

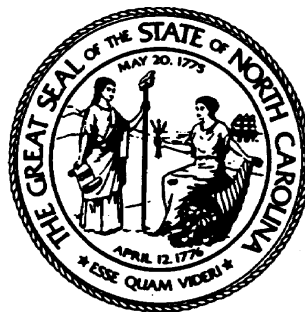
OSBM

**STUDY OF THE OPERATIONS OF THE
STATE MOTOR FLEET MANAGEMENT
SYSTEM AND THE FEASIBILITY OF
PRIVATIZING THE FUNCTION**

**as directed by Senate Bill 1005 Section 7.3 of
the 2001 Session of the General Assembly**

May 2002

Office of State Budget and Management



EXECUTIVE SUMMARY

Scope

Section 7.3 of Senate Bill 1005 of the 2001 Session required the Office of State Budget and Management to “study the operations of the State motor fleet management system and shall consider the feasibility of privatizing the function.”

Current Operations

Motor Fleet Management (MFM) provides a very good service to state agencies at a reasonable cost. The data collected for this study indicates that both the historical and current operations of MFM have been competitive with other similar state and local governments as well as the federal government’s General Service Administration (GSA) fleet operations. For example, the MFM charge rate/mile for a mid-size 4-cylinder sedan of \$.2300 compares to the GSA charge of \$.3207, and \$.3378 for South Carolina, one of our neighboring states. Interviews with a private fleet management company, while informative, did not produce reliable data for comparison purposes.

Privatization and Cost Reduction Possibilities

Approximately 80% (\$23 million) of all MFM annual expenditures are made to private sector businesses. While a major portion of this is for the purchase of new or replacement vehicles, much of the remaining costs are for vehicle repairs (outside Wake County), and a large expenditure is for gasoline purchased at private stations throughout the State.

In addition to the 80% of expenditures at private sector businesses, the current garage operation located at the MFM facility on Blue Ridge Road offers another possible privatization opportunity. According to an OSBM cost analysis, a slight savings could be realized by having Wake County-based vehicles repaired at private sector repair facilities. However, MFM could realize even greater savings through improved garage productivity and process improvements.

Additional annual savings of over \$400,000 will result from the following:

- | | | |
|----|------------------|--|
| 1) | \$175,000 | – Increase mileage interval between lube/oil/oil filter changes |
| 2) | \$ 71,630 | – Institute electronic reporting of monthly mileage from drivers
<i>(includes elimination of one employee position)</i> |
| 3) | \$100,125 | – Bill for repairs via a credit card account <i>(includes elimination of three positions)</i> |
| 4) | <u>\$ 70,462</u> | – Eliminate two additional employee positions <i>(one in Vehicle Assignment unit and one in Vehicle Maintenance unit)</i> |
| | \$417,217 | TOTAL |

In addition to these savings, recommendations are also made to reduce the size of the fleet at the Motor Pool (35 vehicles) and the loaner fleet at the MFM facility (approximately 68 vehicles). Monetary savings can be calculated when the process for disposition has been decided. Also recommended is a more accurate means to determine the actual direct operating cost per mile for each class of vehicle which should help prevent a reoccurrence of overcharges encountered this year.

While none of the 12 states contacted have privatized their total fleet operations, many, like North Carolina, contract out parts of the operation. Although OSBM is not recommending the contracting out of the total MFM operation, DOA could solicit competitive bids via issuance of an RFP to determine if privatizing all of the fleet operations would be cost beneficial.

Closing of Motor Pool Operations

The General Government Appropriations Subcommittee Chairs relayed a request that OSBM determine what the impact would be if the Motor Pool operations located on Peace Street were closed and most of the vehicles reassigned to state agencies based on their past use of Motor Pool vehicles. An immediate reduction of \$202,338 in one-time savings would be realized in the salaries and benefits by eliminating eight positions; however, there would be one-time costs incurred including reduction-in-force pay, costs to abandon the Motor Pool site, and the cost of providing places to park the vehicles. The State would be able to sell the property located on Peace Street once the site was abandoned. The long-term affect on the cost of operations has not been determined.

OSBM is appreciative to all personnel at MFM for the cooperation and information provided during this study.

INTRODUCTION

Section 7.3 of Senate Bill 1005 of the 2001 Session required the Office of State Budget and Management to “study the operations of the State motor fleet management system and shall consider the feasibility of privatizing the function.” This report is the result of a thorough study by the Office of State Budget and Management (OSBM) of the Department of Administration’s (DOA) Motor Fleet Management Division (MFM).

Scope

As directed, OSBM studied the current MFM operations as well as the feasibility of privatizing parts or all of the operation. The results of that study are included in this report.

Methodology

The following methodology was used for the study:

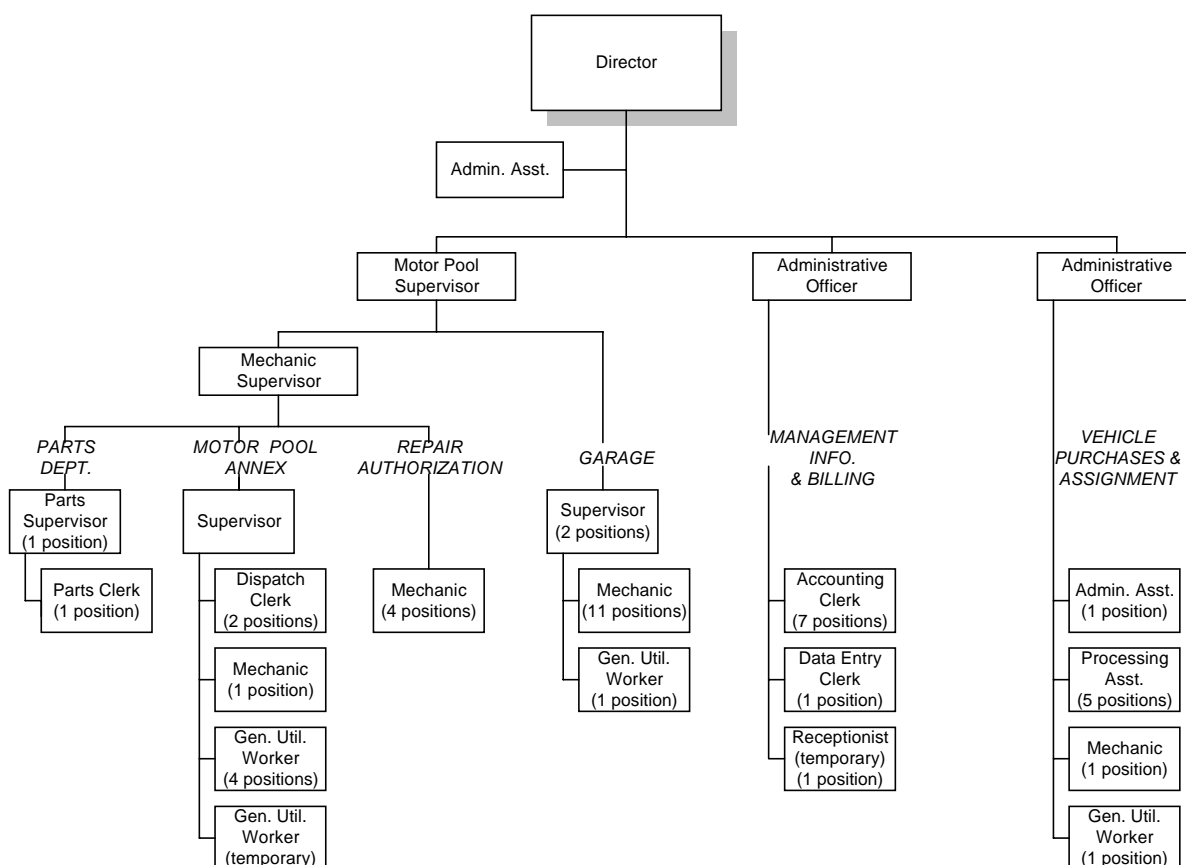
- Contacted surrounding states for information on their operations.
- Talked with representatives of the federal government General Services Administration Fleet Management (GSA) at Ft. Bragg, Atlanta, and Washington, DC.
- Discussed with representatives of a fleet management company the viability of the State contracting for total fleet services.
- Surveyed drivers of MFM’s vehicles to determine their level of satisfaction with the service provided.
- Interviewed and studied work procedures, financial data, and operating statistics at MFM.
- Visited two large Raleigh-area private vehicle repair operations (automobile dealerships) to discuss their operations.
- Conducted four large exercises to supplement information available at MFM:
 - 1) All completed work orders from the Garage for four consecutive weeks were collected and studied.
 - 2) The repair history for 360 individual vehicles was studied and the repair costs for vehicles maintained by the Garage were calculated as well as the repair costs for vehicles maintained by private sector garages outside Wake County.
 - 3) All repairs performed on all MFM vehicles statewide for a two-year period were examined and studied. Repairs performed by private sector facilities were totaled by type and compared with like repairs performed in the MFM Garage.
 - 4) The number of vehicles at the Motor Pool and the number assigned to drivers each day were determined for the calendar year 2001.

