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Missouri State Auditor

STATEWIDE

State Flight Operations

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CITIZENS SUMMARY

Findings in the audit of the State Flight Operations

Background

The state owns 19 aircraft operated by three state agencies: the Missouri State Highway Patrol (MSHP), Department of Conservation (MDC), and Missouri Department of Transportation (MoDOT). Collectively, the three agencies maintain and operate 6 passenger planes (three with pressurized cabins), 8 utility planes, and 5 utility helicopters. The state spent approximately \$6.6 million on flight operations during the 2 years ended June 30, 2013, and the MSHP expanded the state's passenger aircraft fleet with the purchase of a \$5.6 million pressurized passenger plane during fiscal year 2013.

Fleet Usage

The state airplane fleet is larger than necessary, there is duplication of efforts between agencies, and, despite the low utilization of state aircraft, state agencies incur unnecessary costs for chartered flights. For the 2 years ended December 2013, the state's passenger fleet was used to capacity on only 51 business days (10.3 percent), 3 or more of the 6 passenger planes sat idle on 459 business days (92.7 percent), and no passenger planes flew on 69 business days (14 percent). MoDOT's utility plane flew only 47 days (9.7 percent of available days) and MSHP or MDC non-pressurized planes were available on 35 of those 47 days. The state paid \$183,638 for chartered flights, primarily to provide transportation to MoDOT and MDC commission members; even though state-owned pressurized passenger planes were available on 67 percent of the days charter flights were used, resulting in approximately \$122,000 in unnecessary costs. Multiple agencies providing flight services results in a duplication of effort. The MSHP employs 12 pilots at an annual cost of \$1.2 million, the MDC employs 3 pilots costing \$251,000 per year, and the MoDOT employs 1 pilot costing \$79,170 annually. The state has not performed a formal comprehensive statewide analysis of flight service needs and how to most efficiently administer these services.

Commission Flights

During the 2 years ended June 30, 2013, the MDC and MoDOT spent approximately \$376,000 flying governor-appointed commission members to commission meetings held across the state. Although Missouri has numerous state commissions and boards, the MoDOT and MDC are the only state agencies that regularly fly commissioners to commission meetings and other commission-related business. Commission members of other state boards typically receive motor vehicle mileage for reimbursement of travel costs. We estimate the MoDOT and MDC could have saved \$294,000 during the 2-year audit period by providing commissioners mileage reimbursement instead of plane transportation. In addition, without commission flights the pressurized passenger plane maintained by the MDC and the MoDOT would not be necessary since any passenger flights could be absorbed by non-pressurized planes or other state-owned pressurized planes.

Flight Purpose Conflicts	The MoDOT allowed non-authorized passengers on state passenger flights, including commission members' spouses, family members, and former commissioners, which is against state policy. The MSHP did not always document flights in sufficient detail to determine the flight purpose, as required by state policy, and MSHP personnel did not always document the identity of the passengers or their relationship to MSHP.
Flight Costs	The MSHP billing rate calculation did not include various operating costs in excess of \$675,000 for the 2 years ended December 31, 2013. These costs included mechanic fringe benefits, pilot training, hangar expense, other clerical and administrative expenses, and amortization of the purchase price of the aircraft. Had the MSHP included all applicable costs in its billing calculations, we estimate the MSHP would have received an additional \$191,500 from state agencies, including \$127,000 from the Governor's office, during the 2 years ended December 31, 2013.
Flight Approval and Review	The three agencies operating state aircraft do not consistently prepare and maintain a trip optimizer to verify the most cost effective and efficient method of travel is utilized, and neither the MSHP or the MDC adequately document supervisory reviews of flight reports.

In the areas audited, the overall performance of state flight operations was **Fair**.

