

## EXECUTIVE SUMMARY

### **Introduction**

Transportation Consultants, Inc. is pleased to submit our report, summarizing the results of our performance audit of Metropolitan Government of Nashville and Davidson County (Metro) Fleet Operations. This report is part of a Metro Internal Audit report dated November 2001. This audit, conducted under the Internal Audit Section of the Department of Finance, was performed over a six-month period from late March 2001 to September 2001. Our scope of services centered on a comprehensive performance audit of the various Fleet Operations within Metro to assess the efficiency and effectiveness of fleet operations and report on the results of that work. Our review was broadly governed by the precepts of Government Auditing Standards that directed us to focus on:

- Economic and efficient use of resources
- Underlying causes of inefficiencies or uneconomic practices
- Compliance with laws and regulations
- Whether results achieved match the expectations of the authorizing body
- Effectiveness of the various operations

Our review concentrated on all those entities within Metro that maintained a fleet of vehicles or similar equipment. Based on the results of our work, we have categorized the results of our work for Metro Departments, Schools, and Component Units and have organized our report as follows.

Metro Departments that report directly to the Mayor include the following departments:

Water Services  
Fire Department  
Parks  
Public Works  
General Services Motor Pool

This **Executive Summary** includes an overview of the findings related to those departments, followed by our overall recommendations for Metro's fleet operations. The recommendations are followed by an implementation strategy and a summary of benefits and financial impacts.

**Chapter One** provides the detail behind the findings related to the Metro Departments and a discussion of the findings surrounding the practices and operations impacting those departments, including:

Vehicle Assignments  
Radio Operations  
Parking/Traffic Violations  
Central Motor Pool Vehicle Replenishment  
Motor Vehicle Fuel  
Vehicle Insurance

**Chapter Two** includes other recommendations related to the Metro Departments, some of which should be considered for immediate implementation.

School fleet operations fall under the governance of the Metropolitan Board of Education (MBOE) and are addressed in **Chapter Three**. Funding of the MBOE is ultimately the responsibility of the Mayor and Metropolitan Council, and there are several operational aspects of MBOE that are administered or coordinated by other central Metro departments. The school fleet operations, however, have a number of unique aspects that must be addressed separately from other Metro departments.

Component Units include Nashville Electric Service, the Metropolitan Transit Authority, and the Metropolitan Development and Housing Authority. After conducting fieldwork at each of these locations, we concluded that each of these entities' operations are such that there would not be near term benefits in considering general integration or significant coordination with other Metro departments at this time. As a result, our findings and recommendations for the component units, including a few recommendations for specific areas of coordination that could produce benefits, are addressed in **Chapters Four, Five and Six**.

### Work Performed

Transportation Consultants, Inc. executed the following work plan over our May – August field work. The months of September, October and November were devoted to data analysis, report preparation, out briefings and the like. Our work plan consisted of the following general steps for all nine maintenance units:

- Operational Reviews/Observations
- Documentation of Users Viewpoints
- Data Collection (Performance and Cost)
- Assessment of Management Processes
- Resource Assessment

- Review of Facilities and Equipment
- Assessment of Fleet Financing, Fleet Information/Fleet Replacement
- Review of Inventory Systems
- Assessment of Maintenance Management (Area of Emphasis)
- Review of Fuel Management
- Compilation of Strategic Issues
- Formulation of Findings and Recommendations, Implementation Plans and Anticipated Benefits

A few of the key performance outcomes set forth by Metro in the Request for Proposal include:

- Comparison of Metro's fleet and fuel processes to best practices.
- Evaluation of operating efficiency and effectiveness.
- Major strengths and weaknesses for all operational areas.
- Specific deliverables, including replacement plans, cost recovery, consolidation of facilities and similar analyses.

Unless otherwise specified, industry standards cited are based on TCI's direct research and experience gained while performing over 180 fleet studies nationwide. The consultants were also tasked with reviewing other related operations and practices such as a review of the Radio Shop, disposition of parking tickets, and vehicle assignment policies.

### **Findings**

The following comments are regarding the operations of the Metro departments. We might note that these operations are large and complex, e.g.:

- 108 employees are directly involved in the maintenance process.
- Approximately \$6,000,000 is expended on fuel annually.
- Excluding fuel, approximately \$8,734,000 is expended for labor, parts and outside services for the Metro vehicles.
- Maintenance operations occupy 140,000 square feet of garage space with 97 bays spread over ten buildings in six locations.
- Automotive parts value, where enumerated, approximates \$725,000.
- The vehicle cost per FASTnet exceeds \$83,000,000.

Following is a summary of the collective condition of Metro's departmental fleet operations.