BACKGROUND

Current Operations

There are 50 permanent employee positions plus two (2) temporary positions assigned to the division, and the Division Director reports to the Deputy Secretary for Government Operations in the Department of Administration. As of November 2001 the annual salaries for the 50 positions totaled \$1,399,629. An organization chart for the division is on the next page.

MFM Organization Chart



Expenditures, including salaries for FY '00-'01, totaled \$28,323,177 and are estimated to be \$29,246,100 for the current fiscal year. The table below indicates costs for the past five years and estimated costs for the current year (FY '01-'02). The cost/mile to operate vehicles does not include the cost to purchase or rebuild vehicles.

MFM Fleet General Data

	FY '96-'97	FY '97-'98	FY '98-'99	FY '99-'00	FY '00-'01	FY '01-'02 (estimated)
Expenditures*	\$ 33,176,860	\$ 35,398,190	\$ 38,987,439	\$ 41,841,804	\$ 28,323,177	\$ 29,246,100
Sales to Other State Agencies	\$ 891,847	\$ 918,800	\$ 778,506	\$ 1,117,882	\$ 1,249,798	\$ 962,124
Vehicle Purchases	\$ 20,961,953	\$ 23,069,952	\$ 26,026,314	\$ 27,334,295	\$ 10,983,868	\$ 15,572,000
Cost to Operate MFM Vehicles	\$ 11,323,060	\$ 11,409,438	\$ 12,182,619	\$ 13,389,627	\$ 16,089,511	\$ 12,711,976
Miles Driven	112,921,650	117,752,043	117,828,479	124,771,534	124,362,570	117,088,805
Cost/Mile to Operate Vehicles	\$.1003	\$.0969	\$.1034	\$.1073	\$.1294	\$.1086
No. Vehicles in Fleet	7,931	7,654	7,569	8,223	8,246	8,139

* - Total Expenditures less Intragovernmental Transfers

The noticeable increase in cost/mile to operate vehicles between FY '99-'00 to FY '00-'01 can be largely attributed to the increase in the cost of vehicle insurance (15.4%) and the cost of gasoline (34.0%). The estimated decrease in cost/mile for FY '01-'02 compared to FY '00-'01 can be attributed largely to a decrease in gasoline costs (28.1%).

Below is a table showing general activities for MFM operations during a typical year.

Activity	Number
Repairs at private sector garages	27,000
Repairs at State govt. garages (mostly preven. maint.)	6,300
Repairs at MFM Garage	19,000
Total Repairs (including preven. maint.)	52,300
Gas purchases at private sector facilities	81,000
Gas purchases at MFM and State facilities	333,000
Total Gas Purchases	414,000
Car Washes (other than MFM Motor Pool vehicles)	18,000
No. vehicles at Motor Pool	300
Trips by Motor Pool vehicles	16,800

Appendix A is a listing of the vehicles in the fleet, by class, for each of the past five years.

Management Information and Billing Unit

After the completion of each month, each assigned driver sends a listing (on a travel log form) of all trips taken during the month by date and the miles driven. Mileage from all travel log forms is entered into MFM's computer, which generates an invoice for each state agency for the vehicles assigned to their employees.

When drivers purchase gasoline (81,000 times per year), they charge the purchases using a credit card (Voyager). (Credit card use is restricted to gasoline purchases only.) Monthly the credit card company sends invoice information electronically and in hard copy format to MFM where MFM reviews the invoice for any unusual purchases before payment. The credit card company does not charge any fee(s) for the service.

The MFM computer program generates a printed report that lists vehicles that are not driving the minimum required mileage, and MFM duly sends notification to agencies of the information. History has shown that when agencies have responded that the usual explanation is the vehicle is either used for law enforcement purposes or special use purposes (both reasons allowed by the General Statutes). For the past five years, the average number of permanently assigned vehicles that did not drive the 12,000-mile minimum was 2,461. For FY'00-'01, the number was 2,862. MFM bills agencies for a minimum of 1,050 miles (12,600/year) each month.

Vehicle Assignment Unit

Vehicles are assigned to employees based in virtually every county of the State, and the variety ranges from compact 4-cylinder sedans to high performance (pursuit) law enforcement sedans, to 4-wheel drive vehicles, to small cargo trucks. Below is a table showing general activities for the unit for Calendar Year 2001.

Activity	Number
New (additional) Vehicles Assigned	382
Change of Driver Status Completed	1,264
Temporary Vehicle Assignments Made	2,074
Commuting Requests Processed	95

All commuting requests received were from the Department of Transportation. This unit is also responsible for acquisition and assignment of Voyager credit cards and DOT gasoline keys (for use at DOT facilities).

MFM was not able to supply data to OSBM concerning the average monthly inventory of unassigned vehicles at MFM for recent years. However, beginning January 2002 taking inventories has begun again. Unassigned, or idle vehicles represent a monetary investment for the State and vehicles depreciate daily whether they are driven or not, so being idle means a loss on the investment plus idle vehicles do not generate revenue for the division. In January 2002 there were 552 unassigned vehicles at MFM, and in February there were 536.

Unassigned Vehicles

	Jan. '02	Feb. '02
New Vehicles Not Assigned	7	7
Used Vehicles Not Assigned	375	409
Vehicles Available for Temporary Loan	110	88
Vehicles to be Surplused	60	32
Total	552	536

Purchasing replacement and additional vehicles has been reduced markedly in the last year because of a combination of lack of cash, the re-building of Chevrolet Caprices, and the increase in average mileage before vehicles are retired (i.e., sold at State Surplus). In FY '99-'00 there were over \$27.3 million in vehicle purchases, but in FY '00-'01 there were only \$10.0 million in vehicle purchases plus \$800,000 for the rebuilding program. There were 641 vehicles transferred to State Surplus during FY '99-'00, and 994 transferred during FY '00-'01. Total estimated purchases for the current fiscal year are approximately \$15.6 million.

The method used to determine when a vehicle has reached the end of its useful life is when the vehicle has been driven 110,000 miles (advised by the General Statutes). There are a few vehicles that become obviously too expensive to maintain and are retired sooner than the 110,000 mile minimum, but this is rarely done. The division does not have a systematic way to determine when a vehicle reaches the end of its useful life (i.e., when cost to maintain it exceeds the cost to purchase and maintain a new vehicle), and there has been no research to determine when each vehicle or any group of vehicles should be retired from the fleet for economical reasons.