*The rating(s) cover only audited areas and do not reflect an opinion on the overall operation of the entity. Within that context, the rating scale indicates the following:

- Excellent:** The audit results indicate this entity is very well managed. The report contains no findings. In addition, if applicable, prior recommendations have been implemented.
- Good:** The audit results indicate this entity is well managed. The report contains few findings, and the entity has indicated most or all recommendations have already been, or will be, implemented. In addition, if applicable, many of the prior recommendations have been implemented.
- Fair:** The audit results indicate this entity needs to improve operations in several areas. The report contains several findings, or one or more findings that require management's immediate attention, and/or the entity has indicated several recommendations will not be implemented. In addition, if applicable, several prior recommendations have not been implemented.
- Poor:** The audit results indicate this entity needs to significantly improve operations. The report contains numerous findings that require management's immediate attention, and/or the entity has indicated most recommendations will not be implemented. In addition, if applicable, most prior recommendations have not been implemented.

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Missouri State Auditor

Honorable Jeremiah W. (Jay) Nixon, Governor
and
Members of the General Assembly
and
Conservation Commission
and
Robert L. Ziehmer, Director
Department of Conservation
and
Missouri Highways and Transportation Commission
and
Dave Nichols, Director
Department of Transportation
and
Daniel Isom II, Director
Department of Public Safety
and
Colonel Ronald K. Replogle, Superintendent
Missouri State Highway Patrol
and
Douglas Nelson, Commissioner
Office of Administration
Jefferson City, Missouri

We have audited certain aspects of state flight operations to determine if flights are managed in a cost effective, efficient, and consistent manner. The scope of our audit included, but was not necessarily limited to, flight operations during the 2 years ended December 31, 2013. The objectives of our audit were to:

1. Evaluate the internal controls over significant management and financial functions related to state flight operations.
2. Evaluate the economy and efficiency of certain management practices and operations related to state flight operations.
3. Determine if the state passenger aircraft fleet is efficiently managed
4. Evaluate whether state flight operations comply with existing state policies regarding the use of state aircraft.

Our audit concluded that (1) controls over significant management functions related to state flight operations and controls over financial functions need improvement, (2) the efficiency of management practices and operations over state flight operations could be improved, (3) the state passenger aircraft fleet could be managed more efficiently, and (4) instances of noncompliance with existing state policies regarding the use of state aircraft occurred.

We conducted our audit in accordance with the standards applicable to performance audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform our 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 such a basis.



Thomas A. Schweich
State Auditor

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State Flight Operations

Introduction

Background

The state of Missouri owns 19 aircraft operated by three state agencies: the Missouri State Highway Patrol (MSHP), Department of Conservation (MDC), and Missouri Department of Transportation (MoDOT). Collectively, the three agencies maintain and operate 6 passenger planes, with 3 of those having pressurized cabins. Pressurized planes are usually faster, have a more comfortable, smoother and quieter ride, and can quickly maneuver around bad weather situations. The pressurized planes are primarily used to transport the Governor, Conservation Commission members, and members of the Missouri Highways and Transportation Commission. The three agencies also maintain and operate 8 utility planes and 5 utility helicopters. Utility aircraft are used for flights specific to each agency's mission; such as airport inspections for the MoDOT, deer telemetry or fire patrol for the MDC, and traffic control for the MSHP. The chart below summarizes the current state-owned aircraft fleet and categorizes aircraft by passenger transport, utility aircraft (mission specific), and helicopters:

Agency	Passenger	Utility	Helicopter
MSHP	3	7	4
MDC ¹	3	0	1
MoDOT ²	0	1	0
Total	6	8	5

¹ The MDC owns two non-pressurized passenger aircraft that are also used for utility purposes.

² The MDC and the MoDOT share a pressurized passenger aircraft for commissioner travel that for purposes of presentation, is displayed under the MDC since that department houses and maintains the aircraft.

Operation of state-owned aircraft is governed by state policy (SP-8), with the purpose to, "ensure aircraft under the control of the state of Missouri are utilized in the most efficient and effective manner in the conduct of state business." In addition, a Memorandum of Understanding was reached in August, 2006, between the Office of Administration (OA) and the MSHP to transfer aircraft ownership from the OA to the MSHP, and for the MSHP to assume the responsibility of state-owned passenger aircraft services for the state.

The majority of state-owned aircraft are located in Jefferson City, with the exception of nine MSHP aircraft which are located in various locations throughout the state. The nine MSHP aircraft, though used occasionally for passenger flights, are primarily utilized for utility purposes: rescue searches, traffic patrols, and other various MSHP flight duties as required to accomplish the MSHP mission.



