Logistics Management Institute

Motor Vehicle Use at the Frederick Cancer Research and Development Center

A Review of Internal Controls and Cost Effectiveness

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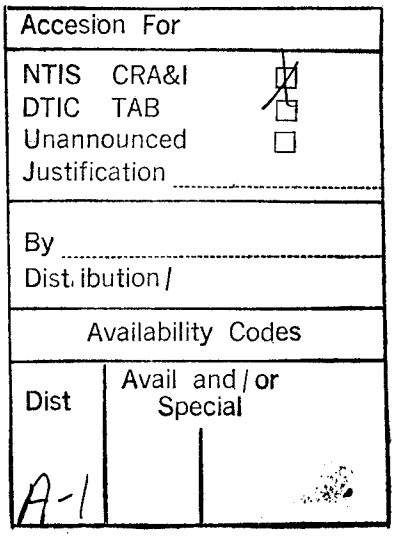

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INTRODUCTION

In June 1993, the Logistics Management Institute (LMI) completed a study of internal controls and contracting alternatives for transportation services at the National Institutes of Health (NIH).[1] In that study, we reviewed policies governing Federal agency motor vehicles and highlighted parts of the NIH Transportation Branch operation in which additional controls were appropriate. We also identified specific mixes of contractor and in-house resources that would be most cost-effective in providing needed transportation services to the NIH community. The scope of that study was restricted to the NIH community located on and nearby the NIH campus in Bethesda, Md. Since that time, we have been asked by NIH to perform a similar analysis of motor vehicles and transportation services at the Frederick Cancer Research and Development Center (FCRDC) in Frederick, Md. For ease of identification we refer to the original study as the Bethesda study and this ancillary one as the Frederick study.

The FCRDC is a government-owned, contractor-operated center devoted to conducting research on the causes, treatments, and cures of cancer. The National Cancer Institute (NCI), a part of NIH, uses a system of five contracts along with its own scientists to conduct and support that important research. Those contracts are long-term contracts — the current one being a seven-year contract — expiring in September of this year. The contractor for operations and technical support services at FCRDC is Program Resources Incorporated (PRI).

The FCRDC is physically collocated with the U.S. Army at Fort Detrick. It employs 1,700 contractor and 350 government employees in 75 buildings spread across 70 acres. Those buildings include offices, laboratories, animal housing areas, and storage facilities for critical supplies. It has a large interagency agreement with the U.S. Army to provide some services (mostly utilities), but it provides its own internal building maintenance and some landscape maintenance.

The FCRDC has 73 government-owned vehicles that are used in day-to-day operations. Those vehicles were purchased by PRI on behalf of NCI. Although PRI is entitled to purchase the vehicles with contracting officer approval, those

[1] LMI Report NI201R1, *Transportation Services at the National Institutes of Health, A Review of Internal Controls and Contracting Alternatives,* Sam J. Mallette, George J. Basil, and Donald T. Frank, June 1993.

vehicles are owned and registered by the government and are therefore subject to the same policies and regulations as the NIH vehicles in Bethesda. The types of vehicles and their allocation across users is shown in Table 1.

Table 1.
Allocation of Vehicles

	Sedans	Station wagons	Minivans	Passenger vans	Work vans	Pick-up trucks	Total
Facilities maintenance	0	1	4	0	10	20	35
Material/Transportation	0	0	2	0	8	1	11
National Cancer Institute	3	0	3	0	0	1	7
Protective Services	0	0	2	2	0	0	4
Other	0	0	1	2	7	6	16
Total	3	1	12	4	25	28	73

Almost half of the vehicles (35 out of 73) are used by the Facilities Maintenance organization at FCRDC. This group of about 165 PRI employees is responsible for building maintenance and custodial services. It utilizes mostly pickup trucks, limited to travel within the boundaries of Fort Detrick, to aid in providing those services.

Another 11 vehicles are used by the Material/Transportation group. That group is responsible for receiving, storing, and issuing of office supplies, medical supplies, and animal food and bedding; receiving and delivering of direct-ordered supplies; sorting, delivering, and picking up mail; providing courier service to and from the NIH campus; and managing personal property. It uses primarily vans to aid in providing those services.

The third biggest user of vehicles at FCRDC is NCI. It has 7 vehicles – 3 sedans, 3 minivans, and 1 pickup truck – available to employees on an as needed basis. Our review of trip logs showed that almost all usage of these vehicles was for trips to and from either the NIH Bethesda campus or locations near it in the Bethesda, Md. area.