Vehicle Maintenance Unit

When the Vehicle Assignment unit initially assigns a vehicle, as part of creating a data file for the vehicle in the computer system the unit determines which preventive maintenance schedule (i.e., mileage interval) the vehicle should be assigned to. The majority of the vehicles (more than 90%) are assigned to a 5,000-mile interval. As drivers drive their vehicles, it is their responsibility to adhere to their preventive maintenance (p.m.) schedule and that when due they should call MFM for pre-authorization to have the work done. In the event the drivers do not have the p.m. work performed, the MFM computer system will generate a reminder letter that will be sent to the driver.

a. Motor Pool

The Motor Pool provides primarily small sedans to state employees on a temporary basis and has an automatic car wash that washes Motor Pool and other state-owned vehicles. Minor repairs (tires, wiper blades, etc.) and preventive maintenance for these vehicles are performed at the Motor Pool. The average number of "rentals" per year has been approximately 16,800. A listing of the typical fleet in recent months is listed in the table below.

Calendar Year 2001

Type of Vehicles	Avg. No.
Standard Compact Sedans	286
Unassignable (preven. maint. or repair)	9
Station Wagons	12
Mini-vans	34
Cargo Vans	7
15-passenger Vans	4
Vans (handicap equipped/special lift)	2
Gas/Electric Sedans	9
Compressed Natural Gas Sedans	3
Electric Sedan	1
Total Vehicles	367

As Appendix B shows, during 2001 for 50 working days there were more than 100 vehicles that were available for assignment but not used; also, for 40 out of 218 days there were 50 or less vehicles available but not used. An average of 87 vehicles were signed out to employees each workday of the year.

The closing of the Motor Pool and transferring vehicles to individual agencies was examined at the request of the General Government Appropriation Subcommittee Chairs. Following are the advantages and disadvantages:

- Advantages:
- 1) Cash to the State from the sale of the Peace Street location and its equipment would accrue.
 - 2) The elimination of eight employee positions would result in approximately \$202,338 annual savings including employee benefits.

- Disadvantages:
- 1) Separation pay for the eight employees whose positions would be eliminated would be incurred.
 - 2) Average miles driven by the 350+ vehicles would probably decrease since each agency may not use their vehicles on certain days yet their vehicles would not be available to other agencies.
 - 3) There would be times when there would not be a vehicle available for employees unless they traveled to MFM to get one. In this case, additional miles and employee time would be expended. This is more likely to happen to smaller agencies that would not have a vehicle transferred to them, but it is also true of larger agencies on certain days.
 - 4) Parking arrangements for the approximately 350+ vehicles would have to be made to include providing proper security. In the case of such departments as DOT (27), or DENR (22) who would have several vehicles, this might become a problem. Also, the larger agencies having offices scattered over Raleigh would have to determine where to keep each vehicle.
 - 5) Car washes and gasoline now provided at the Motor Pool for such agencies as State Highway Patrol, SBI, and DOT would no longer be available.
 - 6) Costs to abandon the Peace Street site would be incurred (removal of underground fuel storage tanks, fuel pumps, car wash, etc.).
 - 7) When these vehicles require preventive maintenance, additional miles would be driven to get them to a service facility or to the MFM garage.
 - 8) DOA's (and the State's) leadership in the use of alternate fuel vehicles would become more difficult to study and evaluate.

It is difficult to determine a true monetary impact if the Motor Pool was closed since there are several intangible factors that require a considerable amount of judgment. Appendix C is a listing of each agency and their percent of use of the 295 standard Motor Pool sedans during calendar year 2001. The appendix also shows a conversion of use from percent to number of vehicles.

b. Garage and Parts

The Garage employs a basic work order system common in most vehicle repair facilities. The driver takes their vehicle to the Garage and informs the in-take person of why the vehicle is there and the in-take person, via computer, generates a printed work order for the vehicle. The driver may or may not get a "loaner" vehicle or will have made other transportation arrangements.

The printed work order lists possible repairs/work and repair codes that may be required to repair the vehicle, and is placed in a stack in the in-take person's office for assignment to one of the ten mechanics. As each mechanic completes a job, they write their time to complete the repair beside the appropriate work code on the work order and return it to the in-take office where they are assigned another work order. As the mechanic needs a part, he will take the work order to the Parts area to obtain the part. At various times of the day, the in-take person enters the mechanics' time and applicable code number(s) into the computer system. Approximately 19,000 times a year vehicles under the Garage's control require repairs (including preventive maintenance or a North Carolina vehicle inspection).

MFM management could not provide OSBM with data relating to the efficiency and/or productivity of the Garage, nor could they provide reliable counts of average backlog of repairs. However, OSBM's collection and analysis of four consecutive weeks of work orders revealed that mechanics were spending only 53.7% of their work time on work orders. There were several work orders that had a mechanic's initials on them indicating that the vehicle had been repaired but there was no time recorded. Management stated that in such cases that they "knew" how much time the repairs took so they entered these times into the computer. When management was asked where were mechanics spending the remaining 46.3% of their time, a list was provided, but when asked to estimate the amount of time spent on these tasks management was not able to provide an estimate. The other tasks listed were:

- 1) Fill in for in-take or repair authorization personnel
- 2) Drive to stranded motorist to assist (ex. key locked in vehicle)
- 3) Remove usable parts from unusable vehicles
- 4) Assist with division's personal computers
- 5) Pick up parts from parts stores
- 6) Maintenance of Garage equipment
- 7) Drive vehicles to State Surplus

The policy to control the backlog is determined by the in-take person who makes the decision based on a general remembering of how much work (i.e., work orders) has accumulated. When the in-take person decides that the backlog is too large, he selects vehicles to be sent to one of three or four private sector repair facilities in the area. The three or four repair facilities usually used were selected more than a year ago when Garage management informally looked at repair costs of some repairs and determined which garages charged the best rates.

The exercise OSBM conducted looking at repair histories for 360 randomly selected vehicles (274 repaired outside Wake County and 86 repaired in Wake County) revealed that the cost/mile for private sector garages to repair vehicles was \$.0211 whereas the cost/mile for repairs to Wake County vehicles controlled by the Garage was \$.0238. The results of this exercise were corroborated by the study of all repairs performed on all vehicles for a two-year period. The \$.0238 per mile repair costs for Wake County vehicles does not include any cost for the Garage facility. In the table below are listed additional data relating to the 360 vehicles studied.

Vehicle Repair Cost

Vehicles	Based Outside Wake County					Based in Wake County				
	No. in Fleet	No. in Sample	Mileage	Repair Cost	Cost/Mile	No. in Fleet	No. in Sample	Mileage	Repair Cost	Cost/Mile
96 Olds Cutlas Ciera	652	56	4,283,595	\$125,715	\$0.0293	90	18	1,168,491	\$32,143	\$0.0275
00 Ford Crwn. Vic.	199	17	646,408	\$16,069	\$0.0249	27	6	150,859	\$2,825	\$0.0187
97 Chev. Blazer	71	12	1,122,710	\$28,047	\$0.0250	12	8	701,470	\$23,376	\$0.0333
00 Dodge Caravan	272	36	1,007,881	\$9,267	\$0.0092	92	18	570,737	\$6,240	\$0.0109
98 Plymouth Breeze	781	121	6,200,333	\$117,159	\$0.0189	117	23	961,687	\$16,639	\$0.0173
99 Ford Taurus	231	32	1,785,953	\$20,754	\$0.0116	68	13	708,687	\$20,001	\$0.0282
Total	1,800	274	15,046,880	\$317,011	\$0.0211	406	86	4,261,931	\$101,224	\$0.0238

Cost of wreckage repairs and windshield replacements not included.

