



A REPORT
TO THE
MONTANA
LEGISLATURE

LEGISLATIVE AUDIT
DIVISION

21P-03

PERFORMANCE AUDIT

Cost and Management of the State Motor Pool

*Montana Department of
Transportation*

DECEMBER 2021

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PERFORMANCE AUDITS

Performance audits conducted by the Legislative Audit Division are designed to assess state government operations. From the audit work, a determination is made as to whether agencies and programs are accomplishing their purposes, and whether they can do so with greater efficiency and economy.

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. Members of the performance audit staff hold degrees in disciplines appropriate to the audit process.

Performance audits are conducted at the request of the Legislative Audit Committee, which is a bicameral and bipartisan standing committee of the Montana Legislature. The committee consists of six members of the Senate and six members of the House of Representatives.

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December 2021

The Legislative Audit Committee
of the Montana State Legislature:

This is our performance audit of the State Motor Pool managed by the Maintenance Division within the Montana Department of Transportation.

This report provides the Legislature with a cost comparison of the State Motor Pool with the private sector. The report also provides information about fleet management practices at the State Motor Pool and a recommendation for improving them. A written response from the department is included at the end of the report.

We wish to express our appreciation to department personnel for their cooperation and assistance during the audit.

Respectfully submitted,

/s/ Angus Maciver

Angus Maciver
Legislative Auditor

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APPOINTED AND ADMINISTRATIVE OFFICIALS

	<u>Name</u>	<u>City</u>	<u>Term Expires</u> <u>January 1</u>
Montana Transportation Commission	Loran Frazier, Chair	Great Falls	2025
	Scott Aspenlieder	Billings	2025
	Tammi Fisher	Kalispell	2023
	Shane Sanders	Bozeman	2025
	Noel Sansaver	Wolf Point	2023
Montana Department of Transportation	Malcolm Long, Director		
	Julie Brown, Deputy Director		
	Dwane Kailey, Chief Operating Officer, Engineering Division		
	Jon Swartz, Administrator, Maintenance Division		
	Walt Kerttula, Chief, Equipment Bureau		
	Jeff Olsen, Fiscal Manager, Equipment Bureau		
	Vonnie Jenkins, Manager, Motor Pool Unit		



MONTANA LEGISLATIVE AUDIT DIVISION

Cost and Management of the
State Motor Pool

MONTANA DEPARTMENT OF TRANSPORTATION

BACKGROUND

Fulfilling the missions of state agencies may require travel by state employees. When in-state travel is required, one available option is the State Motor Pool. Use of the Motor Pool is encouraged in state policy. The Motor Pool manages both a fleet of vehicles in Helena for short-term rental and a fleet of vehicles leased to agencies on a long-term basis. The Motor Pool is responsible for managing its fleet and minimizing costs.

Agency:Montana Department of
Transportation**Director:**

Malcolm Long

Program:State Motor Pool,
Maintenance Division**Program FTE:**

6

Program Revenue FY2021:

\$4.48 M

Program Expenses FY2021:

\$4.27 M

The State Motor Pool is generally more cost-effective than the private sector for short-term rentals and long-term leases. The state saved an estimated \$466,000 by using the Motor Pool rather than the private sector for short-term rentals in 2019. While the Motor Pool is more cost-effective, we identified fleet management practices that could improve. We found 81 agency leases that were underused or potentially unjustified and excess vehicles in the day fleet. Additionally, we found agencies with Motor Pool leases did not always adhere to Montana Department of Transportation preventative maintenance requirements.

KEY FINDINGS:

Gaps in the fleet management practices of the Motor Pool could lead to unnecessary costs to the state. Overall, the Motor Pool's fleet management practices appeared reasonable and aligned with industry standards. However, we found opportunities to improve its fleet management practices that could reduce costs to the state. Specifically, we identified improvements in how the Motor Pool helps identify underused leases, right-sizes its day fleet, and monitors adherence to preventative maintenance requirements. We identified underused Motor Pool leases that may not be justified or may be cheaper through the private sector on an as-needed basis. We found the Motor Pool day fleet consisted of too many sedans and vans in 2019, incurring excess costs.

Additionally, we found the Motor Pool did not meet its goal for adherence to preventative maintenance requirements in 2019. Compliance with preventative maintenance requirements is essential for maintaining safety as well as for preventing unnecessary costs. In each area we reviewed, we found opportunities for the Motor Pool to take a more formal, data-driven approach using its current resources to improve its fleet management practices and reduce costs.

RECOMMENDATIONS:

In this report, we issued the following recommendations:

To the department: 1

To the legislature: 0

(continued on back)

For the full report or more information, contact the Legislative Audit Division.

leg.mt.gov/lad

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RECOMMENDATION #1 (page 20):

Management and operational effectiveness

The department should use a more formal, data-driven approach to improve its fleet management practices. Specific areas for improvement include:

- ◆ Considering both days used and mileage when identifying underused leases,
- ◆ Adjusting the size of the day fleet over time to meet 80 percent demand, and
- ◆ Measuring progress towards goals for adherence to preventative maintenance requirements.

Department response: Concur

Chapter I – Introduction and Background

Introduction

Fulfilling the missions of state agencies frequently requires state employees to travel. When in-state travel is required, one option available is the State Motor Pool program (referred to in this report as the Motor Pool). The Montana Department of Transportation (MDT) manages the Motor Pool program. The Motor Pool provides vehicles on a short-term or extended-use basis to state employees conducting official business. The Legislative Audit Committee prioritized a performance audit of the Motor Pool in fiscal year 2021. The Committee prioritized the audit primarily to determine whether it would be economical to privatize the Motor Pool.

The Motor Pool Provides Vehicles to State Employees for State Business Travel

The purpose of the Motor Pool is to provide reliable and efficient vehicles to state employees for state business travel. The Motor Pool was created in the early 1970s and was given statutory responsibility for managing all vehicles in its custody. State policy guides general state employee travel and use of state-owned vehicles, including Motor Pool vehicles. Use of the Motor Pool by state employees is optional but is encouraged in state policy. Other options available to state employees for in-state travel are:

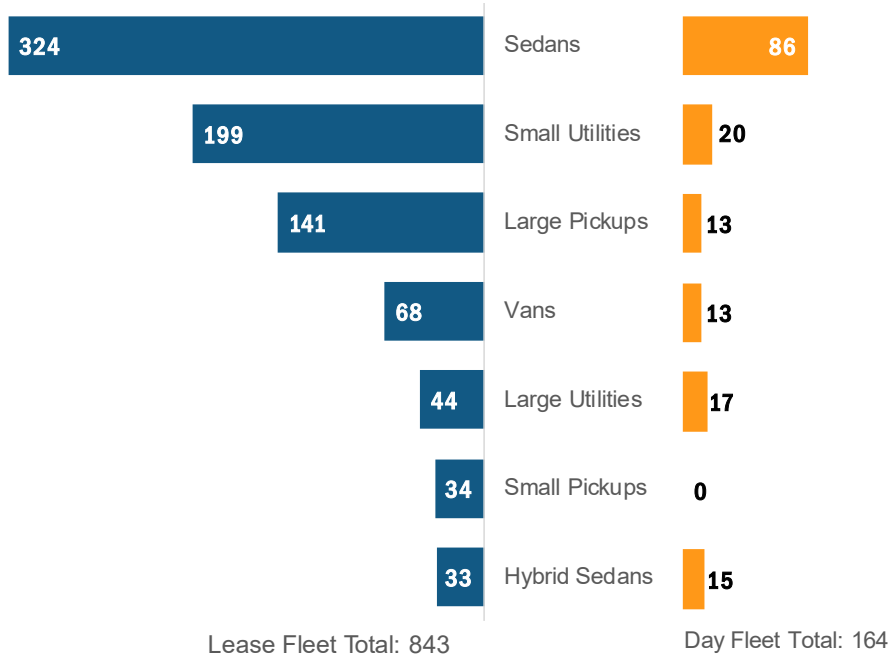
- ◆ Other agency-owned vehicles not part of the Motor Pool.
- ◆ Personal vehicles, when authorized.
- ◆ Vehicles rented from the private sector.

The Motor Pool Manages a Day Fleet and a Lease Fleet

The Motor Pool manages a fleet of vehicles in Helena for short-term rental by state employees (the day fleet) and a fleet of vehicles leased to agencies on a long-term basis (the lease fleet). There is a variety of vehicle types available through the Motor Pool in both fleets. Figure 1 (see page 2) shows the breakdown of the number of vehicles between the day fleet and the lease fleet managed by the Motor Pool in October 2021.

Figure 1
Motor Pool Fleet

The Motor Pool's **lease fleet** is larger than its **day fleet**.



Source: Compiled by the Legislative Audit Division from department records.

As the figure above shows, a large portion (about 84 percent) of the vehicles managed by the Motor Pool are long-term leases. The day fleet is relatively small compared to the fleet of vehicles leased to agencies.

Motor Pool Rates Are Designed to Cover All Costs

As part of the Motor Pool’s fleet management responsibilities, it develops the rates it charges agencies. The legislature approves maximums on these rates in House Bill 2. The rates charged by the Motor Pool are statutorily required to be commensurate with costs, and the Motor Pool fund must be managed within a 60-day working capital. The Motor Pool develops rates for each vehicle type on a biennial basis. It uses an assigned rate (a per-hour rate) to recover fixed costs, such as insurance, interest payments and depreciation, and utilities. It calculates a usage rate (a per-mile rate) to recover operating costs, such as repairs, tires, and fuel. The Motor Pool uses a tiered rates structure to allow for higher usage rates at higher fuel prices. Table 1 (see page 3) shows the assigned and usage rates approved by the legislature for fiscal years 2022 and 2023.

Table 1
Motor Pool Rates

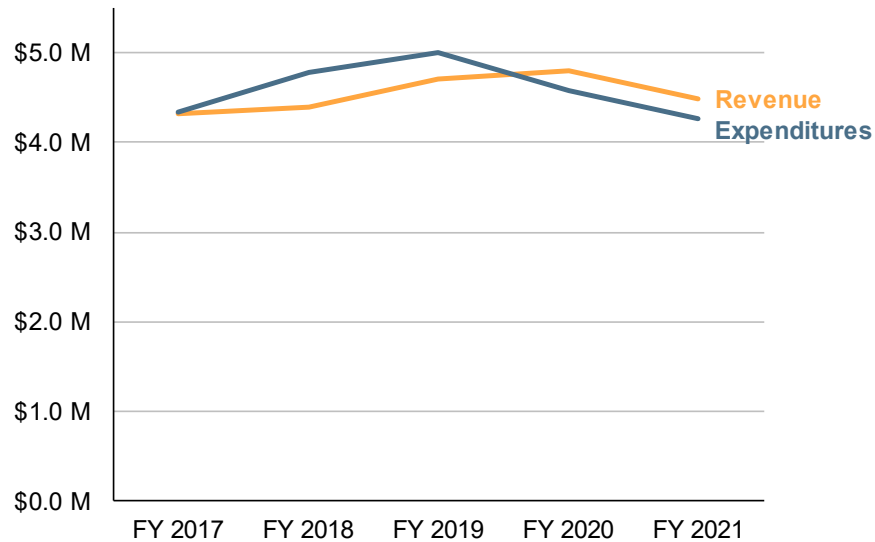
Class	FY 2022				FY 2023			
	Assigned Rate (per hour)	Usage Rate (per mile)			Assigned Rate (per hour)	Usage Rate (per mile)		
		\$2.26/gal	\$2.76/gal	\$3.26/gal		\$2.26/gal	\$2.76/gal	\$3.26/gal
Small Utilities	\$1.408	\$0.113	\$0.132	\$0.152	\$1.522	\$0.113	\$0.133	\$0.153
Large Utilities	\$1.688	\$0.163	\$0.192	\$0.221	\$1.812	\$0.164	\$0.193	\$0.221
Hybrid Sedans	\$1.005	\$0.103	\$0.116	\$0.130	\$1.074	\$0.104	\$0.117	\$0.130
Sedans	\$1.161	\$0.113	\$0.131	\$0.149	\$1.244	\$0.114	\$0.132	\$0.149
Small Pickups	\$0.496	\$0.162	\$0.190	\$0.218	\$0.514	\$0.163	\$0.191	\$0.219
Large Pickups	\$1.314	\$0.177	\$0.209	\$0.242	\$1.428	\$0.178	\$0.210	\$0.242
Vans	\$1.453	\$0.139	\$0.165	\$0.190	\$1.571	\$0.140	\$0.165	\$0.191

Source: Compiled by the Legislative Audit Division from House Bill 2.

Some Motor Pool costs can be volatile, such as the cost of fuel. Because of this, department staff must do some estimation to develop the Motor Pool rates each biennium. However, the Motor Pool adjusts its future rates to balance out years where it made too much or too little in revenue to cover costs. Despite the COVID-19 pandemic, the Motor Pool’s finances were not significantly adversely affected. This was because agencies with long-term leases continued to pay the assigned rates for them even during a reduction in use. Simultaneously, some Motor Pool expenditures decreased with many vehicles not in use, such as fuel costs. Figure 2 shows Motor Pool revenue and expenditures for fiscal years 2017 through 2021.