The Protective Services organization at FCRDC is the fourth largest user of vehicles. It utilizes 25 PRI employees (about 15 full-time equivalents) to provide security patrols and a shuttle service to and from the NIH campus four times daily. Protective Services uses 2 minivans to assist with the security patrols and 2 full-size passenger vans to provide the shuttle service.

Our study of motor vehicles at FCRDC is divided into two parts: internal control and cost-effectiveness. Prior to addressing those areas, we discuss the nature of the contracting relationship between NCI and PRI. Our discussion of internal control then addresses six general categories of control: oversight responsibility, determining vehicle requirements, security of property and

material, proper use of government property, maintenance and repair, and acquisition. Our analysis of cost-effectiveness provides a relative cost comparison of various passenger transportation modes used at FCRDC, and addresses the cost effectiveness of current vehicle maintenance and acquisition strategies. Finally, we end our report with our recommendations for improving control and cost-effectiveness.

THE CONTRACTING RELATIONSHIP

The current contract with PRI for operational and technical support is a cost-plus-award-fee contract of seven years in duration and expires in September 1994. That contract specifically stipulates that:

- The contractor must submit on an annual basis for approval a list of capital equipment requirements anticipated for acquisition during a given contract year.

- Prior to actually acquiring items (in this case motor vehicles), the contractor must obtain the NCI contracting officer's authorization. The request for authorization must be based on solicited prices, evidence of competition, and current need.

- The contractor is authorized, but not required, to use the General Services Administration (GSA) supply sources.

- Title to all property purchased under the contract passes from the vendor directly to the government. The contractor is the purchasing agent. Payment to vendors for property does not include Maryland state sales tax.

- The users of equipment are liable for damage to equipment. Maintenance of the equipment is charged back to users. The users of the equipment at FCRDC are both contractor and government employees.

- The contractor shall provide shuttle service between FCRDC and the NIH campus. That shuttle service is not for transportation of personnel between their residence and work site, but only for FCRDC and NIH personnel visiting between the two locations.

Essentially, PRI buys all of the motor vehicles (with NCI approval), but the government owns them. As such, they are subject to all of the same policies and regulations regarding proper use of government vehicles as those used on the NIH campus. In addition, PRI administers all vehicle maintenance and assumes liability for damages incurred by its employees that operate the vehicles. PRI also provides the shuttle bus service between the main NIH campus in Bethesda and the FCRDC site in Frederick.

INTERNAL CONTROL

In the Bethesda study, we focused on five broad areas that we believe are most critical to the internal control of vehicles. They are: oversight responsibility, determining vehicle requirements, security of property and material, proper use of government property, and repair and maintenance. We focused on those same five broad areas in this study and one additional area: acquisition. Many of our findings are identical or similar to those of the Bethesda study. Our visits to the primary users of vehicles at FCRDC did not uncover abuses. In general, vehicle use at FCRDC is sufficiently controlled to prevent substantial abuse. However, we believe tighter control of vehicles in specific areas will prevent or minimize the opportunity for abuse in the future. In this section we present our findings and conclusions regarding internal controls.

Oversight Responsibility

We found that procedures to enforce local control at FCRDC differ from procedures to enforce local control within other parts of NIH, and also that they differ among the various groups using vehicles within FCRDC. In some organizations at FCRDC, for instance, mileage logs are kept while in others they are not. As another example, one organization at NIH requires users to sign a specific statement of what constitutes appropriate use of a vehicle and the penalties for abusing that privilege; at the other extreme, there are no formalized procedures in place to ensure proper use of government vehicles at FCRDC.

With regard to motor vehicle oversight, little or no interaction exists between the NIH Transportation Branch and either NCI or PRI personnel at FCRDC. The *Department of Health and Human Services Logistics Management Manual (DHHS LMM)* specifically assigns to its component fleet managers (e.g., the NIH Transportation Branch Chief) the responsibility for implementing department policy and for providing advice and guidance to the organization's local motor vehicle managers.[2] We believe that in the case of oversight, the FCRDC should be treated as a local using organization of NIH vehicles just as any other user is treated on the NIH campus (the Division of Engineering Services, for example). In the case of FCRDC, NIH is completely dependent upon PRI managers and the NCI contracting officer to establish measures of oversight and control, but those individuals receive little or no guidance in doing so.