Survey Results

In October 2001, OSBM mailed surveys to drivers and fiscal managers to determine the level of satisfaction with MFM services. The table below gives the results and illustrates that 75% to 88% of drivers and fiscal officers are pleased with the service provided by MFM.

Surveys Sent and Returned

	Drivers Based Outside Wake Co.	Drivers Based in Wake County	Drivers of Motor Pool Vehicles	Fiscal Officers
No. Sent Out	673	85	500 *	86
No. Returned	358	50	299	38
Rating of Above Normal Satisfaction	75%	85%	86%	88%

* - estimated

Impact of Reserve Accumulation

MFM's revenues flow into an internal service fund and its billing rates have included an accumulation of reserve funds in excess of direct operating costs for the past several years. During the last couple of years, designated amounts from this accumulation have been budgeted for transfer out of the internal service fund to the General Fund. Amounts in excess of direct operating costs plus a reasonable operating credit balance have accrued in the reserve mainly because rates have not been adjusted as vehicle replacement has either been delayed or extended.

Federal cost recovery guidelines as outlined in OMB Circular A-87 do not consider "transfer out" of the internal service fund as a federal allowable cost. Consequently DOA has found itself in the position of having to refund the federal participation in many state agencies for the "overcharge." The Office of State Controller, which develops the North Carolina Statewide Cost Plan, had advised DOA that it must take corrective action.

DOA can avoid future refunds if it sets its rates as close to the actual direct operating costs as possible. This will require that both the General Assembly and OSBM not tap the MFM credit balance for "transfers out."

RECOMMENDATIONS

1. The privatization of the MFM Division is not recommended at this time; however, privatization of various parts of the division's operation should continue.

During FY '00-'01 MFM's expenditures to private sector businesses exceeded \$23 million (80% of their budget). If some of the recommendations contained in this report are adopted, additional expenditures will be spent in the private sector via such changes as increased credit card use and potential closing of the Garage. The only definitive way to determine if there are private sector fleet management companies that would provide the same or better service at less cost is to solicit competitive bids via the issuance of a Request for Proposal (RFP).

Should the State determine that it will issue an RFP to operate MFM, it should be remembered that the cost to convert the fleet to a privately owned fleet management company will not be small. Ownership of the present 8,000 vehicles will have to be determined, titles will have to be changed, vehicles will have to be called in for formal changeover, data from computer systems for the existing fleet will have to be retrieved and passed on to whomever owns the vehicles, inventories of parts will have to be disposed of, etc. Additionally, there will need to be a contract administrator employed with oversight responsibility, and a system for payment to the contractor for each vehicle each month would have to be developed.

OSBM does not discourage the solicitations for bids, but realizes that the writing of an RFP will require a large amount of work if accurately and properly written to assure that the State contracts for all services that it requires. In the meantime, MFM should make every effort to further reduce their costs, particularly in the Garage area.

2. Increase the lube/oil/oil filter preventive maintenance interval from 5,000 miles to 7,500 miles for most fleet vehicles.

The Owner's Manuals for most passenger vehicles (other than law enforcement) in the fleet recommend p.m. intervals of 7,500 miles for vehicles that operate under general road/travel conditions. Since the MFM computer system allows for each vehicle to be assigned its own mileage interval for reminder purposes, it would be relatively simple for MFM to convert to the 7,500-mile interval. Conversations with GSA revealed that GSA uses a 7,500-mile interval for practically all vehicles – most of which are used by the same type employees as NC State Government, without any fear of violating any manufacturer's warranty. If MFM were to adopt a 7,500-mile interval for most of their vehicles (75%) estimated annual savings of \$175,000 would be made.

3. Reduce the size of the Motor Pool fleet.

Appendix B shows the daily activity at the Motor Pool for the basic small sedans for the calendar year 2001. During the year the number of vehicles not assigned (i.e., available to be assigned) was never less than 15. Appendix D shows the anticipated effect if the Motor Pool reduces the number of vehicles assigned to the Motor Pool. OSBM recommends that the Motor Pool reduce its number of standard vehicles to 251, which would result in a reduction of approximately 35 vehicles. At this level, there would only be 5.5% of the working days each year (14 days per year) when a vehicle or two would not be available to employees. There will always be some unassigned vehicles at the MFM facility on Blue Ridge Road, so on these few occasions employees could get a vehicle there.

MFM should also re-examine the composition of the other size vehicles in the fleet for possible reduction. The seven (7) cargo vans, twelve (12) station wagons, 34 mini-vans, and four (4) 15-passenger vans probably could be reduced by as much as half.

4. Reduce the size of the vehicle loaner fleet based at the MFM Facility by at least 80%.

During January 2002, an inventory of unassigned vehicles revealed that there were 552. There were seven new vehicles awaiting assignment, 60 awaiting movement to State Surplus, 110 used for back-ups and for drivers with vehicles in the Garage, and 375 used vehicles (283 available for assignment, 29 assigned but not picked-up, and 63 waiting for the Garage to repair). MFM personnel stated that many of the used vehicles either have very high mileage or show so much wear that it is difficult to re-assign them for the few months remaining in their life, yet they have not been driven 110,000 miles. The number of unassigned vehicles represents 7% of the fleet which is a considerable loss of revenue, and there are not many fleets that can afford this loss of revenue. The loaner fleet should be reduced by at least 80% (to 20 vehicles) and the garage should expedite the repair of unassigned vehicles so that the vehicles can either be re-assigned or sold as surplus.

MFM should seriously investigate ways to significantly reduce the number of unassigned used vehicles. Vehicles sitting idle cost MFM and the State money in that depreciation continues as well as a general deterioration of parts and tires.

5. MFM should continue the implementation of the project that will enable drivers to electronically transmit miles driven monthly to MFM for billing purposes.

In July 2001, OSBM studied and recommended that MFM pursue development and implementation of a project that would allow for the electronic transmission of monthly mileage to MFM that would replace the 8,000 paper travel logs currently sent to MFM by drivers and/or agencies. Estimated annual cost savings were calculated to be \$71,630 which included the elimination of one employee position. MFM plans to complete implementation of the project by July 2002.

OSBM recommends that development and implementation of the same concept for Motor Pool vehicles be completed to further reduce cost of operations.

6. Repairs to MFM vehicles by private sector facilities should be paid via credit card transactions.

Currently all repairs are individually invoiced by each repair facility throughout the State and mailed to MFM for processing and payment by the DOA Fiscal Office. There are approximately 27,000 invoices received from these repair facilities each year that requires verification of costs, account coding, check writing, and mailing. OSBM estimates that as much as \$100,125 could be saved each year if payments for repairs were processed through a credit card company. The estimated annual savings are calculated as follow:

<i>Administrative Expenses:</i>	
Postage	\$7,500
Check printing	\$ 525
<i>Personnel:</i>	
DOA Fiscal Mgmt. – (one position)	\$34,700
MFM – (two positions)	<u>\$57,400</u>
Total	\$100,125

Based on conversations with various fleet operations and MFM's experiences, there would not likely be charges to MFM for use of this type of service. While some one-time costs would occur to enable the credit card company's electronic data to interface with the MFM computer system, these costs should be relatively low in terms of the potential for the State to save more than \$100,000 each and every year into the future. As the OSBM analysts envision, the repair pre-authorization process would be similar to the system in use today.

The above procedure is very similar to the combination of current procedures regarding repair authorizations and gasoline purchases with the Voyager credit card. The procedure would not be applicable to charges to MFM from other State agencies for work performed on MFM vehicles.

7. The following personnel actions should be taken:

a. Reduce the number of employee positions in the Vehicle Assignment unit by one.