AREA	FINDING	INDICATORS
Professional Fleet Management	<ul style="list-style-type: none"> <li>• With the exception of the General Services Motor Pool, Metro has made little effort to consolidate or manage fleet operations.</li> <li>• Department level managers are not trained in fleet management, and often appear ambivalent in fleet operations.</li> <li>• Fleet operations are often combined with other functions at a low level within a department.</li> <li>• User groups are not impressed with the service, and have little interest in playing their role to ensure a safe and well-maintained fleet.</li> </ul>	<ul style="list-style-type: none"> <li>• No common practices or procedures.</li> <li>• Inconsistent policies and methods of operation.</li> <li>• A wide range of fleet replacement practices and fleet conditions.</li> <li>• Lost opportunities in areas of better utilization of equipment and labor.</li> <li>• A wide range of operating management and supervision in terms of skills and attitudes.</li> <li>• Operators are not well trained, checklists are ignored and vehicles are mistreated.</li> <li>• Capital necessary for fleet replacement is often spent on other needs.</li> <li>• No pooling of vehicles and equipment.</li> </ul>
Fleet Replacement and Utilization	<ul style="list-style-type: none"> <li>• With the exception of the Police fleet, the fleet is quite old.</li> <li>• Vehicles are often repaired well after they have exceeded their useful life.</li> <li>• Over 300 vehicles are seldom or never used.</li> <li>• In some departments capital funds are not sufficient for vehicle replacement.</li> </ul>	<ul style="list-style-type: none"> <li>• The median age of heavy vehicles is 1990 (11 years).</li> <li>• The median age of light vehicles, excluding the police fleet (which is very current) is 1994 (7 years).</li> <li>• The number of vehicles in the Fire, Public Works, Parks and Water fleets that are judged to be inactive exceeds 300.</li> <li>• Vehicle replacement funds compete with all other capital needs.</li> <li>• Replacement practices are supply driven.</li> </ul>

AREA	FINDING	INDICATORS
Operational Efficiency and Effectiveness	<ul style="list-style-type: none"> <li>• TCI found all five garages to be inefficient in terms of either cost or safety.</li> <li>• Administrative processes and procedures varied widely between locations and were not documented.</li> <li>• Most business practices are poor.</li> <li>• Many functions are duplicated.</li> <li>• The existing locations are sometimes too small to justify appropriate systems and support.</li> <li>• Fleet effectiveness was deemed questionable.</li> </ul>	<ul style="list-style-type: none"> <li>• In all cases, efficiency measures were below TCI’s expectations and industry norms. An example is mechanic utilization ranging from 39% to 55%, when the norm is 75%.</li> <li>• Training was sporadic or inconsistent.</li> <li>• Appropriate mechanic certification was not found in all locations.</li> <li>• Administrative support was either behind, overstaffed, or non-existent.</li> <li>• Procedures were either non-existent or incomplete.</li> <li>• In some cases, cost accounting for the fleet was incomplete or non-existent.</li> </ul>
Maintenance and Preventative Maintenance (PM)	<ul style="list-style-type: none"> <li>• Maintenance quality ranged from fair to poor.</li> <li>• PM programs were generally undisciplined, not timely and/or poorly performed.</li> <li>• Training and certification opportunities were not consistent for mechanics.</li> <li>• There is very little control over PMs’ due, in part, to asset ownership issues.</li> <li>• Operators are not cooperating in the PM scheduling process.</li> </ul>	<ul style="list-style-type: none"> <li>• Each operation has multiple road service calls daily.</li> <li>• Poor fleet utilization.</li> <li>• A low ratio (well under 50%) of preventative to corrective maintenance when the norm should exceed 50%.</li> <li>• There was very little emphasis on mechanic certification.</li> <li>• In performing indepth inspections on 127 heavy trucks, TCI encountered over 1,100 safety and operating defects.</li> </ul>

AREA	FINDING	INDICATORS
Garage and Vehicle Safety	<ul style="list-style-type: none"> <li>• Safety is not a priority.</li> <li>• Unsafe vehicles were in operation at most locations.</li> <li>• Multiple safety violations were found in all garages and many locations where vehicles were in use.</li> <li>• Tire programs are erratically applied.</li> <li>• Metro has significant exposure in the area of safety.</li> </ul>	<ul style="list-style-type: none"> <li>• TCI did not identify one effective safety program.</li> <li>• TCI’s inspections found multiple vehicles with unsafe operating conditions. These conditions included slick tires, improperly inspected air brakes, frayed belts and hoses and severely corroded batteries.</li> <li>• Each location visited had stacks of used tires collecting rainwater, attracting mosquitoes.</li> <li>• Each location had multiple service calls daily on tire and battery problems.</li> </ul>
Fleet Management Information Systems and Reporting	<ul style="list-style-type: none"> <li>• There is no consistency in methods or systems.</li> <li>• Goals and expectations vary from none at all to those that are just evolving.</li> <li>• All of the locations have some type of significant information system problem.</li> <li>• Financial reporting relative to fleet management is inconsistent between departments, as is reporting accuracy.</li> <li>• Budgets are sometimes over-stated.</li> </ul>	<ul style="list-style-type: none"> <li>• Two garages have strictly manual systems. Each of the other facilities uses a different computer system. Only one location has a system that is reliable from an operational standpoint.</li> <li>• Three of the garages have very little management reporting. The remaining two garages are in the early stages of developing reports and targets.</li> <li>• The two manual systems have little report information of any type.</li> <li>• Motor Pool has problems with billing information and multiple databases. Public Works has recurring down time on their system.</li> <li>• There is no consistency of management reporting, and the wrong items are often measured.</li> <li>• Some system controls were bypassed with manual forms usage.</li> <li>• Two garages consistently under run budget by over \$500,000 annually.</li> <li>• Vehicle maintenance costs are sometimes combined with those of other functions.</li> </ul>