We conclude that FCRDC needs access to information about Federal and DHHS motor vehicle control requirements, and that it needs procedural guidance consistent with that given to other parts of NIH. Essentially, we view the contracting officer at FCRDC as the local fleet manager or person responsible for motor vehicles and other property at FCRDC. We believe that the contracting officer or his/her representative should regularly communicate with the Transportation Branch on vehicle control procedures. That regular communication could be in the form of annual training sessions. Those control procedures

[2] *DHHS LMM* section 103-38.5002(b).

could, in turn, be passed to the managers in each of the groups at FCRDC using vehicles. In essence, the Transportation Branch needs to increase its understanding of the FCRDC operation and in turn it needs to provide FCRDC with its expertise relating to motor vehicle management.

Determining Vehicle Requirements

In this section, we address the process of justifying the use of vehicles and deciding the type and quantity of vehicles needed to satisfy a particular need. The *DHHS LMM* prescribes mileage requirements that justify the use of dedicated vehicles.[3] (The *DHHS LMM* permits alternative forms of justification but does not clearly define or tailor them for specific agency use.) In this area, we examined the justification for FCRDC vehicle use on the basis of DHHS mileage guidelines and other considerations, made observations about the cost-efficient use of vehicles, and analyzed the number of vehicles used to support NCI staff at FCRDC.

We found that 67.6 percent of the FCRDC vehicles do not meet the guidelines for mileage utilization required by DHHS, however there appear to be good reasons for that. Table 2 shows a breakdown of the number of vehicles of each type and whether they meet the DHHS guidelines. Most of the vehicles not meeting the mileage requirements are work vans or pickup trucks. Of those work vans and pickup trucks, most are used by either the Material/Transportation group to deliver supplies and mail or by the Facilities Maintenance group to transport equipment and maintenance personnel between the various buildings at the center. Although those vehicles do not meet the minimum mileage requirements, they are in use throughout much of the day.

Table 2.
Compliance with DHHS Annual Mileage Requirements

Vehicle type	Annual miles required	Vehicles meeting requirement	Vehicles not meeting requirement
Sedans	10,000	2	1
Station wagons	10,000	0	1
Minivans	9,000	10	2
Passenger vans	9,000	3	1
Work vans	6,000	8	17
Pick-up trucks	9,000	2	26
Total		25	48
Percent		34.2	65.8

Note: DHHS requires vans with less than 24,000 pounds gross vehicle weight rating to have 9,000 miles per year. Some FCRDC work vans fall into this category.

[3] *DHHS LMM* section 103-38.5004.

We did not observe cases of inefficient vehicle use or low vehicle utilization. We found, for example, that the shuttle service was using 15-passenger vans as opposed to much more costly 20-passenger buses. The security patrol staff had only two vehicles assigned to it: much of the patrolling is performed on foot. The maintenance group has a ratio of three craft workers per motor vehicle, meaning that the vehicles are not used exclusively by one individual throughout the course of an entire day.

We found that the number of vehicles used by NCI is appropriate. Using a probability model, we calculated the minimum and maximum numbers of vehicles needed to satisfy demands for sedans, minivans, and pickup trucks given their usage patterns from 1 February to 6 May 1994.[4] We did find a low usage for the single pickup truck used by NCI — we address alternatives to satisfy this in our discussion of cost-effectiveness. The results of our usage analysis for NCI vehicles is shown in Table 3.

Table 3.
NCI Vehicle Usage Analysis

Vehicle type	Mean usage (vehicles per day)	Current vehicles	Suggested minimum number of vehicles	Suggested maximum number of vehicles
Sedans	1.84	3	2	4
Minivans	1.29	3	2	3
Pickup trucks	0.13	1	1	1

Notes: (1) Vehicle usage data from 1 February to 6 May 1994. (2) Suggested minimum number of vehicles assumes fixed assignment of vehicle. (3) Suggested maximum number of vehicles calculation assumes random use of vehicle and 95 percent probability of vehicle availability when needed.

Although we generally observed good utilization of motor vehicles at FCRDC, we believe the justification process needs strengthening. Since many of the vehicles used do not meet *DHHS LMM* mileage guidelines for qualification as dedicated vehicles, the criteria under which they are justified must be clearly identified. In the Bethesda study we indicated five possible ways to justify the use of a dedicated vehicle:

- *DHHS Mileage Use Criterion:* This criterion is described in the *DHHS LMM* section 103-38.5004.