The Vehicle Assignment unit needs eight employee positions to carry out its responsibilities allowing for a reduction of one clerical/administrative position. It is difficult to justify one position that primarily maintains the credit card and gas key systems (for Voyager and DOT), one position that processes driver changes and approves commuting, one position that assists drivers when they bring in a vehicle and are assigned another, one position that enter data into the computer, and one administrative assistant plus a manager. Duties and responsibilities should be redistributed and reassigned to seven non-supervisory positions. Primarily when ordering new vehicles or receiving new vehicles the activity of the unit noticeably increases, but only for a few days each time perhaps four or five times each year which is not justification for nine positions. A reduction of one position would save approximately \$26,400 per year in salary and benefits.

b. The Mechanic Supervisor position in the Vehicle Maintenance unit should be eliminated and the Auto Parts and Garage areas should have supervisory positions re-classified as lead positions. One of the existing positions in Repair Authorization should be designated as a lead position.

Currently one of the Auto Parts positions and the two in-take (mechanic) positions in the Garage are classified as supervisors. The Auto Parts supervisor position and the two in-take supervisory positions in the Garage should be re-graded to lead positions that more accurately reflect the duties assigned since hiring, disciplining, and leave approval are duties that the Vehicle Maintenance Supervisor carries out in these areas.

The Mechanic Supervisor position is not needed and should be eliminated because the Garage with 13 mechanic positions, two positions in the Parts Department, and four repair authorization positions can be adequately managed by the Vehicle Maintenance Supervisor and four lead positions (to include one in Repair Authorization). With an efficient work order system that has access to up-to-date industry standards for vehicle repairs, the need for more than one supervisor is not warranted. This recommendation will result in annual savings of \$44,062 in salaries and benefits.

An organizational chart reflecting the above changes and others that are proposed in this report is at Appendix G.

8. Mileage costs for each vehicle class should be formally calculated annually, and the formulas for calculating mileage costs should be based on a forecasted cost of operating for the upcoming fiscal period.

Currently there is not a formal policy nor standard procedure when MFM calculates the mileage costs for the various classes of vehicles in the fleet. Particularly since MFM is a receipts-supported agency that derives its revenue from vehicle users, at least once each year MFM should formally determine the cost per mile to own and operate each class of vehicle. The calculations should be made and submitted to DOA management prior to the end of each fiscal year to enable the department to establish mileage charges to state agencies.

In calculating mileage costs, the current method of calculating repair, gasoline, and general & administrative costs are according to generally accepted practices. However, the method of calculating cost of vehicle ownership (sometimes called depreciation) should be changed from the method currently being used. Appendix E shows the mathematical formulas recommended for use in determining vehicle ownership cost. This method is more objective and realistic than the current practice where an inflation factor of 3%, compounded for three years, is used along with establishing the value of the fleet on the basis of purchasing all vehicles at the current contract price. It also should provide only sufficient revenue to operate the division if forecasts are reasonably accurate.

The planned cost of operation (i.e., actual direct operating costs) should be forecasted for the next fiscal period based upon preceding costs plus any unusual anticipated changes. The cost of forecasted operations would include funds to replace retiring vehicles plus any fleet expansion. This method will enable MFM to develop the amount of money it needs to collect from its customers via the rates without using inflation factors, which should satisfy federal requirements. At the completion of each year, any excess surplus of funds will be used in developing the actual direct operating costs for the subsequent year.

9. If the Garage continues to operate, MFM should institute several operational changes to reduce the cost of the operation.

a. All Garage personnel should report all time to specific categories of work such as time on work orders, time spent filling in for non-mechanic personnel, time spent removing parts from unusable vehicles, time spent getting parts, etc.

Mechanics should record how they spend their hours at work. Currently the mechanics only record time spent on work orders, and as already stated earlier in this report they spend only approximately 53% of their time on repairs. Supervision stated that the remainder of the time was spent on other types of work but when asked for estimates of these times, they were unable to provide estimates of the amounts.

Division management should establish performance goals for the garage relating to the percent of time on work orders, and percent of time by category on other categories of standard recurring work. Typically, percent of mechanics' time on work orders should be or exceed an average of 80%.

b. Specific guidelines/policies should be established for the two in-take people to follow relating to assignment of work orders, when to send vehicles to outside repair facilities, which outside repair facilities to send them to, and when to send them.

The guidelines/policies should be simple and clearly stated to insure that mechanics paid the same salary are all assigned the same level of work. Currently, very little analysis of any of the mechanics' work occurs, and some mechanics are given the simplest repairs while others are given the more complicated repairs but they are paid the same.

Several repairs such as some p.m.s, NC Safety Inspections and tire repairs, are sent to public sector repair facilities when the repairs are well within the technical capability of garage personnel that should be able to perform the work at lower costs. Also, increasingly, it seems that the Garage is retaining the simplest of repairs and sending the more complicated ones to outside facilities when the in-take people do not accurately know if the MFM costs would be lower. (*Note: If a mechanic's pay is determined by the degree of complexity required in the job but work assigned is not as complex, the pay grade may be too high.*) Periodic examination of invoices from the private sector repair facility should be conducted for the purposes of determining if what was done is what was requested and at what price. The Vehicle Maintenance Supervisor should randomly check invoices to assure that sound decisions are being made.

c. All time to complete work performed in the Garage should be compared to industry standards.

When management does not provide a reasonable expectation of the amount of work an employee is expected to accomplish, the employee determines the amount. Some employees are very conscientious and set high personal performance expectations while others set ones much lower. The Garage has not set any performance expectations and does not evaluate/compare time (or cost) to perform a repair with any industry standard. It is therefore not surprising that productivity of the Garage is low. The vehicle repair industry has repair standards

for vehicle repairs and the MFM Garage should make use of them. While state government mechanics may not be as productive as private sector repair facilities, primarily because of a lack of pay incentives, MFM should know how their mechanics compare to industry standards and set performance expectations based on those standards.

- d. Accurate daily, weekly, and monthly counts of backlog of repairs should be determined and monitored as well as length of time vehicles have awaited repair. The size of the backlog should be stated not only in the number of vehicles, but also the estimated amount of repair time should be stated.**

Vehicles in need of repair do not generate any revenue but costs (depreciation) to MFM continue to accrue. The Garage should be given a goal relating to the amount of backlog of repairs. An estimate of the number of hours needed to repair vehicles is a more realistic indicator of backlog than a count of the number of vehicles awaiting repair. The number of vehicles awaiting repair may only need a small amount of time to complete such as tire rotation or NC Safety Inspections, or they may require more complicated work/time to repair. At the time of intake, an estimate of the anticipated repair time can be made that may not be exact but will serve to more accurately indicate the real size of the backlog. Another measure of the backlog for which attention should be paid is the average length of time vehicles have been waiting to be repaired. For each of these categories, goals should be set and adherence to these goals should be ascertained as part of the performance measures for the Vehicle Maintenance Supervisor.

- e. At least one time each year, a review of repair costs at several private sector repair facilities in the Wake County area should be made to determine which businesses offer the best prices for MFM repairs.**

Once the most economical private sector repair facilities have been identified, these are the businesses that the in-take people should send repairs to. To insure fiscal integrity the in-take personnel should not participate in making the final decision(s) which facilities to use.

There are approximately 1,000 MFM vehicles in the Wake County area that require repair and maintenance. It is possible that MFM should seek contractual agreements for some frequent type of repairs such as lube/oil/oil filter change, NC Safety Inspections, certain standard air conditioning repairs, specific types of transmission repairs, etc., particularly if the Garage's productivity remains low. Contractors may be able to provide certain maintenance at attractive costs.