Figure 2
Motor Pool Revenue and Expenditures

Motor Pool **revenue** and **expenditures** remained relatively steady in the last five fiscal years, despite the COVID-19 pandemic.



Source: Compiled by the Legislative Audit Division from SABHRS.

As the figure shows, the Motor Pool's expenditures and revenues remained relatively steady in the last five fiscal years, despite decreases in state travel due to the COVID-19 pandemic. While there was a slight decrease in revenue due to the pandemic, a decrease in expenditures occurred simultaneously.

Audit Scope

Our audit focused on the Motor Pool and did not encompass all state-owned vehicles. Our audit included a cost comparison between the Motor Pool and the private sector. We estimated costs for as-needed rentals in the private sector using 2019 rates from existing statewide vehicle rental contracts with two vendors, Hertz and Enterprise. These contracts come from multi-state cooperative contracts through the National Association of State Procurement Officials (NASPO). We refer to these contracts as the NASPO contracts in this report. However, we obtained lease rates from one vendor directly, as lease pricing differs from pricing for short-term rentals. In addition to the private sector or the Motor Pool, another option available to state employees for travel is using a personal vehicle when authorized. Reimbursement for the use of a personal car was ultimately not included in this audit. Personal vehicle use is not a viable statewide alternative to the Motor Pool for several reasons, such as not every state employee may own a vehicle as well as increased liability risks to the state, among others.

During assessment work, we learned that fleet management practices could significantly affect costs. We identified the following critical fleet management risk areas: vehicle replacement, utilization, rightsizing, and repair and maintenance. While the Motor Pool decides when to procure or dispose of vehicles, it does not determine the make and model of the vehicles. The Department of Administration (DOA) has exclusive procurement and disposal authority. Our audit focused on the Motor Pool's fleet management processes, and we did not examine DOA's processes in detail. However, costs to the state related to ownership and disposal of Motor Pool vehicles were considered to connect to the development of rates and rightsizing of the fleet.

Due to the impact of COVID-19 on state employee travel, the time frame for our review of costs and utilization was pre-COVID, when possible. The overall time frame we examined for the audit was calendar years 2017, 2018, and 2019, though we focused only on 2019 for some parts of the work. The Motor Pool managed around 1,175 vehicles during this time frame. The Motor Pool uses the department's Equipment Vehicle Management and Maintenance system (EVMMS) to track information on its fleet. This includes information on Motor Pool vehicle inventory, usage, fuel, and repair and maintenance. Most data used for analyses in the audit came from this system. We assessed the reliability of the data in this system by (1) performing electronic testing, (2) reviewing information about the data and the system that produced them, (3) interviewing agency staff knowledgeable about the data, and (4) validating a sample of data by tracing to source documents or other corroborating evidence. We determined that the data were sufficiently reliable for this audit.

Audit Objectives

After assessment work, we developed the following objectives for the performance audit:

- ◆ Is use of the Motor Pool more economical for state employee travel by vehicle than use of the private sector?
- ◆ Does the Motor Pool optimize fleet management to minimize costs while meeting the needs of its users?

Methodologies

During audit fieldwork, we completed the following methodologies:

- ◆ Reviewed applicable laws, policies, and procedures related to state employee travel.
- ◆ Reviewed the Motor Pool's mission, goals, policies, and procedures.
- ◆ Identified and reviewed vehicle fleet management best practices.
- ◆ Compared Motor Pool costs for its day fleet to costs for rental from the private sector in fiscal year 2019 under the NASPO contracts.
- ◆ Compared costs for Motor Pool long-term leases to costs for rental from the private sector in fiscal year 2019 under the NASPO contracts.
- ◆ Compared Motor Pool rates for fiscal year 2022 to estimated pricing for long-term leases through the private sector outside of the NASPO contracts.
- ◆ Analyzed Motor Pool utilization between calendar years 2017 and 2019.
- ◆ Interviewed fleet managers from four other states, two universities, and a federal fleet regarding privatization considerations and efforts as well as fleet management practices.
- ◆ Compared Motor Pool preventative maintenance requirements to manufacturer recommendations.
- ◆ Assessed compliance with Motor Pool preventative maintenance requirements.
- ◆ Surveyed users of the Motor Pool day fleet between 2017 and 2019.
- ◆ Estimated the optimal replacement mileage range for Motor Pool vehicle types based on life cycle costs.
- ◆ Determined the optimal size of the Motor Pool day fleet that minimizes costs while sufficiently meeting agency demand.

Issue for Further Study

We identified one issue during audit assessment that may warrant further work. The Motor Pool represents only about 20 percent of all state-owned passenger vehicles. Some agencies own their own fleets in addition to or instead of using the Motor Pool or the private sector. Some of the risk areas we identified during the audit likely exist statewide. Additional risks may also exist, given the decentralized nature of statewide fleet management. That is, each agency owning its own vehicles

is responsible for managing them. Some information on state-owned vehicles is self-reported to DOA. However, it was unclear during audit assessment the extent to which data on state-owned vehicles are captured, are accurate, or how well state-owned vehicles are managed across agencies. A more broadly scoped analysis would be required to understand whether there are statewide fleet management issues or cost savings. While we conducted a performance audit on state vehicle fleet management in 2009 that examined some of these issues, we believe the decentralized nature of state vehicle fleet management continues to contribute to increased risk for ineffective fleet management.

Chapter II – Cost Comparison of the Motor Pool With the Private Sector

Introduction

Our first audit objective was to determine whether the private sector is a more cost-effective alternative to the State Motor Pool. As part of our performance audit, we conducted a cost comparison of the Motor Pool with the private sector. The results of the cost comparison showed the Motor Pool was generally less expensive than the private sector. We conducted separate cost comparisons for short-term rentals and long-term leases, as these are different pricing models in the private sector. The following sections discuss the results of the cost comparisons.