AREA	FINDING	INDICATORS
<p>Repair Parts and Inventory</p>	<ul style="list-style-type: none"> <li>• Parts procedures varied from location to location.</li> <li>• Inventory effectiveness was poor.</li> <li>• Parts availability was poor.</li> <li>• Procurement was often governed by “low bids” rather than by performance reliability or user input on requirements.</li> </ul>	<ul style="list-style-type: none"> <li>• Mechanics complained that parts were not available as needed.</li> <li>• Parts availability (fill rates) was not calculated or targeted by fleet staff.</li> <li>• Parts inventories contained obsolete items.</li> <li>• Parts turned slowly (sometimes less than twice per year).</li> <li>• No reliable service history is kept on parts. Warranty claims on parts are not always made.</li> <li>• There are inadequate internal controls over parts inventories.</li> </ul>
<p>Fleet Appearance</p>	<ul style="list-style-type: none"> <li>• The fleet appearance does not meet expectations.</li> </ul>	<ul style="list-style-type: none"> <li>• Many vehicles are operating with dings and dents.</li> <li>• There is little provision for vehicle cleaning (inside or out).</li> <li>• Operators often turn in vehicles for maintenance in dirty condition. It is difficult for mechanics to be proud of repairing these vehicles.</li> </ul>
<p>Organizational Climate</p>	<ul style="list-style-type: none"> <li>• Users have been conditioned to accept mediocrity in maintenance, information and communication.</li> <li>• A wide range of skills and work ethics were noted in first line management and supervision.</li> <li>• Morale problems exist in two of the five garages.</li> <li>• Mechanics believe that their skills are not respected.</li> </ul>	<ul style="list-style-type: none"> <li>• A usual response concerning the fleet condition is, “they do the best they can with what they have”.</li> <li>• Because of poorly trained or motivated first line supervision, the fleet is poorly maintained in two locations.</li> <li>• Two of the five garages have a history of unhappy employees and grievances.</li> </ul>

AREA	FINDING	INDICATORS
Vehicle Assignment (take home vehicles)	<ul style="list-style-type: none"> <li>• Policies governing the use of take home assignments are not understood or kept current.</li> <li>• Take home vehicle assignments are inconsistent throughout Metro.</li> </ul>	<ul style="list-style-type: none"> <li>• There is no central record of 24-hour vehicles, and it is unclear whether IRS regulations are being followed in all cases.</li> <li>• Guidelines vary between departments</li> <li>• The use of take home vehicles and private tags is sometimes considered a benefit for certain jobs.</li> <li>• Information concerning payroll and IRS treatment is not widely disseminated.</li> <li>• The current take home policy was issued in 1989. Portions of the policy are not documented.</li> </ul>
Replenishment of Motor Pool Operating Fund.	<ul style="list-style-type: none"> <li>• The cash fund for replacing motor pool vehicles is declining.</li> <li>• Vehicle replacement has been handled in an inconsistent fashion.</li> <li>• Procedures and processes concerning fleet replenishment are not well documented.</li> </ul>	<ul style="list-style-type: none"> <li>• The current asset portion of the fund has declined from \$10,000,000 in 1999 to \$4,300,000 on June 30, 2001.</li> <li>• Users have little information concerning the replenishment process.</li> <li>• The current rate for police vehicles is significantly less than required.</li> </ul>
Fuel Operations	<ul style="list-style-type: none"> <li>• Fuel use and distribution is not coordinated Metro wide.</li> <li>• Record keeping for fuel purchasing is not centralized.</li> <li>• Expertise on fuel purchasing and storage varies widely.</li> <li>• Efforts to monitor tank inspection and reporting are disjointed and separated from the units responsible for dispensing fuel.</li> </ul>	<ul style="list-style-type: none"> <li>• Several Metro departments were purchasing higher octane than required.</li> <li>• Fuel usage and shrinkage is not monitored consistently.</li> <li>• Even for tanks that are properly installed and have appropriate measuring devices, no process is in place to monitor for leaks.</li> <li>• It took TCI and Metro Internal Auditing five months to find the status of tank inspections.</li> </ul>

Overall, our performance audit concludes that Metro departmental fleets are disjointed, costly, inefficient, ineffective and, in many cases, unsafe. Furthermore, we found an aging, oversized fleet that is poorly maintained, has inadequate administrative support, and has poor or nonexistent fleet management information with a ponderous parts inventory system with weak internal controls. Poor preventive maintenance practices and a disinterested operator work force exacerbate the situation. TCI has completed dozens of reviews such as this and Nashville clearly ranks in the bottom 25% (if not the lowest 10%) that we have worked with over the years. In fact, the only best practice we could identify would be the on-line surplus property auction process.

There were signs of improvement. In most areas new management has been put in place. There is a core of competent and certified mechanics in three departments, and two component units have well maintained fleets. The Nashville Electric Service has the best run fleet in Metro.

### **Recommendations**

Our overall recommendation is that all fleet operations and all vehicles, heavy equipment, and other related equipment be transferred to a consolidated, centrally managed fleet function that will serve all Metro departments. This would include:

- Immediate formation of an **Office of Fleet Management** to govern a consolidated fleet function.
- A consolidated fleet function that operates as an **Internal Service Fund** with central ownership of fleet assets and full cost recovery.
- A new **fleet information system** for all fleet components that represents the latest technology and meets the basic requirements of asset control, work order processing, fuel and financial interfaces, inventory control and vehicle history.
- Agreed upon, published **metrics** that clearly state the performance goals of the organization and serve as a basis for intergovernmental service agreements.
- A vehicular fleet that is 85 - 90% of the current size and governed by an industry standard replacement schedule.
- Consolidation of a myriad of facilities into **three** main facilities for heavy, light and grounds equipment, plus one facility for limited preventative maintenance activities.
- Recognition that a strong, compliant **preventive maintenance system** should be the center point of operations.

Following is a summary of the major recommendations affecting Metro's departmental fleet operations. As detailed later in this section, these recommendations are expected to save over \$2,900,000 in operating expenses over the next 5 years.