- f. MFM should determine the average cost per hour for repairs performed in the Garage on a monthly, semi-annual, and annual basis.**

For purposes of measuring the Garage's performance, the average cost per hour for repairs should be calculated as shown in Appendix F. All direct Garage costs, applicable overhead, and the effective use of mechanics' time should be used to develop the cost. The current cost of \$46.61/hour MFM pays for mechanic work in effect is \$79.41/hour when the number of hours and work orders that mechanics complete are considered (only 59% of their time is spent on work orders). Should the Garage improve the utilization factor substantially (i.e., that mechanics time on work orders increases), management should insure that the increase in time does not come at the expense of efficiency on each repair (see recommendation 9c above). Additional time on work orders alone is not necessarily an accurate indicator that time to complete repairs is within established industry standards.

If the effective cost per hour does not decrease substantially from \$79.41/hour within a reasonable time (perhaps a year or less), the garage operation should be closed and all repair work sent to local private sector repair facilities in the same manner as all other MFM vehicles are repaired that are based outside Wake County. Currently, the typical hourly rate that a garage in the Raleigh area charges for repairs is \$65/hour. This indicates that if the MFM garage cannot

operate below this amount, that MFM would save costs by out-sourcing all repairs to private sector repair facilities.

The current cost/hour (\$46.61 on June 30, 2001, rather than \$30) is the amount that should be used for MFM Garage repairs entered into the Vehicle History database.

In the event that the Garage operations are closed, the four employee positions plus one additional Repair Authorization position should all report directly to the Administrative Officer position in the Vehicle Assignment unit.

g. Provide additional training for mechanics.

No substantive training for mechanics has been provided for some time except for the yearly emissions renewal training provided at Wake Technical Community College. While it may be impractical and cost prohibitive to provide the degree of training that a local dealership provides for its mechanics, MFM should determine which types of repairs it is justified to make and assure that adequate training is provided for these type of repairs. Since MFM has over 227 types of vehicles in the fleet, it is not cost-justified to keep ten (10) mechanics up-to-date via training on all of these types, but there is much basic training that should be provided on a continuing basis.

10. Set meaningful performance indicators and goals.

Performance indicators of the type recommended below should be established and become part of the performance appraisal process for the MFM supervisors and managers. Goals for each indicator should then be set and performance determined.

a. Vehicle Assignment Unit

There are no significant objective performance goals established for this unit to strive to attain. The average number of unassigned vehicles, the average number of days vehicles await transfer to State Surplus, number of new and change of assignments made per unit hours worked, etc., are examples of performance goals that should be set for the unit's supervisor.

b. Garage

Goals in such activities as percent of time mechanics are working on vehicles, percent of time mechanics complete repairs within established industry standards, average backlog of repairs (stated in hours), cost per hour (that the garage supervisor can control), etc., should be established and performance to these goals monitored.

c. Division

In addition to operating within budget, there are data that any fleet should report monthly to upper management. Such things as miles/vehicle, dollars/mile (less vehicle acquisition costs), garage efficiency (utilization of time and efficiency against industry standards), repair backlog in terms of how long vehicles have been waiting, Motor Pool personnel hours/mile, and number of unassigned vehicles would be some of the critical information that a fleet manager should report to upper management. In keeping with the State's employee performance program, annual goals in these areas and others should be established for the MFM Director.

Similar performance indicators should be determined for the Management and Information and Billing unit, and goals determined.

11. Develop long range plans to replace the present MFM computer system.

The current 25 year-old computer system used by MFM runs on the State Information Technology Services (ITS) mainframe computer. For FY '00-'01 MFM paid ITS more than \$303,031, \$156,962 of which was for programming work. This level of cost has been prevalent for several years. While the system provides critical information for operations, it is difficult to extract information of a management nature until meetings are held with an ITS programmer who will then write a program to extract it. Summary data on such activity as number of vehicles signed out by the Motor Pool by day, or number of mechanic hours expended in the previous month compared to other months, are not available unless an ITS programmer writes a computer program to extract or compile the data. Since this process will likely take several days, management does not have information to react in a timely manner. For these reasons, MFM should begin to plan for the replacement of their computer system with a modern system that is interactive and easily provides comparative and special use data to fleet service personnel that will enable them to make timely decisions. It is possible that a new system could operate on a LAN server eliminating a large amount of programming and mainframe costs. OSBM analysts are acquainted with the GSA Fleet Management computer system and therefore have seen the advantages that an up-to-date computer system can provide MFM.

APPENDICES

June 2001

**Department of Administration
Motor Fleet Management Division
Vehicles in Fleet by Class**

Class Code	Representative Make and Model	Jun '97	Jun '98	Jun '99	Jun '00	Jun '01
<u>Sedans</u>						
CS4	Plymouth Acclaim	3,182	1,926	1,728	1,284	1,286
CS6	Chev. Baretta	0	2	2	2	2
CW4	Ford Escort	0	1	1	1	1
MS4	Plymouth Breeze	0	660	876	1,260	1,264
MS6	Dodge Stratus	443	706	515	845	848
MS8	Ford Mustang	0	3	3	6	6
FS6	Dodge Intrepid	164	350	357	398	399
FS8	Chev. Caprice	421	331	352	302	303
XS6	Plymouth Acclaim	0	9	23	23	23
XS8	Ford Crwn. Vic.	95	97	98	105	105
<u>Station Wagons</u>						
MW6	Ford Taurus	834	698	628	575	577
FW8	Chev. Caprice	16	0	0	0	0
<u>Law Enforcement</u>						
ML6	Chev. Lumina	36	35	73	71	71
FL6	Chev. Impala	0	0	0	72	72
FL8	Ford Crwn. Vic.	1,323	1,225	1,198	1,214	1,218
XL8	Chev. Tahoe	0	10	26	26	26
<u>4-Wheel Drive</u>						
MO4	Geo Tracker	0	20	20	17	17
MO6	Ford Explorer	463	463	501	575	577
MO8	Ford Explorer	0	15	17	17	17
FO8	Chev. Tahoe	285	363	372	411	412
XO8	Chev. Suburban	16	19	24	27	27
<u>Passenger Vans</u>						
MP6	Dodge Caravan	415	464	507	718	721
FP8	Dodge B150	10	3	1	1	1
XP8	Ford	42	48	42	45	45
<u>Cargo Vans</u>						
MC6	Ford Aerostar	0	2	2	3	3
FC8	Chev. Van	81	74	64	76	76
XC8	Dodge Van	26	29	31	35	35
<u>Pickup Trucks</u>						
MT0	Chev. S-10	0	0	1	2	2
MT6	Ford Ranger	36	36	42	45	45
FT8	Ford F150	33	54	52	51	51
XT8	Ford F-600	10	12	9	12	12
XT10	Chev. F-350	0	0	5	5	5
Totals		7,931	7,655	7,570	8,221	8,247

Explanation of Class Codes:*(First letter)*

C = Compact

M = Mid-size

F = Full Size

X = Larger than full size,
specially equipped, executive*(Second letter)*

S = Sedan

W = Station Wagon

L = Law Enforcement

O = Off Road

P = Passenger carrying

C = Cargo carrying

T = Truck

(Number - third digit)