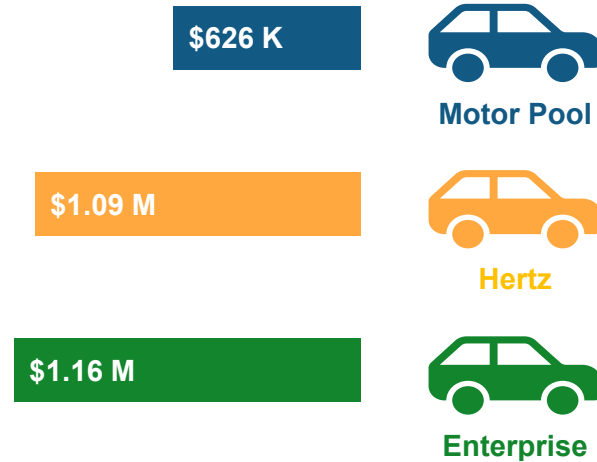
The Motor Pool Was Cheaper Than the Private Sector for Short-Term Vehicle Rental

We found that short-term rental from the Motor Pool was cheaper than short-term rental from the private sector. The private sector charges for as-needed vehicle rentals through the NASPO contracts based on the amount of time used, not mileage. Private sector rental rates do not include the cost of fuel. Because of this, we added fuel cost estimates to the rental costs from the private sector. We estimated fuel costs for private sector rentals based on the average fuel price in 2019 from the U.S. Energy Information Administration and a conservative fuel efficiency estimate for each vehicle type. We also assumed the state could be exempt from the federal tax on fuel when using the private sector. We used billing data from the Motor Pool to calculate costs to agencies for actual use of the Motor Pool day fleet in 2019. Motor Pool rates already include fuel, so we did not add fuel costs to the rates charged by the Motor Pool. We then compared the cost of Motor Pool day fleet use in 2019 to what it would have cost through the private sector. Figure 3 (see page 8) shows the total cost for short-term rentals through the Motor Pool in 2019 and the estimated costs for the same rentals through Enterprise and Hertz. Rental costs for Enterprise and Hertz came from their publicly available rental rates through the NASPO contracts.

Figure 3

Costs Comparison of Short-term Motor Pool Rentals With Private Rentals

Costs for use of the **Motor Pool's day fleet** in 2019 were lower than what it would have cost for private sector rentals.



Source: Compiled by the Legislative Audit Division.

The total cost to agencies for day fleet rentals through the Motor Pool in 2019 was approximately \$626,000. This figure includes all vehicle types rented during the 2019 calendar year. We estimated private sector costs for similar rentals to be around \$1.09 million for Hertz and \$1.16 million for Enterprise. We also estimated the total cost difference between the Motor Pool and the least expensive vendor for each Motor Pool trip in 2019 to be approximately \$466,000. That is, the state saved roughly \$466,000 by using the Motor Pool's day fleet in 2019 rather than renting from the private sector.

Motor Pool Leases Were Cheaper Than Short-Term Rentals From the Private Sector in Most Cases

As with short-term rentals, we found the Motor Pool to be cheaper than the private sector for long-term leases in most cases. We considered two scenarios in our cost comparison for long-term leases:

1. Annual Motor Pool Lease or Private Sector Rental

Rather than leasing from the Motor Pool for a full year in 2019, the agency rented from the private sector on a short-term basis. Motor Pool billing data were used to determine costs based on usage. Rates from the NASPO contracts and fuel cost estimates were used to estimate private sector pricing.

2. Annual Motor Pool Lease or Annual Private Sector Lease

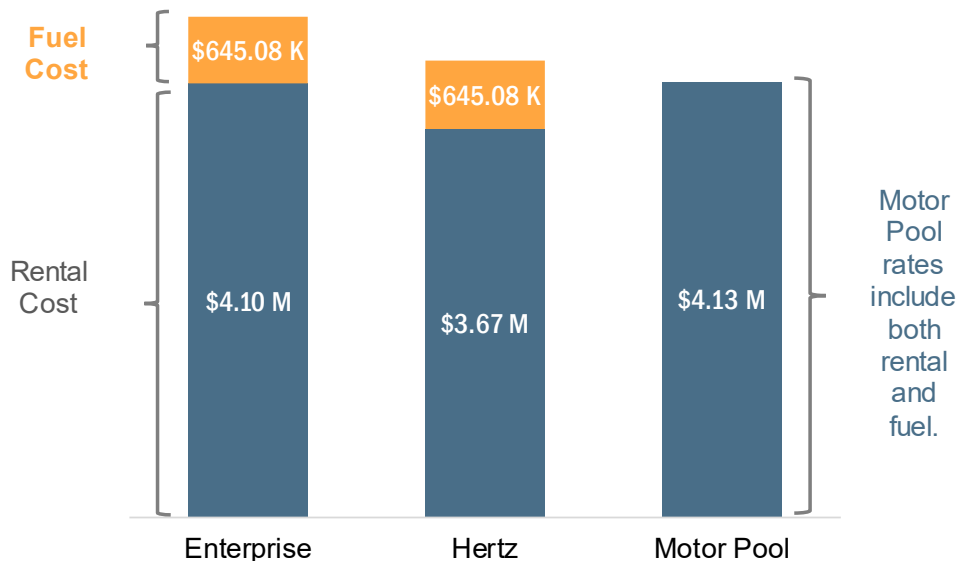
Rather than leasing from the Motor Pool, agencies leased from the private sector. Private sector pricing for this arrangement was outside of the NASPO contract pricing. We obtained pricing for this scenario directly from a vendor during the audit.

The short-term rental costs from the private sector alone were lower than the costs for Motor Pool leases in 2019. However, we found the private sector was not cheaper once the cost of fuel was included. The figure below compares the costs for Motor Pool leases to costs for short-term rentals in the private sector.

Figure 4

Cost Comparison of Motor Pool Leases With Short-Term Private Rentals

The total cost for **Motor Pool leases** in 2019 was lower than the total cost for short-term rentals through the private sector.



Source: Compiled by the Legislative Audit Division.

The estimated costs for as-needed rentals in 2019 from Enterprise and Hertz were approximately \$4.10 million and \$3.67 million, respectively. However, once the cost of fuel was factored in, the private sector would not have been cheaper than the Motor Pool. While Motor Pool leases were more affordable overall, we identified some Motor Pool leases for which it may have been cheaper to rent from the private sector on a short-term basis. These are discussed in the next chapter.

Motor Pool Leases Are Cheaper Than Leases From the Private Sector

In addition to as-needed rentals from the private sector, we considered how costs for long-term leases from the private sector compared to costs for Motor Pool leases. We found that monthly costs for Motor Pool leases are lower than the monthly costs for leases from the private sector. We obtained estimated private sector pricing for long-term leases for a sample of standard vehicle types directly from one vendor. In a leasing arrangement through the vendor, the state would receive a portion of the sale of each vehicle at the end of the leasing term, thereby building equity. For example, the vendor indicated the state's portion of the sale of a 2022 hybrid sedan after a five-year lease would be around \$2,000. We compared the monthly rates provided by the vendor with the monthly costs for Motor Pool leases. We subtracted the state's portion of the sale of the vehicle from the private sector

rates provided, accounting for the build-up in equity. We also added costs for fuel and maintenance. The figure below shows the monthly payment for private sector leases compared to the monthly payment for Motor Pool leases. The private sector figures assume a 5-year leasing arrangement, 10,000 miles driven annually, and \$3 per gallon for fuel.