**RECOMMENDATIONS**

AREA	RECOMMENDATION	BENEFITS
<p>Professional Fleet Management</p>	<ul style="list-style-type: none"> <li>• Create a strong, centralized fleet management function. This would be accounted for in one internal service fund, which would own the vehicles.</li> <li>• Charges would be made to the user departments of vehicles to recapture all costs (100% cost recovery).</li> <li>• Hire a professional fleet manager to manage this organization. This individual will manage a complex and important organization. Pay and benefits should be appropriate to the task.</li> <li>• Improvements should be made in administrative procedures, inventory management, business practices and the hiring, certification, and training of mechanics.</li> <li>• A new management team (Analysis, Technical Operations, and Administration) should be put in place. Existing managers and supervisors would apply for the positions for which they qualify.</li> <li>• The Office of Fleet Management (OFM) should be responsible for coordinating fuel purchasing and reporting Metro wide.</li> <li>• The OFM should issue new comprehensive policies and procedures; clear guidelines on the use of take home vehicles and updated departmental lease agreements.</li> <li>• An interim plan should be implemented until full implementation by 1/1/03.</li> </ul>	<ul style="list-style-type: none"> <li>• A smaller, safer and well-maintained fleet.</li> <li>• A significant reduction in the number of vehicles obtained through the salvage of inactive vehicles, the implementation of pooled heavy and specialty vehicles and a reduction in the number of take- home cars.</li> <li>• Long-term reduction in capital requirements through better management of repair parts and equipment inventory.</li> <li>• Over time, a reduction in the number of employees involved in fleet management.</li> <li>• Metro-wide improvement in effectiveness created by vehicles that are not out of service or require road calls.</li> <li>• Better coordination of the purchasing and storage of the biggest fleet expense – fuel.</li> </ul>

AREA	RECOMMENDATION	BENEFITS
<p>Operational Efficiency and Effectiveness, Maintenance and Preventative Maintenance, and Garage and Vehicle Safety.</p>	<ul style="list-style-type: none"> <li>• The current network of six locations will be consolidated to two major garages, augmented by two smaller facilities.</li> <li>• The two major garages will be organized by type of vehicle – light and heavy. Two daily shifts will be needed in both.</li> <li>• A new Light Vehicle Garage (new construction or public acquisition) should be planned if the existing location will be developed for other uses.</li> <li>• The existing Motor Pool location will serve all light (3/4 ton and below) units on an interim basis, and could serve on a long-term basis with minor modifications.</li> <li>• The existing Public Works garage should be the main repair location for all heavy and specialty trucks.</li> <li>• A smaller facility, probably in the existing Parks space, will service grounds equipment.</li> <li>• One small location may be developed to provide responsive PM service. All major repairs will be done in the two main garages.</li> <li>• The network will also coordinate mobile service and necessary wrecker response.</li> <li>• Central control of assets.</li> </ul>	<ul style="list-style-type: none"> <li>• Consistent procedures and systems across the fleet.</li> <li>• Long term reduction in capital cost because of better utilization of space and equipment.</li> <li>• Far greater efficiency of scale and related cost reductions through reduced needs for supervisors and administrative support.</li> <li>• Greater mechanic efficiency through the leveling of workload.</li> <li>• The reuse of valuable parcels of real estate (Fire Garage and Water Services facility).</li> <li>• Better training, tools and a safer work environment for mechanics.</li> <li>• Better working conditions and more recognition for mechanics.</li> </ul>

AREA	RECOMMENDATION	BENEFITS
<p>Fleet Management Information Systems and Reporting, and Repair Parts and Inventory</p>	<ul style="list-style-type: none"> <li>• Obtain a new fleet management information system. This system will contain all fleet management features to support all fleet locations. It will support fueling systems, feature bar coding and will fully integrate with other Metro systems, such as FASTnet.</li> <li>• Utilize this system to control and drive a timely and thorough PM process.</li> </ul>	<ul style="list-style-type: none"> <li>• Accurate and complete management reporting.</li> <li>• One inventory management process to manage parts. This will reduce salvage and capital, increase service and improve procurement.</li> <li>• Better labor utilization and fewer person hours needed to enter data.</li> <li>• Better user data and user information.</li> <li>• A much higher percentage of preventative versus corrective maintenance, creating greater fleet utilization and greater user efficiency.</li> <li>• Better tracking of parts history and warranties.</li> <li>• Better and timelier user information.</li> </ul>

## **Office of Fleet Management**

The most far-reaching recommendation deals with the establishment of an Office of Fleet Management. The following paragraphs detail important information relative to this critical organizational change.

In order to implement the recommendations embodied in our report, we recommend an appropriately empowered Office of Fleet Management (OFM) to be organizationally housed within the Department of General Services.