0 = electric

4 = 4 cylinders

6 = 6 cylinders

8 = 8 cylinders

10 = 10 cylinders

Department of Administration

February 13, 2002

Motor Fleet Management Division

CS4/MS6 Class Vehicles at Motor Pool, by Day, for 2001

Day	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S										
January			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31						
Number			h	289	289	289	288			288	288	288	288	288			h	288	288	288	292			291	291	291	291	292			292	292	n/a						
Assigned to Drivers			h	63	88	116	134			163	189	210	206	200			h	184	193	213	210			179	206	219	214	201			175	179	n/a						
Not Assigned			h	209	184	157	138			108	79	64	70	76			h	92	80	64	71			99	75	61	68	85			111	105	n/a						
Not Available (maint.)			h	17	17	16	16			17	20	14	12	12			h	12	15	11	11			13	10	11	9	6			6	8	n/a						
February						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28						
Number						292	291			291	291	291	291	291			291	291	291	291	291			188	218	232	221	207			291	291	n/a						
Assigned to Drivers						172	173			169	168	174	184	181			164	161	179	188	186			188	218	232	221	207			188	198	n/a						
Not Assigned						112	109			113	117	112	102	104			122	113	95	88	93			98	69	55	64	78			96	82	n/a						
Not Available (maint.)						8	9			9	6	5	5	6			5	17	17	15	12			5	4	4	6	6			7	11	n/a						
March						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
Number						291	290			290	290	290	290	290			290	288	288	288	288			288	288	288	288	287			287	287	287	288	n/a				
Assigned to Drivers						217	208			179	179	216	230	229			230	231	237	236	217			199	209	229	246	231			195	215	246	232	n/a				
Not Assigned						65	73			104	104	66	53	54			52	40	47	46	64			82	72	53	39	53			81	61	36	50	n/a				
Not Available (maint.)						9	9			7	7	8	7	7			8	17	4	6	7			7	7	6	3	3			11	11	5	6	n/a				
April		1						7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30								
Number						287	287	287	287	287			287	286	h			286	286	286	285	287			285	285	285	285	286			n/a							
Assigned to Drivers						193	218	231	228	214			209	198	195	172	h			152	184	223	221	232			211	228	231	245	233			n/a					
Not Assigned						89	64	51	55	71			70	84	87	104	h			127	95	51	54	46			67	51	49	36	50			n/a					
Not Available (maint.)						5	5	5	4	2			8	5	5	10	h			7	7	12	10	9			7	6	5	4	3			n/a					
May						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
Number																																							
Assigned to Drivers																																							
Not Assigned																																							
Not Available (maint.)																																							
June							1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30			
Number							291			291	288	288	287	287			287	287	287	287	287			287	287	287	287	287			287	287	287	287	287				
Assigned to Drivers							170			170	196	207	216	203			213	221	219	202	200			201	216	214	207	209			212	239	230	233	188				
Not Assigned							110			112	85	74	60	74			60	51	53	69	75			76	60	64	70	71			67	41	51	48	94				
Not Available (maint.)							11			9	7	7	11	10			14	15	15	16	12			10	11	9	10	7			8	7	6	6	5				
July		1						7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31							
Number							287	287	h	287	287			287	287	287			287	287	287	287			287	287	287	287	287			287	287						
Assigned to Drivers							126	102	h	93	115			150	191	202	159	207			207	232	253	262	255			220	213	227	205	178			151	170			
Not Assigned							146	171	h	182	160			124	84	73	116	67			67	43	19	15	24			59	66	51	64	100			126	109			
Not Available (maint.)							15	14	h	12	12			13	12	12	12	13			13	12	15	10	8			8	8	9	18	9			10	8			
August							1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
Number							287	287	287			287	285	285	285	285			285	285	285	285	285			285	285	285	285			285	285	285	285	n/a			
Assigned to Drivers							182	171	165			167	171	181	189	186			188	207	228	231	217			191	207	231	235	231			219	205	216	198	n/a		
Not Assigned							97	108	114			114	110	99	92	91			92	74	52	45	60			79	72	41	37	45			55	67	58	71	n/a		
Not Available (maint.)							8	8	8			6	4	5	4	8			5	4	5	9	8			15	6	13	13	9			11	13	11	16	n/a		
September		1	2					8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30									
Number							h	285	285	285	285			285	285	285			285	285	285	285			285	285	285	n/a											
Assigned to Drivers							h	162	205	212	217			204	214	226	232	223			210	226	242	229	229			229	240	252	252	n/a							
Not Assigned							h	109	65	64	53			73	64	56	49	56			68	49	39	53	51			50	38	28	29	n/a							
Not Available (maint.)							h	14	15	9	15			8	7	3	4	6			7	10	4	3	5			6	7	5	4	n/a							

APPENDIX B

**Department of Administration
Motor Fleet Management Division
CS4/MS6 Class Vehicles at Motor Pool, by Day, for 2001**

February 13, 2002

Day	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S						
October			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
Number			285	285	285	285	285			285	285	285	285	285			285	285	285	285	285			284	284	284	284	284			284	283	n/a		
Assigned to Drivers			187	184	212	223	211			195	207	224	224	199			201	221	242	234	213			222	245	248	251	242			211	215	n/a		
Not Assigned			88	94	71	57	68			83	72	52	55	80			77	59	37	44	63			56	30	28	23	35			63	57	n/a		
Not Available (maint.)			10	7	2	5	6			7	6	9	6	6			7	5	6	7	9			6	9	8	10	7			10	11	n/a		
November																																			
Number						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Assigned to Drivers						284	284			284	284	284	284	284			h	283	283	283	283			283	283	283	h	h			283	283	283	283	n/a
Not Assigned						64	75			69	44	29	20	38			h	37	25	22	45			105	141	156	h	h			124	75	45	45	n/a
Not Available (maint.)						7	6			11	9	7	7	6			h	9	11	10	9			12	23	17	h	h			13	8	7	4	n/a
December																																			
Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31				
Assigned to Drivers			282	282	282	282	282			282	282	282	282	282			282	283	283	283	283			h	h	h	283	283			n/a				
Not Assigned			170	181	193	197	174			173	185	210	187	153			135	119	116	92	55			h	h	h	27	26			n/a				
Not Available (maint.)			103	92	80	78	101			99	88	64	90	121			139	155	160	184	221			h	h	h	244	244			n/a				
			9	9	9	7	7			10	9	8	5	8			8	9	7	7	7			h	h	h	12	13			n/a				

*NOTES: 1. n/a indicates data not available.
2. Data for May was deemed not useful since the Mtr. Pool was exchanging numerous older vehicles with newer vehicles causing recordkeeping to be suspect for purposes of this report.*

**Department of Administration
Motor Fleet Management Division**

Use of Fleet Vehicles Temporarily During FY '00-'01

Agency	Percent Miles Driven	Vehicles Assigned from Motor Pool Fleet
General Assembly	.25%	1
Admin. Office of Courts	5.79%	14
Barber Examiners	.05%	0
Cosmetic Arts	.15%	0
Dept. of Administration	5.95%	15
Dept. of Agriculture	4.01%	10
Dept. of CC&PS	3.34%	8
Dept. of Commerce	3.26%	8
Dept. of Commun. Colleges	1.43%	4
Dept. of Correction	3.90%	10
Dept. of Cul. Resources	2.70%	7
Dept. of Env. & Nat. Res.	8.97%	22
Dept. of Env. & Nat. Res.-Wildlife	.46%	1
Dept. of Health & Human Svcs.	21.09%	53
Dept. of Health & Human Svcs.-Dix Hosp.	.02%	0
Dept. of Insurance	.70%	2
Dept. of Justice	2.51%	6
Dept. of Juven. Justice	3.69%	9
Dept. of Labor	1.69%	4
Dept. of Pub. Inst.	8.81%	22
Dept. of Revenue	.34%	1
Dept. of Sec. of State	.15%	0
Dept. of State Auditor	.77%	2
Dept. of State Treasurer	.63%	2
Dept. of Transportation	10.83%	27
Elections Board	.09%	0
Empl. Sec. Commission	1.49%	4
Governor's Office	.83%	2
Governor's Office-OSBM	.14%	0
Housing Finance	1.41%	3
Info. Tech. Svcs.	.63%	2
Maj. Medical Insurance	.04%	0
NC State Univ.	1.57%	4
Nursing Home Admin.	.00%	0
Office of Admin. Hearings	.16%	0
Office of Lt. Gov.	.03%	0
Opticians Board	.00%	0
UNC-GA, CH & Hosp.	2.12%	5
Total	100.00%	248

**Department of Administration
Motor Fleet Management Division**

Vehicle Reductions at Motor Pool - CS4/MS6 Class

Reduction in Vehicles	Reduced Fleet Size	Work Days No Cars Available	% of Days Cars Available to Meet Demand
10	276	0	100.0%
20	266	2	99.1%
25	261	6	97.2%
30	256	11	95.0%
35	251	12	94.5%
40	246	22	89.9%
45	241	28	87.2%
50	236	40	81.7%

- Notes:
1. Data based on 2001 Motor Pool activity.
 2. Assumes initial fleet size of 286 vehicles.
 3. Assumes an avg. of 9 vehicles/day out of service due to maintenance.
 4. There are approximately 81 other type vehicles assigned to Mtr. Pool that are not reflected in the figures above.