[4]The demand for NCI vehicles is unpredictable over time. Potential vehicle users place random demands on the system. On some days, very few vehicles are needed to satisfy demand; on other days, all of the vehicles are used and some users are unable to obtain a vehicle. In such a system with a limited number of vehicles, some percentage of users will be unable to obtain the use of a vehicle. Our probability model sets the minimum number of vehicles of a given type equal to the average daily demand for those vehicles and the maximum number of vehicles such that potential vehicle users have a 95 percent chance of obtaining an NCI vehicle when they need one.

- *Time Utilization Criterion (Fixed Use):* This criterion is based on showing that a vehicle is used for a specific purpose more than a certain percentage of the time each day.

- *Time Utilization Criterion (Random Use):* This criterion applies to vehicles with random use such as those in the NIH motor pool or those assigned to NCI. It uses a probability model to determine the appropriate number of a given type of vehicle based on average demand for that vehicle type.

- *Economic Analysis Criterion:* This criterion can be used to show that the vehicle or vehicles being used represent the least-cost method of satisfying a given transportation need.

- *No Other Alternative Criterion:* This criterion can be used to certify that no other way is available to meet a particular vehicle need.

Sample forms for satisfying each of these criteria can be found in Appendix D of the Bethesda study.

Security of Property and Material

We found the security controls for fuel dispensing to be adequate. Fuel can only by obtained with the fuel credit card assigned to the group operating the vehicle. Those fuel credit cards are not kept with the vehicles but rather with the supervisors of the department responsible for the vehicle. When fuel is issued, the vehicle user must obtain the credit card from his or her supervisor, drive the vehicle to the gas pumps (located within Fort Detrick), punch in the required information (vehicle number and mileage), obtain the fuel, and return the card to his or her supervisor. In this way all fuel usage is logged electronically.

We found the security of the vehicles themselves to be adequate. Vehicles are kept locked and within the confines of Fort Detrick at night. While access to Fort Detrick is unlimited during the daytime, it is restricted at night. Even FCRDC employees need special permission to gain entry after hours.

Proper Use of Government Property

We found the controls in place for use of the vehicle maintenance services provided by the U.S. Army to be adequate. When a vehicle is taken to the Army garage for maintenance, the Army provides the vehicle user with a work order describing maintenance done and showing the vehicle license number on which the maintenance was performed. That work order along with an invoice and a purchase order is turned into the PRI administration office for payment. The maintenance information is recorded electronically in a data base. When recording that information the license number of the vehicle maintained is checked against the inventory of government vehicles in the data base.

The shuttle bus service between the NIH campus and FCRDC may be susceptible to abuse either by non-NIH employees or by NIH employees (contract or in-house) using it for nongovernment purposes. Riders are asked to provide their name and organization in a written log, but the drivers do not ask for NIH identification. If the drivers do not make identification checks periodically on this shuttle service, NIH has no assurance that the transportation services are restricted to NIH use. While the shuttle sign-in logs are periodically checked by the NCI contracting staff to ensure proper use, we believe a better verification system is needed.

We also found room for improvement in ensuring that vehicles are used properly by both contractor and NCI employees. Guidelines about what constitutes proper and improper use of government vehicles are abundant in the Federal Property Management Regulations (FPMR) and the *DHHS LMM,* but they are not well known in the NIH community or the FCRDC community. The *DHHS LMM* specifically requires that these guidelines be communicated to vehicle users.[5] In our interviews with major vehicle using groups, we could not identify specific measures taken to ensure the appropriate guidelines were conveyed to vehicle users. In the Bethesda study, we suggested a set of instructions that could be conveyed to all vehicle users at NIH. Figure 1 is a similar set of suggested instructions that could be issued to vehicle users at FCRDC. We conclude that FCRDC needs to issue a complete set of instructions, such as those presented in Figure 1, to all users of vehicles.

We found that accidents are not being reported to the NIH Transportation Branch by the NCI contracting office. The *DHHS LMM* requires that all motor vehicle accidents be reported to the component fleet manager, in this case the NIH Transportation Branch Chief.[6] That document further requires that accidents determined to be the fault of a government operator be reviewed by a Board of Survey, and that a copy of that Board of Survey review be provided to the DHHS department fleet manager. Current FCRDC policy calls for accidents to be reported only to the NCI contracting office. Appropriate action, if any, is taken by them. We did note that the vehicles are insured by PRI.