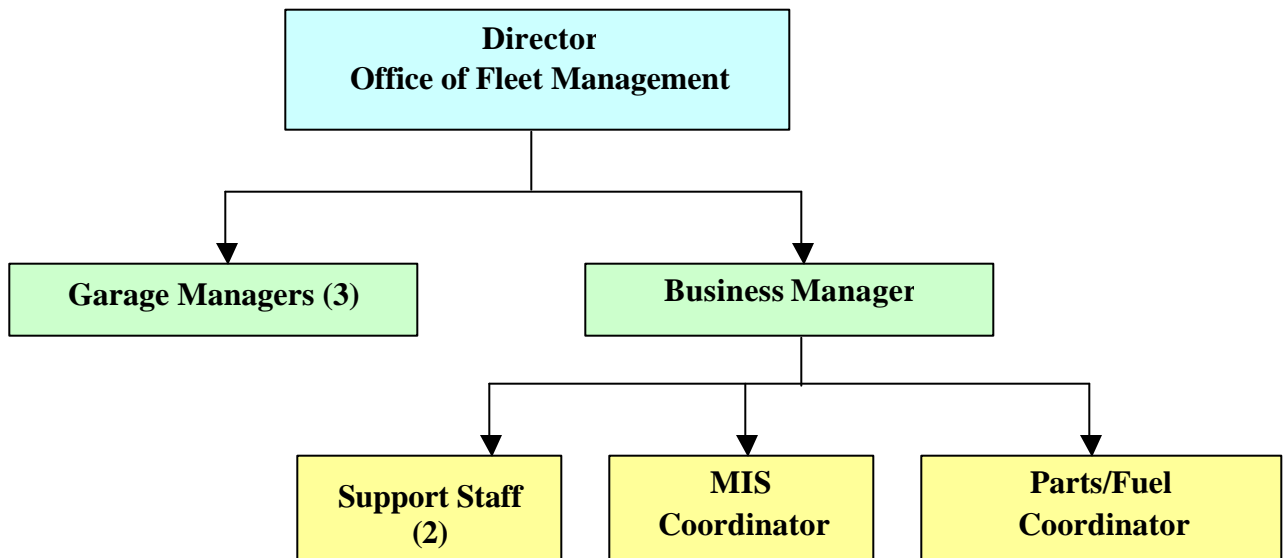
We recommend an overhaul and strengthening of Executive Order 89-14 that designated certain regulatory powers to General Services with respect to vehicles. The drafting and execution of this document will be the logical starting point for the governance issues distributed throughout this report. The new executive order should:

- Create a new Office of Fleet Management within General Services.
- Establish a Metro-wide Internal Service Fund effective July 1, 2002. This will feature a 100% cost recovery plan.
- Stipulate a transfer of all wheeled and self-powered assets to the Office of Fleet Management. This would apply to any unit in a Metro department assigned a Metro asset number in the Government's fixed asset system. The OFM will also co-ordinate the repair of certain department owned assets, such as grounds tools and compressors.
- Transfer all fleet management and fleet maintenance staff to the new Office of Fleet Management effective July 1, 2002.

The executive order should be a high-level policy document creating the organizational structure and authority to implement the recommendations made in this report but should not include detailed policies and procedures more appropriately developed and administered by the Office of Fleet Management. Once a fleet manager is in place, all existing policies and procedures should be reviewed, and comprehensive policies and procedures should be developed to address the following:

- Replacement Policy/Financing
- Internal Service Fund operations
- Safety Regulations
- User Responsibilities
- Preventative Maintenance Procedures
- Use of 24 Hour Vehicles
- Utilization Standards
- Establishment of a fleet of vehicles to be pooled and used to provide vehicles for Metro employees who need vehicles on a temporary basis.
- Reporting Requirements
- Fuel Policy and Procedures
- Labor Classifications
- Insurance Coverage
- Appearance Standards
- Facility Assignments
- Performance Standards

The proposed organization structure should appear as follows:



Our vision organizationally at this juncture is to have three fleet managers/supervisors reporting to the Director. These would be:

- Garage Manager – Heavy Equipment
- Garage Manager – Light Equipment
- Garage Supervisor – Grounds Equipment

Some administrative positions in existing organizations will become superfluous or will be transferred to the Office of Fleet Management. Further details on staffing within the organization are included later in this section.

We further envision a network of facilities to maintain this equipment. This should be as follows:

- Heavy Equipment – Current Public Works Facility
- Light Equipment – Current Motor Pool or New Facility
- Grounds Equipment – Current Parks facility
- Heavy PM Facility – West Center (Public Works)

## **Major Responsibilities of Metro Fleet Management Team**

The ingredients of a sound fleet management system are detailed below:

### **Office of Fleet Management:**

- Articulation of Fleet Goals and Objectives
- Intra-Governmental Service Agreements
- Coordinating User Groups
- Management of Fleet Supervisors & Facilities
- Execution of Business Plan

### **Maintenance Practices:**

- Preventative Maintenance Practices
- Multilevel Preventive Maintenance Scheduling
- Preventative Maintenance Performance

### **Repairs :**

- Scheduled Repairs
- Unscheduled Repairs
- Accident Repairs
- Parts Control
- Warranty Recovery

### **Other Services:**

- Mobile Repair Units
- Priority Setting
- Environmental Compliance
- Subcontracted Services/Outsourcing
- Quality Control and Investigations (Technical)

### **Safety:**

- Vehicle Safety
- Shop Safety
- Drug Free Work Place

### **Specifications:**

- Equipment Specifications
- Specifications for Parts and Supplies

**Fleet Information System (Proposed):**

- Work Order System
- Parts Inventory System
- Fixed Asset System
- Fleet Performance Reports
- Fuel Information System

**Vehicle Replacement:**

- Replacement Schedule
- Equipment Replacement Criteria

**Financial:**

- Chargeback System
- P & L for Fleet Services
- Labor Rate Establishment
- Budgeting and Budget Monitoring
- Insurance (Recovery and Claims)
- Inventory Management

**Contracts and Services:**

- Parts and Supply Contracts
- Equipment Disposal
- Contracted Services/Outsourcing
- Fuel Management
- User Policy, Information, Relationships and Lease Agreements

**Administration:**

- Staff Scheduling
- Personnel issues

The requirements and qualifications for the Director of Fleet Management are listed below:

**Desired Knowledge, Skills and Abilities of Director, Office of Fleet Management**

Thorough knowledge of standard shop practices, methods, tools and machines of the various skilled mechanical trades; thorough knowledge of gas and diesel automotive and specialized highway equipment; mechanical operation and hydraulics systems; considerable knowledge of warehousing and stock control procedures; ability to plan, assign and supervise the work of Garage Manager and to advise them on technical and mechanical matters; ability to communicate effectively both orally and in writing; ability to establish and maintain effective working relationships with employees, the public and other Metro Departments.