Figure 5
Cost Comparison of Motor Pool Leases With Private Sector Leases

The monthly payment for Motor Pool leases is lower than the monthly payment for five-year private sector leases.



Source: Compiled by the Legislative Audit Division.

As the figure shows, the monthly payment for a full-time lease from the Motor Pool is lower than the effective monthly payment for a full-time lease from the private sector. While we found Motor Pool leases are cheaper than private sector leases, there are some non-cost benefits to privatizing leases. For example, privatized leases would mean state employees would drive newer vehicles with the most updated safety features. However, a Motor Pool lease is more favorable than a private sector lease based on cost alone. It is important to note that the pricing for leases through the private sector was outside the NASPO contracts. Because of this, we could not include all factors that would be considered in a separate procurement with the private sector for leases in our analysis. The state would need to go through a formal procurement process to fully understand a leasing arrangement with the private sector.

Other Fleets Have Explored Privatization With Mixed Results

We spoke to fleet managers in four other states, two universities, and one for the federal government regarding their privatization considerations and efforts. Of the entities we interviewed, Utah, Montana State University, and the University of Montana have privatized their day-use motor pools. Colorado and the Federal General Services Administration have not examined the cost of privatizing. The Montana universities indicated they found privatizing their small, aging motor pools to be cost effective. However, we did not conduct any analysis to verify this. These motor pools were quite small, at between 10 and 40 vehicles total. Montana State University has been privatized for about seven years, and the University of Montana recently privatized in September of 2021. Both universities privatized their day fleets primarily due to an aging fleet and strained financial ability to replace vehicles. Another factor in the decision to privatize was that the university’s managing entity was the Facility Services Department. This department viewed managing a motor pool as a

secondary responsibility to its core responsibilities. Both universities indicated general satisfaction with the privatization of their day fleets.

Utah privatized its multiple day-use motor pools in 2015. However, Utah indicated it is moving back to managing its own fleet. Utah cited several reasons for transitioning away from privatization, including rate disputes, requiring excessive vehicle utilization, inability to rent the vehicle type desired, and a lack of contractually-required reporting. Wyoming and North Dakota have examined the cost of privatizing. These states found the private sector would not be more economical than managing a state motor pool. North Dakota is running a pilot program at one of its universities with a private vendor. North Dakota estimated the private sector would cost about \$25,000 more per year than using its state-run motor pool for this university travel. While the Montana universities we interviewed found privatizing to be beneficial, other states did not find the private sector more economical than managing a state motor pool. Other states we interviewed that have privatized or have explored privatizing are planning to return operations in-house.

A State-Run Motor Pool Is a More Economical Option for Employee Travel Than the Private Sector

Overall, we found the Motor Pool to be more economical than the private sector. We found this to be the case for both short-term rentals and long-term leases. In most cases, Motor Pool long-term leases were cheaper than both rentals on an as-needed basis and leases from the private sector. There were limited circumstances where the private sector would have been cheaper than a Motor Pool lease, such as needing vehicle for limited use in an area near a vendor. Montana universities have privatized their motor pools and generally seem satisfied with the arrangement. However, other state fleets who have explored privatizing do not find it cost-effective.

CONCLUSION

The Motor Pool is generally a more economical option for state employee travel than the private sector for both as-needed rentals and leases. The cost to taxpayers for state employee travel would be higher if the Motor Pool were to be privatized by the legislature.

Chapter III – Motor Pool Fleet Management Practices

Introduction

Adherence to fleet management best practices is necessary to ensure vehicles are used and maintained properly and to manage costs. It is also essential for the State Motor Pool to ensure its fleet adequately meets its customers' needs. We examined the Motor Pool's fleet management practices and compared them with best practices as part of the audit. We also surveyed customers of the Motor Pool and found its customers gave high ratings of satisfaction with this service. While we found the Motor Pool generally manages its fleet well, we identified some gaps or improvements it could make to manage its fleet more cost-effectively. These gaps centered around the need for a more formal, data-driven approach in some fleet management areas. This chapter discusses our customer satisfaction survey, the fleet management areas we examined, and where we identified the need for improvements.

Motor Pool Users Gave High Ratings of the Motor Pool

As part of the audit, we surveyed 1,238 users of the Motor Pool day fleet from calendar years 2017 through 2019. We received 834 responses for a response rate of 67 percent. We asked survey respondents to rate the Motor Pool on:

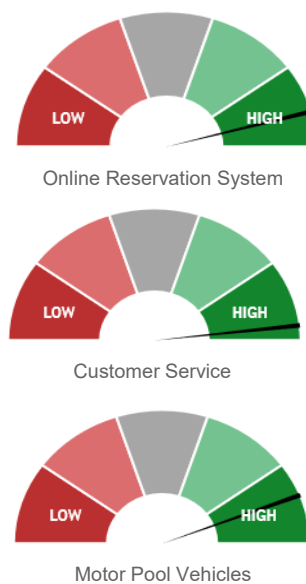
- ◆ Their experiences with the online Motor Pool reservation system,
- ◆ Customer service at the Motor Pool, and
- ◆ The Motor Pool vehicles themselves.

The figure below shows the weighted average rating given by survey respondents.

Figure 6

Ratings from Users of the Motor Pool

Motor Pool users gave **high ratings** of the motor pool.



Source: Compiled by the Legislative Audit Division from survey results.

As the figure shows, Motor Pool users rated the Motor Pool highly in the areas we reviewed. In addition to rating the Motor Pool in these areas, we asked survey recipients how often and why they rented from the private sector rather than the Motor Pool. We found that 94 percent of survey respondents said they were always or usually able to reserve the vehicle type they intended from the Motor Pool. The few respondents (71 respondents) who had rented from the private sector rather than the Motor Pool had varying reasons for doing so. Some examples of reasons provided were that the Motor Pool was not open on weekends or repairs were needed on the Motor Pool vehicle while traveling. We also found that most comments provided were positive. Overall, we found users of the Motor Pool's day fleet to be satisfied with it.

The Motor Pool's Vehicle Replacement Approach Is Appropriate

An important cost-management strategy in fleet management is determining when it is best to replace vehicles in the fleet. There are multiple acceptable approaches to vehicle replacement in fleet management, including:

- ◆ Replacement at a certain vehicle mileage or age.
- ◆ Replacement when the cost of repair exceeds the vehicle's value.
- ◆ Replacement at the point in the vehicle's life cycle where costs are lowest.