Repair and Maintenance

We found no substantial opportunities for abuse in billing for repairs. PRI has a maintenance contract with the U.S. Army that has fixed prices for a number of types of vehicle maintenance. It also specifies hourly rates for repairs or maintenance items not specified and it calls for the use of standard flat rates for those repairs. The users of the vehicles are responsible for ensuring that the maintenance performed is satisfactory. All maintenance work is guaranteed for a period of 90 days or 4,000 miles, whichever comes first.

A formal preventive maintenance schedule is necessary at FCRDC. The current policy is to let supervisors determine when to bring vehicles in for

[5] *DHHS LMM* section 103-38.300-59.

[6] *DHHS LMM* section 103-38.601-50.

Instructions to Operators of FCRDC Government Vehicles

- You must hold a valid state driver's license for the vehicle you are using.
- You may not use government vehicles for transportation between your home and place of work.
- You are responsible for the care, operation, maintenance, and protection of government vehicles while they are assigned to you.
- You must obey motor vehicle traffic laws and pay fines resulting from violation of those laws while using government vehicles.
- If you use a government vehicle for other than official business, you will be subject to a suspension of at least 1 month and may be terminated.
- You are not allowed to transport nonofficial passengers in a government vehicle.
- You must obtain fuel from the Post Transportation Service Station on Sultan Street (across from the swimming pool). You must use the pumps behind the fence, between buildings 901 and 905 and you must use your department fuel credit card.
- You must fill in a dedicated vehicle mileage log for use at Fort Detrick and an NIH trip ticket for use off the base.
- If you are involved in an accident, you must follow the vehicle accident instructions provided in the vehicle. Guidance for accident reporting can be obtained from the Protective Services Office by calling (301) 846-1091.
- You must use unleaded gasoline in all vehicles designed to operate on such fuel. If obtaining fuel from a commercial station, you should use a self-service pump.
- You may not smoke in a government vehicle.
- You should use government vehicle parking spaces when they are available.
- You must always keep the vehicle locked when not in use.
- You must always use seat belts and shoulder harnesses when operating an FCRDC government vehicle.

Figure 1.
Suggested Vehicle Operator Instructions

maintenance (preventive or otherwise). We found no formal schedule existed for preventive purposes. While there are several informal schedules – they vary by using group – we believe the adoption of a formal required maintenance schedule could prevent costly maintenance in the future. The FPMR requires that preventive maintenance be performed in accordance with the manufacturers suggested schedule.[7] It also requires that vehicles receive periodic inspections to ensure safe operation and compliance with Federal and State emissions standards. In the Bethesda study we found that all vehicles received routine preventive maintenance including emissions testing consistent with that required by vehicles with Maryland state registration. At FCRDC, some individual using groups perform periodic vehicle inspections; however, we believe more attention is needed by qualified maintenance personnel in preventing serious repairs, ensuring passenger safety, and complying with emissions standards.

Acquisition

We found that the acquisition strategy practiced at FCRDC is a competitive one and satisfies contractual and government requirements. Contracting officer approval must be obtained before vehicles are purchased. Once that approval is obtained, bids are solicited from many vendors. Some of these vendors are local and some are as far away as Oklahoma. Specific brands of vehicles are not included in the solicitations, but in many cases a trade-in vehicle is specified. The low-cost bidder wins the sale. The contract with PRI allows the use of GSA supply sources for purchases but does not require it. It only requires that the procurement process be a competitive one.

We found that there is no attention given to Federal agency fleet average fuel economy requirements in the acquisition process. We were not concerned with these standards, or the acquisition process in general, in the Bethesda study because the vehicles in that study were purchased through GSA. GSA monitors fleet fuel economy for its customers.[8] In this case, because GSA does not purchase the vehicles, NIH or PRI must ensure that those requirements are met or at the very least monitor them. Essentially, for each government fiscal year, the fleet must meet the standards prescribed by the Secretary of Transportation for each of three broad classes of vehicles: passenger automobiles, 4x2 light trucks, and 4x4 light trucks. The standards are not for individual vehicles purchased but rather for the harmonic average of vehicles in each of the three broad classes.[9] Due to insufficient data, we did not calculate these fleet averages for recent fiscal years but believe it can and should be monitored for future purchases.

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[7] Title 41, Code of Federal Regulations, section 101.38.5.

[8] In the Bethesda study, we neglected to state that NIH is responsible for meeting the fuel economy requirements even though they are monitored by GSA.

[9] See Code of Federal Regulations, Title 41, section 101-38.101.