**Minimum Qualifications**

Progressive experience with centralized fleet management programs over several years; experience in execution of a business plan for large fleets; experience in managing an organization of comparable size; graduation from a four year institution of higher learning; Certified Automotive Fleet Manager (CAFM); or any equivalent combination of education and experience which demonstrates possession of the required knowledge, skills and abilities.

## **FINANCIAL ANALYSIS**

The next three tables detail the savings to be obtained from implementing the recommendations of this report.

The key assumptions for this analysis are as follows:

- Fleet size requirements do not change over the life of the analysis
- All estimates are in current dollars.
- Metro will begin immediately to replace the fleet based on the replacement schedules recommended.
- All excess, inactive vehicles will be scrapped.
- The new organization will focus on implementing best practices.
- Candidates fully qualified for the job will fill all positions.

The ultimate potential annual savings listed in Table 1 are based on cost per vehicle targets and targets for vehicles per mechanic. These targets are based on TCI's past experience and on information obtained from other municipal fleet operations. Both measures are dependent on the mix of the fleet within the maintenance location.

Table 4 summarizes projected capital needs over the next 5 years, including one-time capital expenses necessary to implement these audit recommendations.

**Table 1: Summary of Current Costs and Potential Long Term Savings**

	Fire	Motor Pool	Parks	Public Works	Water	Total
<b>Current Metro Conditions</b>						
Annual maintenance cost	\$1,030,000	\$2,057,000	\$1,029,000	\$3,153,000	\$1,465,000	\$8,734,000
Number of active vehicles	258	1,589	305	488	459	3,099
Number of mechanics	9.0	21.0	4.5	31.0	10.0	75.5
Number of other employees	5.0	9.0	1.5	9.0	8.0	32.5
Estimated mechanic utilization (should be 75%)	Unknown	46%	Unknown	55%	39% - 45%	
Cost per vehicle	\$3,992	\$1,295	\$3,373	\$6,461	\$3,191	
<b>Industry Norms</b>						
Active Vehicles per mechanic	28	68	70	21	37	
Cost per vehicle	\$4,000	\$1,075	\$3,000	\$3,000	\$3,000	
<b>Projected Mechanics Needed</b>						
Target - based on norm	9	23	4	23	12	71
Recommended - based on norm and utilization	9	21	4	23	10	67
<b>Potential Long Term Savings - Based on Current Active Vehicles and Current Dollars</b>	None	\$349,000	None	\$1,689,000	\$87,000	\$2,125,000

**Table 2: Projected Long-Term Staffing Needs  
(Assumes Current Active Vehicle Levels)**

	<u>Light Garage</u>	<u>Heavy Garage</u>	<u>Grounds Garage</u>	<u>Total</u>
<u>Mechanics</u>				
Number of active vehicles	2,153	629	317	3,099
Number of mechanics/leads	33	28	6	67
<b>Mechanic salaries (\$37,000 avg.)</b>	<b>\$1,221,000</b>	<b>\$1,036,000</b>	<b>\$222,000</b>	<b>\$2,479,000</b>
<u>Garage Administrative Staff</u>				
Number of managers	1	1	1	3
Managers salaries	\$50,000	\$55,000	\$45,000	\$150,000
Number of supervisors	2	2		4
Supervisors salaries	\$80,000	\$80,000		\$160,000
Number of parts/admin staff	4	4	1	9
Parts/admin salaries (\$30,000 avg.)	\$120,000	\$120,000	\$30,000	\$270,000
<b>Projected mechanic and garage salaries, with fringe benefits at 25%</b>	<b>\$1,838,750</b>	<b>\$1,613,750</b>	<b>\$371,250</b>	<b>\$3,823,750</b>
<b>Current personnel costs</b>				<b>\$4,827,000</b>
<b>Projected gross personnel savings</b>				<b>\$1,003,250</b>
<u>New Office of Fleet Management</u>				
Director				\$90,000
Business manager				\$60,000
Fuel/Parts Coordinator				\$50,000
Systems support				\$50,000
Administrative support (2 positions)				\$70,000
<b>Projected OFM salaries, with fringe benefits at 25%</b>				<b>\$400,000</b>
<b>Net Personnel Cost Savings</b>				<b>\$603,250</b>

**Table 3: Targeted Annual Operating Budgetary Impact  
(In Fiscal Year 2000-01 Dollars)**

	<u>2001-02*</u>	<u>2002-03</u>	<u>2003-04</u>	<u>2004-05</u>	<u>2005-06</u>	<u>Ultimate Annual Savings</u>
Personnel**	\$4,827,000	\$4,824,754	\$4,601,284	\$4,377,814	\$4,223,750	\$603,250
Parts, tires, batteries***	2,316,000	2,271,250	2,126,500	1,981,750	1,737,000	579,000
Outside repairs/equip rental***	918,000	890,625	833,250	775,875	688,500	229,500
Oil/lubrication	88,000	88,000	88,000	88,000	88,000	0
Small tools	63,000	63,000	63,000	63,000	63,000	0
Building/Utilities	369,000	369,000	369,000	369,000	369,000	0
Other	153,000	153,000	153,000	153,000	153,000	0
<b>Total</b>	<b>\$8,734,000</b>	<b>\$8,659,629</b>	<b>\$8,234,034</b>	<b>\$7,808,439</b>	<b>\$7,322,250</b>	<b>\$1,411,750</b>

\* Assumes expenses will be approximately the same as 2000-01.