The Motor Pool uses a mileage-or-age approach, aiming for 100,000 miles or 7 to 8 years for a replacement. This replacement strategy aligns with replacement strategies in other state fleets, which typically replace vehicles between 75,000 and 130,000 miles, or between 7.5 and 9 years. As part of the audit, we conducted a life cycle cost analysis to estimate an economically optimal mileage range for replacement of Motor Pool vehicles. We then compared these to the Motor Pool's current practices. Our life cycle cost analysis found the Motor Pool's current replacement strategy is economically optimal for all vehicle types, except hybrid sedans. This indicated the Motor Pool's replacement approach was not only generally reasonable but also economical.

While the Motor Pool aims for replacement at 100,000 miles, it is not always able to do so. The table below shows the average mileage by vehicle type for the Motor Pool vehicles sold between fiscal years 2018 and 2020.

Table 2
Motor Pool Vehicle Replacement Mileage

Vehicle Class	Minimum Mileage at Sale	Average Mileage at Sale	Maximum Mileage at Sale	Number Sold
Small Utilities	148,543	163,049	177,554	2
Large Utilities	173,836	173,836	173,836	1
Hybrid Sedans	100,267	121,391	180,663	28
Sedans	82,937	124,721	180,785	77
Small Pickups	91,737	102,960	114,734	3
Large Pickups	104,517	133,402	161,431	3
Vans	112,856	127,661	140,873	8

Source: Compiled by the Legislative Audit Division from department records.

The table shows the Motor Pool did not always replace vehicles close to its target of 100,000 miles for all vehicle types. This was due to several factors, many of which were outside of its control. For example, budgetary restrictions affected and continue to affect the number of vehicles the Motor Pool can replace each year. For instance, state officials made the decision not to replace Motor Pool vehicles one year until state budget issues were resolved. Over time, these external factors can affect the Motor Pool's ability to replace vehicles when it is economically optimal. However, we found the Motor Pool's target of replacing at 100,000 miles to be economically optimal and reasonable.

There May Be Underused Motor Pool Leases Across the State

Another fleet management area important for managing costs is the identification of underused vehicles. Underutilized vehicles incur unnecessary costs. We found that setting annual utilization thresholds is a common fleet management practice in other state fleets for identifying underused vehicles. Most government fleets allow exceptions to utilization minimums for mission-critical assignments, such as vehicles used for emergency response. The Motor Pool uses a utilization threshold of 10,000 miles annually. Utilization thresholds in other fleets suggest this is a reasonable threshold. However, some states consider days used in addition to mileage. While the Motor Pool identifies underused vehicle types in the day fleet, it does not authorize or justify the need for each long-term lease. Rather, the Motor Pool provides agencies and the Governor's Office with a list of agency leases each year to help them identify underutilized leases. This list includes annual mileage and identifies agency leases driven fewer than 10,000 miles. The Motor Pool may also switch lease vehicles with day-fleet vehicles, or vice versa, to help spread usage across its fleet.

During audit work, we identified 81 Motor Pool leases that were underutilized out of the 809 total leases in 2019. We defined underutilization as a vehicle that was driven fewer than 5,000 miles and 65 days or fewer annually. We used a 5,000-mile threshold to be conservative, and we used 65 days because it is one quarter of the working days in a year. We found that 69 of these 81 underutilized leases from 2019 remained active Motor Pool leases in July 2021. It may be more cost-effective for the agency to rent from the private sector as needed rather than have a full-time Motor Pool lease for these leases. The short-term Motor Pool in Helena is not a feasible option in most cases, as these leases are located across the state. It is important to note that case-by-case review would be needed to determine whether these underused Motor Pool leases are justified. Some of them could be justified despite being underutilized. For example, some may be located too far from a vendor to be practical for as-needed rentals or could be reasonable exceptions to utilization thresholds. We estimated savings to be around \$6,000 annually if the state rented from the private sector as-needed rather than continuing these underused Motor Pool leases. While the Motor Pool does not justify agency leases, we found that considering both days used and mileage when identifying underused vehicles would be helpful.

The Motor Pool Had Too Many Vehicles in the Day Fleet

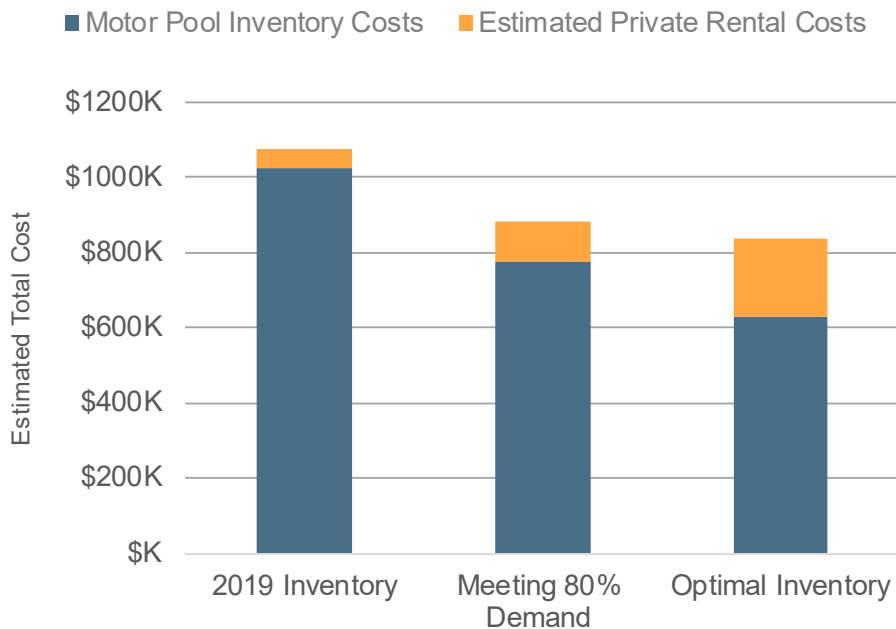
Rightsizing the fleet is another significant cost-containing fleet management activity. A fleet that is too large or too small incurs unnecessary costs or will not meet agency demand. While the Motor Pool does not determine the size of the lease fleet, it does determine the size and composition of the day fleet. However, the renting agency decides the vehicle type needed for each rental. Currently, the

Motor Pool rightsizes its fleet by considering the use and unavailability of each vehicle type for the year. Outside factors, such as budget constraints and procurement issues, also contribute to day-fleet sizing decisions. While the Motor Pool’s current rightsizing approach considers demand, it is not a robust analysis that results in the lowest costs.

As part of the audit, we conducted an inventory optimization analysis for the Motor Pool day fleet using a stochastic linear program. We estimated demand per vehicle type based on the types reserved by agencies in 2019. The analysis identified the number of vehicles for each vehicle type that minimized overall state costs while sufficiently meeting agency demand. We found that an inventory that meets 80 percent demand closely approximated the cost at optimal inventory. The figure below compares costs for the 2019 inventory, an inventory that meets 80 percent demand, and the optimal inventory.