Cost Effectiveness

In this study our analysis of cost effectiveness is limited to comparing the costs of various types of transportation services available at FCRDC, examining the prices paid for vehicle maintenance at FCRDC, and discussing the cost effectiveness of the current acquisition strategy.

Comparison of Services Offered

We found that the primary off-site use of FCRDC vehicles is to transport people and things between FCRDC in Frederick and the vicinity of the NIH campus in Bethesda. The total round trip distance is about 75 miles and individuals needing to make the trip for legitimate government purposes have several potential ways to do so. They can travel using their privately-owned vehicle (POV), at a cost to the government of 25 cents per mile. They can take one of four scheduled shuttle runs throughout the day. They can, if they are NCI employees, use one of the NCI vehicles; or they can use a rental vehicle.

We compared the cost of the available transportation options and found the most cost-efficient ones to be POVs, in-house or rental sedans (as opposed to minivans or pickup trucks), and the shuttle buses. Table 4 shows the cost per trip of nine different modes of travel for a round trip between the NIH campus and FCRDC. The shuttle and NCI vehicle trip costs are highly dependent on the utilization of those modes; the costs in Table 4 assume current utilization. While the shuttle trip cost is $68.62, the average number of passengers per run is 4.6 bringing the cost per passenger to $14.92 for a one-way trip, and $29.84 for a round trip. Because of the shortage of parking on the NIH campus, the shuttle service enjoys an ease-of-use advantage over other forms of transportation in that its passengers need not be concerned with finding parking spaces. More importantly, the shuttle service is most consistent with recent government policy encouraging car pooling and greater use of public transportation. The cheapest alternative is a POV at $18.75 per trip followed by an NCI sedan at $27.93 and a subcompact rental car at $27.99. Note that for minivans, the NCI vehicle is cheaper than a rental vehicle but for pickup trucks the rental vehicle is the least expensive mode. We make one final note about these costs: they include the fixed expenses associated with owning the vehicles. As long as the number of shuttle trips and NCI vehicles remain constant, the marginal cost of using those vehicles for any given travel is nothing in the case of the shuttles (they make the trip anyway), and it's virtually nothing for the NCI cars, the only marginal expense being $3.00 for gas. Indeed, in the short run, the most economical form of travel is by either the shuttle or one of the NCI vehicles.

The cost of the shuttle service (per passenger round trip) can be reduced through increased utilization. The shuttle service has excess capacity since it uses 15-passenger vans and transports only 4.6 persons per run. Note that this means that, on average, 2.3 persons travel from FCRDC to NIH, and 2.3 persons travel from NIH to FCRDC on any given run. Essentially, there is ample room

to accommodate more persons on many of the shuttle runs. We counted 114 round trips to NIH that were made between 1 February and 6 May 1994 by NCI vehicles. Assuming those vehicles contained only 1 person, the use of the shuttles instead of the NCI vehicles for transport to and from NIH would have reduced the round trip shuttle cost from $29.84 to $24.95.[10] Further decreases may be possible if vehicles other than the NCI-assigned ones are currently being used for transportation to and from the NIH campus.

Table 4.
Cost of Round Trip Transportation Between FCRDC and NIH Campus or Vicinity

Mode of transportation	Cost per trip ($)
Shuttle bus with driver	68.62
NCI sedan	27.93
NCI minivan	43.70
NCI pickup truck	75.93
Rental - subcompact car	27.99
Rental - compact car	34.00
Rental - minivan	73.74
Rental - pickup truck	53.00
Privately owned vehicle	18.75

Notes: (1) Shuttle costs derived from the Bethesda study cost model for GSA vehicles using current vehicles and four scheduled trips per day of 75 miles each. Costs also include gas at $1.00 per gallon and assume fuel economy of 20 miles per gallon. (2) NCI vehicle costs are derived from Bethesda study cost model using usage and mileage data from February 1 to May 6, 1994 for current NCI vehicles. Costs also include gas at $1.00 per gallon assuming fuel economies of 20 miles per gallon for minivans and 25 miles per gallon for sedans and pickup trucks. (3) Rental costs used are from current contract with Marjon, Inc. They also include fuel costs of $3.00 per trip for subcompact cars, compact cars, and pickup trucks and $3.75 per trip for minivans. (4) Privately-owned vehicle costs are calculated at $0.25 per mile for a 75 mile round trip.