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Introduction

Costs

The state expended approximately \$6.6 million on flight operations during the 2 years ended June 30, 2013. In addition, the MSHP expanded the state's passenger aircraft fleet with the purchase of a \$5.6 million passenger plane in fiscal year 2013. The following table depicts flight operation costs by agency for the 2 years ended June 30, 2013, including salaries and benefits of pilots and mechanics:

	Fuel, Oil, and Repairs	Salaries/Benefits	Miscellaneous	Total
MSHP	\$ 1,755,269	2,886,318	214,000	4,855,587
MDC	982,664	502,640	124,058	1,609,362
MoDOT	30,297	79,170	21,991	131,458
Total	\$ 2,768,230	3,468,128	360,049	6,596,407

Plane usage

Collectively, the three state agencies operating airplanes and helicopters flew 3,259 flight days during the 2 years ended December 31, 2013. The following table summarizes air fleet usage by agency and function.

Agency and Function	Flight Days
MSHP Passenger	506
MDC/MoDOT Passenger	206
MSHP Utility	2,056
MDC Utility	448
MoDOT Utility	43
Total	3,259

Previous audits

The following audits have included findings related to state flight operations:

- Report No. 2003-028, *State Passenger Aircraft Fleet*, issued in April 2003.
- Report No. 2012-095, *Office of the Governor*, issued in September 2012.
- Report No. 2013-050, *Public Safety - Missouri State Highway Patrol*, issued in June 2013.

Scope and Methodology

Our audit focused on transportation costs and usage statistics of state-owned aircraft operated by the MSHP, MoDOT, and MDC. We reviewed fleet and flight data information, policies and practices related to state plane use, costs, use of charter flights, passengers, and flight purposes. The audit's main analyses cover flight activity from January 2012 through December 2013.

Flight Data and Limitations

We obtained flight data from the three agencies operating state aircraft in various formats. The MDC and the MoDOT had electronic flight data, while the MSHP only had paper records. Agencies with electronic data



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documented similar flight details including aircraft tail number, flight time, flight date, destination, pilot, number of stops, and passenger names (if available). To make the data comparable and easier to analyze, we prepared a database with all flights for all three agencies. In addition, the three agencies provided dates when maintenance made aircraft unavailable that we included in the database to more accurately account for aircraft availability when evaluating overall usage.

Data Analysis

Due to inconsistencies regarding the preparation of flight reports, we used "flight days" rather than "flights" to analyze usage. For example, some pilots may create a flight report with several destinations, while other pilots may file a flight report for each individual destination on a trip. Examining flight days provided appropriate data to analyze usage. In addition, our analysis focused on use during business days. While flight activity did occur on weekends, particularly for utility aircraft, including weekend use in the overall usage statistics unfairly reduced the usage percentages of all aircraft.

We identified federal criteria or best-practices guidance to determine an appropriate level of usage for an aircraft fleet. In addition, none of the state agencies owning aircraft had designated an appropriate or acceptable level of usage.

Agencies did not separately calculate actual flight costs for flights of commissioners. To estimate these flight costs, we utilized spreadsheets maintained by the MDC.

To complete audit objectives, we also performed the following procedures:

- Interviewed personnel of the three agencies operating state aircraft.
- Interviewed personnel of state flight operation units in several states about their state plane practices and policies.
- Obtained a listing of all flights requiring a chartered aircraft by state agencies and compared those flights with the flight records of state-owned aircraft.