\*\* Assumes a net reduction of 3 positions in 2002-03, followed by 5 positions the following 2 years, then 3 positions in 2005-06.

\*\*\* Assumes an ultimate savings of 25% as age of fleet declines and as efficiencies are achieved through better management.

Note that the above projected savings are very conservative, in that they do not include savings for a reduction in the size of the active fleet and in that they do not assume that all savings of \$2,125,000 annually that could be expected based on industry standards will be achieved in a 5 year period.



Table 4

<b>METRO-WIDE FLEET MANAGEMENT CAPITAL ESTIMATES 2001 – 2002</b>					
<b>Category</b>	<b>2001 – 2002</b>	<b>2002 – 2003</b>	<b>2003 – 2004</b>	<b>2004 – 2005</b>	<b>2005 – 2006</b>
<b>Fleet Software Package: <sup>1</sup></b>					
Software, training, implementation, purchase	\$200,000				
Server, cabling	30,000				
Contingency	20,000				
<b>Total fleet software costs</b>	<b>250,000</b>				
<b>Consolidation and Moving Costs: <sup>2</sup></b>					
Moving equipment, parts, furniture	40,000				
Enhancements to DPW and GSD garage space	30,000				
Enhancements to DPW and GSC office space	25,000				
Improvements to Parks to support new mission	20,000				
Costs to establish West center as a PM location	30,000				
Contingency	25,000				
<b>Total Consolidation and moving</b>	<b>170,000</b>				
<b>Costs to Support Other Recommendations: <sup>3</sup></b>					
Repairing roof at Ambulance storage building	15,000				
Design fees for new light fleet/public safety garage	75,000				
Clean up of GSD site	20,000				
<b>Total Others</b>	<b>110,000</b>				
<b>Amortization/Debt Service on New Light Garage: <sup>4</sup></b>			\$2,000,000	\$2,000,000	\$2,000,000
<b>Vehicular Fleet Replacement: <sup>5</sup></b>					
GSD – Police (a)	682,000	1,812,000	1,897,000	2,931,000	7,271,000
GSD – Non-Police (a)	525,000	602,000	599,000	1,101,000	1,520,000
Fire (b)	1,640,000	1,722,000	1,808,000	1,898,000	1,993,000
Water (b)	2,028,000	2,129,000	2,236,000	2,348,000	2,465,000
Department of Public Works (b)	3,140,000	3,297,000	3,462,000	3,635,000	3,817,000
Parks and Recreation (b)	1,750,000	1,837,000	1,929,000	2,026,000	2,127,000
Other capital needs	500,000	500,000	300,000	300,000	300,000
<b>Total Vehicle Replacement</b>	<b>10,265,000</b>	<b>11,899,000</b>	<b>12,231,000</b>	<b>14,239,000</b>	<b>19,493,000</b>
<b>Total Estimated Capital Needs</b>	<b>10,795,000</b>	<b>11,899,000</b>	<b>14,231,000</b>	<b>16,239,000</b>	<b>21,493,000</b>

**Note:** See accompanying worksheet for assumptions and rationale

## CAPITAL ESTIMATE WORKSHEET FOOTNOTES

1. **Fleet Software Package**      Based on a recent quotation from an industry leader for a city similarly sized to Metro.
  
2. **Consolidation and Moving Costs**  
  
**Moving:**              Estimate to vacate Fire and Water garages and move parts and movable equipment to Public Works and Motor Pool.  
  
**Enhancements:**    Estimates to correct sloped floor in Public Works and prepare Motor Pool for expanded evening shift.  
  
**Improvements to Parks:**    Clean up, lighting, and office improvements.
  
3. **Costs to Support Other Recommendations**  
  
**Repairing Roof:**    Roof where reserve ambulances are stored is partially caved in. Costs may be reallocated to locate ambulances elsewhere in rented space.  
  
**Design Fees:**        Initial conceptual design fee estimated for new light garage.  
  
**Clean Up:**            Removal of storage barrels and roof repairs in two GSD buildings closest to the river.
  
4. **Amortization/Debt Service on New Light Garage**      Based on recent construction cost of a comparable facility.
  
5. **Vehicular fleet replacement**
  - a. Detailed, vehicle by vehicle replacement schedules from this report.
  
  - b. Informed estimates compiled from on site work sessions at Fire, Water, DPW and Parks and Recreation. This represents normal replenishment for a fleet of this type, adjusted for 5% inflation.

## STRATEGIES AND IMPLEMENTATION TIMELINES

TCI has developed the following phasing and implementation strategies to guide Metro officials in the implementation timing of this report.