The pickup truck currently used by NCI is more expensive to operate than a rental pickup truck. Our calculations show the in-house vehicle costing $75.93 per trip and the rental vehicle $53.00 per trip. Unless there is great inconvenience associated with using a rental truck, the NCI pickup truck probably should not be replaced when it is judged to be no longer cost-effective to operate.

Maintenance Costs

The maintenance strategy at FCRDC appears to be a cost-effective one. We examined the prices given in the contract that PRI has with the U.S. Army to provide vehicle maintenance and found them to be very competitive. In fact they appear to be considerably less expensive than private sector pricing. A five quart oil change with new filter costs $15.35; a 6 cylinder engine tune-up costs

[10] The average number of passengers per run would increase from 4.6 to 5.5.

$63.75; and labor is charged at the rate of $29.00 per hour. In the Bethesda study we found that commercial garages charged between $53.00 and $60.00 per hour. The NIH garage charges its time out at $42.00 per hour.

Acquisition Costs

There may be some opportunity for cost savings by purchasing vehicles through the GSA Automotive Commodity Center, but those purchases may take longer, do not allow trade-in vehicles, and cannot be requested by a contractor (according to GSA). GSA has indicated to us that typical consumers receive a 20 percent discount and GSA averages a 30 percent discount from list prices. Essentially, GSA consolidates purchase orders and buys vehicles three times a year. Old vehicles must be disposed of according to FPMR guidelines. If this acquisition method were to be used at FCRDC, it would require coordination by NIH since they are the government agency owning the property.

NIH has advised us that it must comply with Federal guidelines mandating that a specified percentage of its fleet be operated with alternative fuels in the near future. The Department of Energy is, in fact, supplying the necessary additional funds to GSA to support this effort. If NIH intends to direct the FCRDC to use alternative fuel vehicles, that decision may make the GSA sourcing option more attractive because the GSA supplied alternative fuel vehicles will cost NIH the same as conventional gasoline fueled vehicles. More information on the program is needed, but we believe NIH should open dialogs with both FCRDC and GSA to prepare for this eventuality.

RECOMMENDATIONS

We did not uncover substantial abuse of motor vehicles or transportation services at FCRDC, nor was it our intent to do so. The findings in this study are very similar to those of the Bethesda study. For the most part, our recommendations focus on strengthening internal controls that relate to vehicle justification and proper use of government vehicles. A number of recommendations made in the Bethesda study are applicable to FCRDC (with some minor modifications). They include:

- *The Associate Director for Administration or his/her designee should task the NIH Transportation Branch Chief with the responsibility for providing advice and guidance to FCRDC on controlling motor vehicle use. That individual should also appoint a local fleet manager – we suggest the NCI contracting officer or a representative from the office of the General Manager – at FCRDC.* The local fleet manager should be responsible for ensuring that vehicles are used properly, that vehicle users are aware of the FCRDC vehicle use procedures, and that annual utilization reviews and justifications are completed for each vehicle assigned to them. The Transportation Branch should be responsible for providing annual training for the local fleet manager. In the case of

FCRDC, it is appropriate for the local fleet manager to provide advice and guidance to each of the using groups at FCRDC.

- *The Associate Director for Administration should modify the vehicle justification policy now being used.* The new policy should allow the specific use of a dedicated motor vehicle only on the basis of specific minimum mileage requirements, specific minimum utilization requirements, or economic justification showing the use of that motor vehicle to be the least-cost alternative in meeting specific needs. Vehicle justifications should be provided annually for all fleet vehicles and should contain a signed statement by an institute, center, or division administrative officer, or in this case by a PRI administrative representative, certifying that the vehicle is justified on the basis of one of the above criteria and that the vehicle used is the most cost-efficient type of vehicle to meet their needs.

- *The local fleet manager at FCRDC should direct PRI to have its bus drivers periodically check for NIH identification of passengers on the shuttle between FCRDC and the NIH campus.* Periodic checks will aid in preventing misuse of the shuttle service by persons not employed by NIH or one of its contractors.

- *The local fleet manager at FCRDC should write and distribute a concise statement of what constitutes proper use of a government vehicle.* We provide an example of this for FCRDC in Figure 1. That communication will serve to strengthen the understanding by all vehicle users of current policy regarding official use.

In addition to those recommendations, we make several new ones that apply only to FCRDC. They include:

- *The local fleet manager should require each using group at FCRDC to keep daily usage logs for vehicle use, even for use exclusively within the bounds of FCRDC.* While NIH trip tickets are filled out for use outside of FCRDC there is no consistent policy for use within the confines of Fort Detrick. Under the current policy, it is possible to misuse a government vehicle with little chance of it being detected. Also, vehicle use logs will help in providing justification for continued vehicle use. The filing of daily vehicle logs need not be a burdensome task; the logs can be a daily summary of operators, mileage driven, and purpose of use.