Figure 7
Motor Pool Inventory Costs

Costs associated with meeting 80 percent demand with the Motor Pool day fleet are close to costs at optimal inventory.



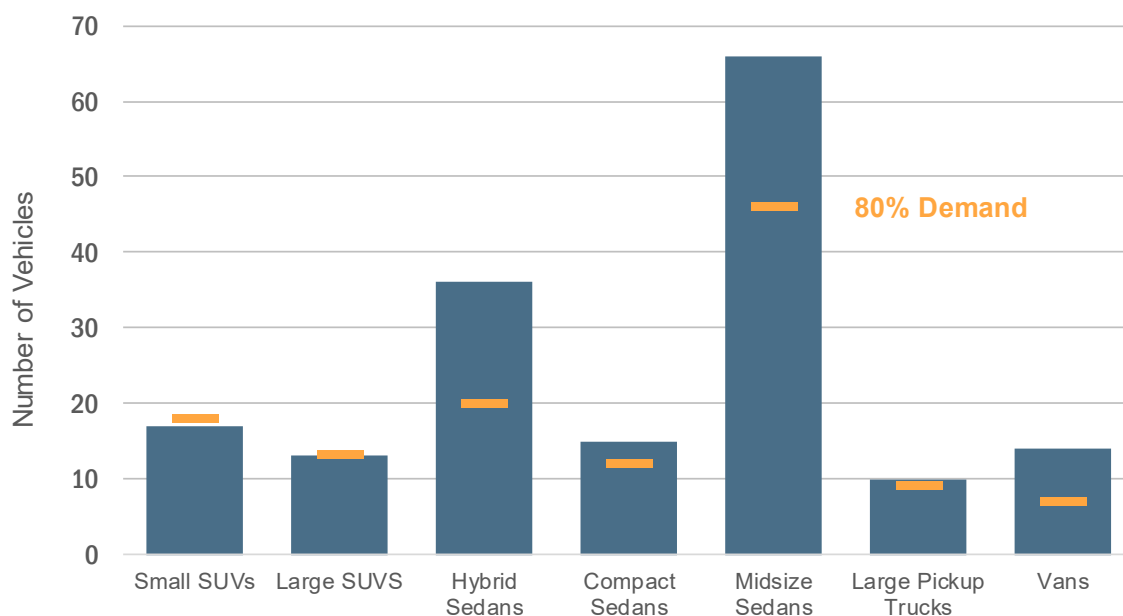
Source: Compiled by the Legislative Audit Division.

As the figure shows, costs for a day-fleet inventory that meets 80 percent demand are close to costs at optimal inventory. We estimated the state would have saved up to \$150,000 if the Motor Pool’s inventory was set to meet 80 percent demand in 2019. This estimate reflects costs to the state in 2019 to meet all short-term rental demand from state employees, including expected maintenance, fuel, insurance, and estimated costs for private rentals.

Our analysis found the Motor Pool had an excess inventory of some vehicle types in 2019. Figure 8 shows the Motor Pool day fleet inventory in 2019 and an inventory that meets 80 percent demand.

Figure 8
Motor Pool Inventory Levels

The **average Motor Pool day fleet inventory** in 2019 was close to an inventory that meets **80 percent demand** for most vehicle types.



Source: Compiled by the Legislative Audit Division.

As the figure shows, the Motor Pool had an inventory of SUVs and pickups in 2019 near the inventory that meets 80 percent demand. However, our analysis found the Motor Pool day fleet had too many sedans and vans. Department staff indicated during the audit they had already identified sedans and vans as vehicle types in which it could reduce inventory. It is important to emphasize the agency demand we used in this analysis was the vehicle types actually reserved and not what could or should have been reserved.

Overall, we found that adjusting the Motor Pool day fleet to meet 80 percent demand would be a good target for the Motor Pool. The Motor Pool already tracks demand and has the resources necessary to estimate the inventory needed to meet 80 percent demand. We suggest the Motor Pool implement inventory reductions slowly and aim to meet 80 percent demand as a target over time. This may be especially important given the unclear future of state employee travel due to the impacts of the COVID pandemic.

The Motor Pool's Oil Change Requirement Is Reasonable

Regular preventative maintenance is critical for maintaining safety and reducing the risk of costly repairs. Ensuring preventative maintenance is performed in a reasonable and cost-effective manner is

a vital fleet management activity. The Motor Pool has two primary preventative maintenance (PM) requirements that apply to both the day fleet and the lease fleet:

- ◆ PM 1 – Oil change and checkup every 5,000 miles or annually, whichever occurs first. This can be done at an MDT shop or at a local vendor.
- ◆ PM 2 – Inspection and service every 30,000 miles or every two years, whichever occurs first. This must be done at an MDT shop.

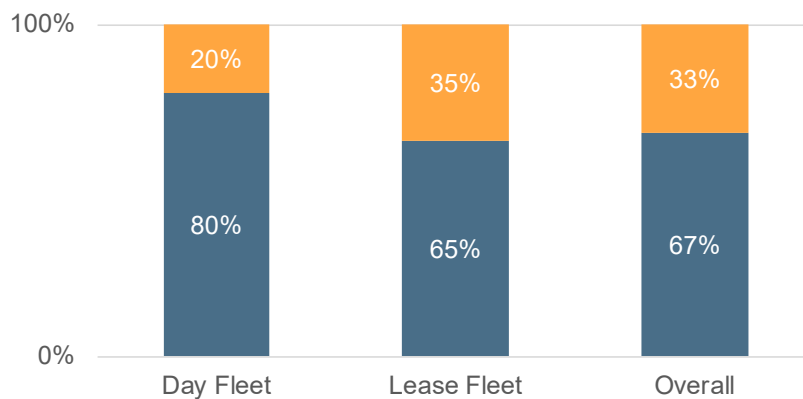
A PM 1 is performed most frequently on a vehicle, and costs for it add up. We compared the Motor Pool's PM 1 requirement to PM 1 requirements in other states as part of the audit. We also compared it to manufacturer recommendations. We found that PM 1 requirements in other states varied, with some states requiring oil change by mileage and others requiring oil change when the vehicle's oil change light turns on. We also found the Motor Pool's PM 1 requirement to be consistent with manufacturer recommendations, considering operational conditions in Montana.

Lease Fleet Vehicles Did Not Comply With Oil Change Requirements More Than Day-Fleet Vehicles

As part of the audit, we assessed compliance with Motor Pool PM 1 requirements in 2019. We found lease fleet vehicles were noncompliant with PM 1 requirements more than day-fleet vehicles. The figure below shows compliance with the Motor Pool's PM 1 requirements at the end of 2019.