**Department of Administration
Motor Fleet Management Division**

Cost of Vehicle Ownership

Original Cost of Ownership

Purchase Price of Current Vehicles in Class = Cost of Ownership
Less: Amount Received for Sale by Surplus ¹

$\frac{\text{Cost of Ownership}}{\text{Anticipated Life of Vehicle (yrs. in fleet)}^2} = \text{Cost/Year of Ownership}$

$\frac{\text{Cost/Year of Ownership}}{\text{Annual Miles Driven (by the class)}} = \text{Ownership Cost/Mile for Class}$

Additional Cost to Replace Retired Vehicles

No. Vehicles to be Purchased = Additional Amount Needed
x Additional Cost for Each Vehicle ³

$\frac{\text{Additional Amount Needed}}{\text{Annual Miles Driven (by the class)}} = \text{Additional Cost/Mile for Class}$

Total Cost/Mile

Ownership Cost/Mile for Class = Cost/Mile to be Recovered
+ Additional Cost/Mile for Class

NOTES:

1. **Amount Received for Sale by Surplus** - the amount based on the % of purchase price MFM believes will occur for vehicles sold during the coming year.
2. **Anticipated Life of Vehicle (yrs. In fleet)** - average number of miles driven during vehicle's lifetime divided by the anticipated miles driven in the next year.
3. **Additional Cost for Each Vehicle** - State contract price to purchase a replacement vehicle less the prevailing original purchase price of vehicles (from those expected to be sold).

**Department of Administration
Motor Fleet Management Division
Cost to Operate Garage FY '00-'01**

PERSONNEL SALARIES & BENEFITS

Position Number	Work Area	Job Title	Annual Salary	% Time Assigned to Garage	Applied Salaries	Soc. Sec. & Retirement	Hospitalization	Total Salaries & Benefits
4128-0000-0010-122	Garage	Mech. I (wrecker)	\$23,132	100%	\$23,132	\$2,926	\$2,764	\$28,822
4128-0000-0010-200	Admin.	Dir.	77,828	15%	11,674	1,477	415	13,566
4128-0000-0010-204	Billing	Admin. Officer I	49,799	10%	4,980	630	276	5,886
4128-0000-0010-205	Veh. Assign.	Admin. Officer I	49,799	5%	2,490	315	138	2,943
4128-0000-0010-207	A/R	Acct. Clerk V	25,118	10%	2,512	318	276	3,106
4128-0000-0010-218	A/R	Acct. Clerk IV	22,892	2%	458	58	55	571
4128-0000-0010-224	Garage	Mech. I	26,158	100%	26,158	3,309	2,764	32,231
4128-0000-0010-226	Garage	Mech. II	36,447	100%	36,447	4,611	2,764	43,822
4128-0000-0010-227	Garage	Mech. II	36,447	100%	36,447	4,611	2,764	43,822
4128-0000-0010-234	A/P	Acct. Clerk V	29,691	10%	2,969	376	276	3,621
4128-0000-0010-240	Parts	Proc. Asst. III	23,773	100%	23,773	3,007	2,764	29,544
4128-0501-0010-000	Veh. Maint.	Mtr. Pool Supv.	40,224	75%	30,168	3,816	2,073	36,057
4128-0501-0010-020	R. Auth.	Mech. Supv. II	36,840	5%	1,842	233	138	2,213
4128-0501-0010-041	Garage	Mech. Supv. I	35,882	100%	35,882	4,539	2,764	43,185
4128-0501-0010-042	Garage	Mech. Supv. I	34,727	100%	34,727	4,393	2,764	41,884
4128-0501-0010-061	Garage	Mech. II	33,625	100%	33,625	4,254	2,764	40,643
4128-0501-0010-062	Garage	Mech. II	32,812	100%	32,812	4,151	2,764	39,727
4128-0501-0010-063	Garage	Mech. II	35,440	100%	35,440	4,483	2,764	42,687
4128-0501-0010-064	Garage	Mech. II	31,580	100%	31,580	3,995	2,764	38,339
4128-0501-0010-065	Garage	Mech. II	26,167	100%	26,167	3,310	2,764	32,241
4128-0501-0010-066	Garage	Mech. II	24,111	100%	24,111	3,050	2,764	29,925
4128-0501-0010-110	Parts	Auto Parts Supv.	25,415	100%	25,415	3,215	2,764	31,394
4128-0501-0010-121	Garage	Mech. I	20,966	100%	20,966	2,652	2,764	26,382
4128-0501-0010-124	Garage	GUW	18,158	100%	18,158	2,297	2,764	23,219
4128-0501-0010-160	Admin.	Admin. Asst. I	31,509	30%	9,453	1,196	829	11,478
TOTAL			\$828,540	n/a	\$531,385	\$67,220	\$48,702	\$647,307

GENERAL EXPENSES

Acct. No.	FY '00-'01 Amount	Est. % Spent by/for Garage	Garage Expenses
532140	\$156,962	35%	\$54,937
532170	83,891	35%	29,362
532210	48,126	35%	16,844
532811	35,887	35%	12,560
532812	17,626	35%	6,169
532821	45,232	35%	15,831
532840	9,943	35%	3,480
532850	37,152	5%	1,858
532911	6,597	35%	2,309
533110	5,416	10%	542
533510	13,695	80%	10,956
533900	56,039	35%	19,614
534379	13,495	35%	4,723
534522	16,007	18%	2,881
534539	9,011	35%	3,154
TOTAL	\$555,079	n/a	\$185,220

**Department of Administration
Motor Fleet Management Division
Cost to Operate Garage FY '00-'01**

<u>Annual Cost to Operate:</u>	Salaries & Benefits	\$647,307
	Other Expenses	\$185,220
	Total Expenses	\$832,527
 <u>Mechanic Hours per Year:</u>	Number Positions	10
	*Hours/Year/Position	1,786
	Mechanic Hrs./Year Available	17,860
 Cost/Mechanic Hour		\$46.61
	<i>(Total Expenses/Mechanic Hrs/Year Available)</i>	

	Mechanic Hrs./Year Available	17,860
	**Time Mechanics on Work Orders	59%
	Mechanics Hrs. on Work Orders	10,484
 Effective Cost/Mechanic Hour		\$79.41
	<i>(Total Expenses/Mechanics Hrs. on Work Orders)</i>	

* - 2,080 hrs./employee, 158 hrs. annual leave, 48 hrs. sick leave, and 88 hrs. for holidays

** - 53.4% time on work orders and 5.3% time allowed for incidental work

**Department of Administration
Motor Fleet Management Division**

(Proposed)