- *The local fleet manager should report all accidents to the NIH Transportation Branch Chief.* For those accidents where a government employee is at fault, we recommend that the NIH Transportation Branch Chief convene a Board of Survey and report the results of it to the DHHS fleet manager in accordance with the *DHHS LMM.*

- *The local fleet manager should establish and direct PRI to follow a formal preventive maintenance schedule that is in accordance with manufacturers suggested maintenance schedules and includes both safety and emissions inspections.* The FPMR calls for this action to be taken with all government vehicles. We

believe it to be necessary to prevent expensive repairs in the future, to ensure passenger safety, and to comply with emissions regulations.

- *The FCRDC General Manager should establish a policy of using POVs, the shuttle service, or in-house sedans for trips between FCRDC and the vicinity of the NIH campus when it is convenient to do so.* For trips to the NIH campus, where parking is extremely limited, the shuttle bus should be the preferred option. In other cases, preferences should be defined by the relative costs of the three options. The use of POVs is the least expensive mode of transportation in the long term and should be used where possible and agreeable to the owner of the vehicle. The shuttle service is currently competitive with the use of other in-house vehicles and could be less expensive if utilization of it increased, so that option is the next most desirable in the long run. The use of in-house and rental sedans, as opposed to minivans and larger vehicles, should be encouraged as the third most preferred option since they are the next most cost-effective transportation means in the long run.

- *The local fleet manager should consider not replacing the NCI-assigned pickup truck when it is no longer cost effective to maintain.* Unless it is inconvenient to do so, a more cost effective rental pickup truck can be used instead.

- *PRI, in conjunction with the local fleet manager, should consider the use of GSA Automotive Commodity Center as a source of vehicles if the time frame for delivery is acceptable.* Essentially, we believe that this relationship has to be explored more fully to prove its cost effectiveness. Since prices for GSA-supplied vehicles are only obtained after orders are placed, it is not possible to compare beforehand whether or not GSA is the most cost-effective option. It is possible, however, to determine the discount off of list price that PRI is getting. If that discount is less than the typical 30 percent discount obtained by GSA, then the GSA option may be preferable.

- *PRI and the local fleet manager should develop a plan for acquiring vehicles to satisfy NIH's alternative fuel vehicle responsibilities, once they are defined for FCRDC.*

Finally, we have one recommendation that applies to both NIH vehicles and FCRDC vehicles:

- *For all passenger automobiles and light trucks with a Gross Vehicle Weight Rating of under 8,500 pounds, the NIH Transportation Branch should record combined city/highway Environmental Protection Agency's mileage ratings. At the end of each fiscal year, it should calculate, using the FPMR formulas, the fleet average for passenger automobiles, 4x2 light trucks, and 4x4 light trucks purchased during that year and compare those values to the standards established by the Secretary of Transportation.*[11] While the FPMR calls for compliance with fleet fuel economy standards set by the Secretary of Transportation, we believe this action

[11] See Code of Federal Regulations, Title 41, section 101-38.101 for a definition of the fleet average calculation and the standards set forth by the Secretary of Transportation.

to be a first step in ensuring that compliance. If annual fleet purchases are found to be noncompliant, then further action will be necessary.

We believe that if NIH can follow our recommendations, it will maintain sound control over motor vehicle use and will continue to provide cost-efficient transportation services.

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13. ABSTRACT ***(Maximum 200 words)***

The Frederick Cancer Research and Development Center is a government-owned, contractor-operated organization devoted to conducting research on the causes, treatments, and cures of cancer. The National Cancer Institute, a part of the National Institutes of Health, uses a system of five contracts along with its own scientists to conduct and support that important research. This study of motor vehicles at the FCRDC is divided into two parts: internal control and cost-effectiveness. Our discussion of internal control addresses six general categories of control: oversight responsibility, determining vehicle requirements, security of property and material, proper use of government property, maintenance and repair, and acquisition. Our analysis of cost-effectiveness provides a relative cost comparison of various passenger transportation modes used at FCRDC, and addresses the cost effectiveness of current vehicle maintenance and acquisition strategies. We provide specific recommendations for improving control and cost-effectiveness at FCRDC.

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