on shift assignments and between different positions. (IE Mechanic, Repair Person, Welder)

It is normal in this type of review for the Project Team to randomly select employees to participate based on general criteria. In this case, general criteria for selection will be by position within a shift. The Project Team would like to speak with HD mechanics, Automotive and Bus Transport Mechanics, Utility Workers, Mobile Mechanics and Welders from the Heavy Duty Shop, the Light Duty Shop and from the Night Shift.

While participation in this process is voluntary, we urge you to participate if your name is randomly selected. All information you provide will remain confidential as to source and not used in any way as to identify you. If your name is not selected but you would like to participate in this process, and time permits, please contact me by cell phone at 476-8374, to arrange a meeting time.

Abel and I look forward to meeting with you and gaining a better understanding of the work processes that impact on the critical work you do for the HRM.

Sincerely,
Cathie Osborne, CGA, CMM

Employee Questionnaire

Name: _____ Position: _____

Supervisor: _____ Hours/Days of Work: _____

1. General overview of services provided _____

2. Physical Work Environment

Are you assigned to a specific bay location? If not, how do you transport your tools and equipment needed to complete the work?

How would you describe your physical work location in terms of working space, light, comfort, and functionality (Very Good, Good, Poor) and why?

3. Assignment of work

How are these services provided and by who:

- a) Who assigns the vehicles to be worked on? Who would you say is the owner of the vehicle? If BU, what is Fleet Services' responsibility?
- b) General or Preventative Maintenance - Is most of the work scheduled or unscheduled? What is the process under each category? What is the biggest issue?
- c) Repairs and/or upgrades - Do you advise the BU of major repairs and how before they begin? Who is required to approve major repairs/upgrades? If you were the decision maker what criteria would you use to determine:
 - a) Yes, do the repair
 - b) Timing of the repair
- d) Financial - estimates, actual - Do you provide an estimate of the costs to operate, maintain or repair the equipment prior to repairs beginning? If so, what is the process you use to reach an estimate? Do you compare estimates to actual? If so, what steps (if any) do you take when the variance is unusual?
- e) Accident and damage reporting and/or resolution - Explain the process that occurs when there has been an accident or damage noted. What is the most common type of damage seen?

4. Material and Supplies
 - a) Do you have the appropriate and/or sufficient supplies necessary to complete your work when you need it?
 - b) What is the process you use to acquire the materials and supplies needed? Does it work well? How could it be improved?
5. Tools and Equipment
 - a) Do you have the appropriate and/or sufficient tools and equipment necessary to complete your work?
 - b) What is the process used to acquire the tools and equipment? Does it work well? How could it be improved?
 - c) Do you have the necessary information you need to do your work? IE historical information on vehicles. If so, where and how do you access this information?
6. Policies, procedures or guidelines
 - a) Are you aware of any policies, procedures or guidelines that impact on the work place and/or processes?
 - b) Are they affective and/or followed?
 - c) How were you made aware that they existed?
 - d) Are there any policies, procedures or guidelines missing that would help you in completing your tasks more quickly or efficiently? (Examples)
7. Communication
 - a) Do you have regular meetings to discuss upcoming work requirements or events? If so, how often? If not, how are you made aware of upcoming events?
 - b) Has information on the business unit's long term vision, business plan and performance measures been shared with you? If so, how?
8. What three things would you change in the way Fleet Services operates? (IE communication, work assignments, tidiness of shop, etc)