### Phasing Strategy

We recommend that Metro employ the balance of calendar year 2001 to absorb and adopt this report. Should approvals be in place by the end of this year, we envision a three-phase implementation program that will occupy most of the calendar year 2002. In capsule form, they may be described as follows:

Dates	Phase	Implementation Step
1/1/02 – 6/30/02	Phase I	<ul style="list-style-type: none"> <li>– Empowerment</li> <li>– Recruiting</li> <li>– Task Force Initiation</li> <li>– Task Force Oversight of Interim Recommendations</li> </ul>
7/1/02 – 9/30/02	Phase II	<ul style="list-style-type: none"> <li>– Development of Business Plan</li> <li>– MIS Procurement</li> <li>– Outline of Operating Procedures</li> <li>– Transfer of Staff</li> </ul>
10/1/02 – 12/31/02	Phase III	<ul style="list-style-type: none"> <li>– Utilization Study</li> <li>– Full Implementation</li> <li>– Motor Pool Establishment</li> <li>– Intergovernmental Service Agreements</li> </ul>

We will now detail the timing and the steps of these various phases:

<b>PHASE I – INITIATION</b> <b>January 1, 2002 – June 30, 2002</b>	
Activity	Timing
<ul style="list-style-type: none"> <li>• Draft revised wording for a new Executive Order establishing and empowering the Office of Fleet Management.</li> </ul>	1/31/02
<ul style="list-style-type: none"> <li>• Convene Task Force to oversee implementation.</li> </ul>	1/31/02
<ul style="list-style-type: none"> <li>• Communicate transition expectations and responsibilities.</li> </ul>	1/31/02

<b>PHASE I – INITIATION (continued)</b> <b>January 1, 2002 – June 30, 2002</b>	
<b>Activity</b>	<b>Timing</b>
<ul style="list-style-type: none"> <li>• Task Force oversight of implementation and planning.</li> </ul>	1/31/02 - 6/30/20
<ul style="list-style-type: none"> <li>• Recruit Director of the Office of Fleet Management. Hire by 3/31/02</li> </ul>	2/15/02 - 3/31/02
<ul style="list-style-type: none"> <li>• Craft detailed organization structure and position descriptions. Work with Human Resources on KSA's and salary structure.</li> </ul>	4/1/02
<ul style="list-style-type: none"> <li>• Develop position descriptions, KSA's, etc. for Service Center Managers.</li> </ul>	4/15/02
<ul style="list-style-type: none"> <li>• Develop the structure of the Internal Service Fund. Forecast budget by mid-April. Develop operating rates, guided by an overriding Financial Policy.</li> </ul>	4/15/02
<ul style="list-style-type: none"> <li>• Develop initial goals, targets and reports.</li> </ul>	6/1/02

<b>PHASE II – BUSINESS PLANNING</b> <b>July 1, 2002 – September 30, 2002</b>	
<b>Activity</b>	<b>Timing</b>
<ul style="list-style-type: none"> <li>• Develop OFM &amp; Fleet Management Business Plan</li> </ul>	7/1/02 - 7/21/02
<ul style="list-style-type: none"> <li>• Develop new policies and procedures to underpin business plan:                             <ul style="list-style-type: none"> <li>– Fuel Management</li> <li>– 24 Hour Vehicles/Private Tags</li> <li>– Vehicular Assignments</li> <li>– User Responsibilities</li> <li>– Surplus Processes</li> <li>– Warranty Recovery</li> <li>– Others as outlined above</li> </ul> </li> </ul>	7/21/02 - 9/30/02
<ul style="list-style-type: none"> <li>• Recruit Service Center Managers</li> </ul>	7/31/02
<ul style="list-style-type: none"> <li>• Review parts outsourcing possibilities through a study and possible RFP.</li> </ul>	8/15/02
<ul style="list-style-type: none"> <li>• Finalize the balance of the Fiscal Year implementation plan.</li> </ul>	9/1/02
<ul style="list-style-type: none"> <li>• Effectuate physical moves/asset transfer/staff transfer.</li> </ul>	9/30/02
<ul style="list-style-type: none"> <li>• Convene users group; communicate plans, timetable and user responsibilities</li> </ul>	9/30/02

<b>PHASE III – REFINEMENTS</b> <b>October 1, 2002 – December 31, 2002</b>	
<b>Activity</b>	<b>Timing</b>
<ul style="list-style-type: none"> <li>Commence utilization study of all fleet assets to arrive at a core vehicle count. Strive to reduce 10 – 20% of the current fleet size. Allow for a small backup fleet of 5 – 10% only. Create small fleet of pooled vehicles to accommodate periodic travel.</li> </ul>	10/1/02 - 12/31/02
<ul style="list-style-type: none"> <li>Select parts strategy and options.</li> </ul>	10/1/02
<ul style="list-style-type: none"> <li>Develop requirements and procure a Metro-wide Fleet Management Information System. Consider required interfaces, asset control, fuel interfaces, work order processing, inventory management and the like.</li> </ul>	10/1/02
<ul style="list-style-type: none"> <li>Complete consolidation of fleet facilities into heavy, light, and grounds. Phase out other facilities.</li> </ul>	10/15/02
<ul style="list-style-type: none"> <li>Develop required replacement schedules and funds to arrive at an orderly and timely replacement of the core fleet.</li> </ul>	10/31/02 - 11/30/02
<ul style="list-style-type: none"> <li>Initiate vehicle utilization study in Police fleet. Review liaison staff.</li> </ul>	11/1/02
<ul style="list-style-type: none"> <li>Commence parts outsourcing (or in-house restructuring).</li> </ul>	12/1/02
<ul style="list-style-type: none"> <li>Initiate comprehensive PM and production planning for the Service Center staff. Develop performance measures to be captured by the Fleet Management System.</li> </ul>	12/1/02
<ul style="list-style-type: none"> <li>Draft intergovernmental service agreements to govern the relationship between OFM and user departments for next fiscal year.</li> </ul>	12/31/02
<ul style="list-style-type: none"> <li>Implement new fuel strategy, accountability and controls.</li> </ul>	12/31/02
<ul style="list-style-type: none"> <li>Implement new asset control procedures to ensure new fleet assets pass through central control.</li> </ul>	12/31/02