Figure 9
Oil Change Requirements

About one-third of Motor Pool vehicles **did not meet PM 1 requirements** at the end of 2019.



Source: Compiled by the Legislative Audit Division.

We found 33 percent of Motor Pool vehicles were not compliant with PM 1 requirements at the end of calendar year 2019. Noncompliance occurred more in the lease fleet than in the day fleet. The Motor Pool addresses agencies with leases that are noncompliant with PM requirements on a case-by-case basis. This aligns with practices in other states. Other state fleet managers do not apply any structured or formal penalties for noncompliance with PM requirements. Although most

fleets do not do this, the Motor Pool may want to consider formal penalties for noncompliance with PM requirements as an option for the future.

The Motor Pool Did Not Meet Its PM 2 Compliance Goal in 2019

We also examined compliance with the Motor Pool's PM 2 requirement. The Motor Pool requires PM 2, an inspection at an MDT shop, every 30,000 miles or every two years. The PM 2 requirement serves as an essential internal control for the Motor Pool since many of its vehicles are leases that are located across the state. The Motor Pool's goal is for 90 percent of its fleet (the day fleet and the lease fleet) to be compliant with PM 2 requirements annually. To assess compliance, we used the Motor Pool vehicle repair history data. We found that, at the end of 2019, 83 percent of all Motor Pool vehicles met PM 2 requirements. However, this did not meet the Motor Pool's goal of 90 percent.

The Motor Pool fell short of its goal for 90 percent compliance with PM 2 requirements. While the Motor Pool established this goal, it does not formally measure and track progress toward it. Though the Motor Pool appears close to meeting its goal for adherence to PM requirements, it should take a more formal, data-driven approach to measure and track its performance.

“At the end of 2019, 83% of all Motor Pool vehicles met PM 2 requirements. However, this did not meet the Motor Pool’s goal of 90%.”

-Compiled by the Legislative Audit Division from department records.

Some State Use Telematics, but Return on Investment Is Not Clear

Overall, we found fleet management practices to be similar across government fleets. However, we noted some fleet managers use telematics to help manage their fleets. Telematics involves installing a device on each vehicle that automatically tracks vehicle usage, repair and maintenance, and other information. We estimated from other states that telematics for the Montana Motor Pool fleet would cost about \$216,000 to \$240,000 annually. However, we could not estimate a return on investment for this since potential cost savings for accident prevention are difficult to quantify. Other states indicated the primary benefits to using telematics were addressing bad driving behavior and saving time in billing. However, other states found it difficult to quantify cost savings associated with these benefits accurately. Not all the other states we spoke to use telematics in fleet management. These states, like Montana, rely on more manual usage tracking, reporting, and billing processes.

A More Formal, Data-Driven Approach Would Help Manage the Motor Pool Fleet More Cost-Effectively

Overall, the Motor Pool's fleet management practices appeared reasonable and aligned with government fleet management practices in other states. However, we identified opportunities to improve how the Motor Pool helps identify underused leases, rightsizes the day fleet, and tracks adherence to preventative maintenance requirements. While some states use telematics to track data

in these areas, the Motor Pool could take a more formal approach to use data it already collects to improve its more manual processes. For example, providing both days used and annual mileage information to agencies and the Governor's Office would better help identify underutilized leases. Adjusting the day fleet slowly over time to meet 80 percent demand would approximate the optimal inventory for the day fleet. Finally, the Motor Pool should use a data-driven approach to measure and monitor adherence to PM requirements.

RECOMMENDATION #1

We recommend the Department of Transportation use a more formal, data-driven approach to improve its fleet management practices in the following ways:

- A. *Provide both mileage and days-used information to agencies and to the Governor's Office annually for identifying underutilized Motor Pool leases.*
 - B. *Adjust the size of the Motor Pool day fleet over time to meet 80 percent demand.*
 - C. *Measure progress towards goals for adherence to preventative maintenance requirements.*
-

MONTANA DEPARTMENT
OF TRANSPORTATION

DEPARTMENT RESPONSE



Malcolm "Mack" Long, Director

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Helena MT 59620-1001

December 29, 2021

Angus Maciver, Legislative Auditor
Legislative Audit Division
State Capital Rm 160
PO Box 201705
Helena, MT 59620-1705

Subject: State Motor Pool Audit 21P-03

RECEIVED

December 29, 2021

LEGISLATIVE AUDIT DIV.

Dear Mr. Maciver,

The Montana Department of Transportation (MDT) appreciates the opportunity to respond to the audit recommendation in the State Motor Pool performance audit 21P-03. We have reviewed the recommendation in this report and have provided our response on behalf of the department below.

Recommendation #1

We recommend the Department of Transportation use a more formal, data-driven approach to improve its fleet management practices in the following ways:

- A. Provide both mileage and days-used information to agencies and to the Governor's Office annually for identifying underutilized Motor Pool leases.

Response:

Concur. The Equipment Bureau at MDT had already developed an underutilized equipment report for the internal MDT fleet using available data in its fleet management system to include both miles and days used. This same process is being implemented for Motor Pool and the report was sent in December of 2021 to state agency contacts for feedback. The Motor Pool will provide the underutilized report to agencies and the Governor's Office annually after each fiscal year.

- B. Adjust the size of the Motor Pool day fleet over time to meet 80 percent demand.

Response:

Concur. The Motor Pool has already identified a need to reduce the size of the day fleet based on historical rental activity. As such, the Motor Pool reduced the size of its sedans by 10 vehicles in Fiscal Year 2021, and already had plans to make additional reductions of 13 vehicles in Fiscal Year 2022. This will result in a total vehicle reduction of 23 vehicles since the period under audit. The Motor Pool intends to continually monitor rental activity given the unclear future of state employee travel due to impacts of the COVID pandemic and will manage the size of the day fleet to meet 80 percent demand based on recommended calculations provided by the legislative audit team.

- C. Measure progress towards goals for adherence to preventative maintenance requirements.

Response:

Concur. As of December 2021, the Motor Pool has already started to develop a report using data from its fleet management system to calculate adherence to preventative maintenance requirements and plans to have this implemented in the 1st Quarter of calendar year 2022. In addition, Motor Pool staff has been monitoring vehicles requiring upcoming preventative maintenance on a weekly basis and contacting agencies to remind them to have the work scheduled.

We appreciate the research and information your staff collected and passed on to us. We view this process as an opportunity to find improvements for our programs and value your staff's involvement.

Sincerely,

A handwritten signature in blue ink, appearing to read "Malcolm D. Long", with the text "COO For" written in a smaller font to the right of the signature.

Malcolm D. Long
Director