State Flight Operations Management Advisory Report State Auditor's Findings

1. Fleet Usage

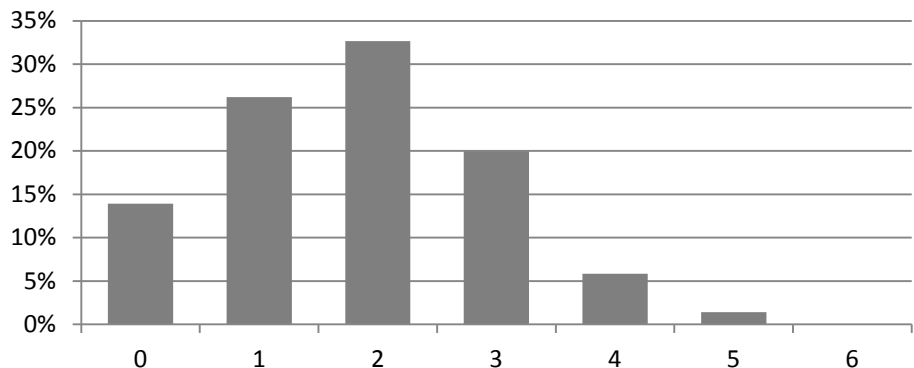
State flight services are currently not delivered efficiently because (1) the state airplane fleet is larger than necessary to meet the state's needs, (2) there is a duplication of effort between the agencies operating state-owned aircraft, and (3) despite the low utilization of state aircraft, state agencies incurred unnecessary costs for chartered flights.

1.1 Fleet usage

Our analysis of flights during 2012 and 2013 indicated the state's airplane fleet has excess capacity because the fleet is larger than necessary to meet the state's needs.

Passenger fleet

Our analysis determined the collective usage of the state's six-plane passenger airplane fleet was low. On average, each of the state's passenger planes was utilized on 33 percent of the business days in which it was available¹ to fly. In addition, the six-plane fleet was utilized to capacity² on only 51 of 496 (10.3 percent) business days for the 2 years ended December 2013. The MSHP owns and operates three passenger planes while the MDC owns two, and the MDC and the MoDOT own one together. The graph below depicts the percentage of days a particular number of passenger planes flew during our audit period.



Source: MSHP and MDC flight records

As depicted above, no passenger planes flew on 14 percent of business days, and three or fewer passenger planes were in use on 92.7 percent of business days.

When analyzed separately, the pressurized planes collectively were used at capacity on 24.2 percent of business days, while the three non-pressurized planes were used at capacity on 27.2 percent of business days. In addition, passenger plane utilization rates decreased after the MSHP purchased and

¹ The plane was not out of service for maintenance.

² Capacity is defined as all planes available to be flown in a particular day were flown, after accounting for planes out of service for maintenance.



State Flight Operations Management Advisory Report - State Auditor's Finding

placed in operation a third pressurized plane in January 2013. Prior to the purchase of the third plane, the two pressurized planes were used to capacity 30.2 percent of business days, while after the purchase the three pressurized planes were used to capacity 18.1 percent of business days. In addition, our analysis of flight records showed there was little coordination between the agencies for passenger flights. While there were 25 MoDOT flights on MSHP passenger planes for the 2 years ended December 31, 2013, there were no MDC flights on MSHP passenger planes, and no other state agency use of the MDC/MoDOT passenger plane during the same timeframe.

Utility and helicopter fleet

The utility airplane fleet consists of eight airplanes, with seven owned and operated by the MSHP. While the usage of several of these planes is low, consolidation or coordination does not appear to be an option since the fleet is stationed throughout the state. However, the MoDOT's utility plane, that flew only MoDOT-related flights, flew only 47 days during the 2 years ended December 31, 2013, or 9.7 percent of days it was available to fly. Our analysis of utility and non-pressurized passenger planes determined the MSHP or the MDC non-pressurized passenger planes were available on 35 of those 47 days.

Coordination and consolidation between state agencies could potentially reduce the size of the utility airplane fleet, and help reduce costs to maintain and store state-owned aircraft.

The helicopter fleet is comprised of five helicopters, with four owned by the MSHP and one owned by the MDC. While the usage of several of the helicopters appears low, helicopters are considered mission-specific, are spread throughout the state to improve response times, and are considered necessary for public safety.

Charter planes

Despite low usage of the state airplane fleet, the state paid \$183,638 for chartered flights during the 2 years ended December 31, 2013. The MoDOT and the MDC chartered 67 flights totaling \$170,755 (45 by the MoDOT and 22 by the MDC); primarily to provide transportation to commission members, former commission members, and employees. An analysis of the flight records of the three pressurized state planes determined planes were available for 45 of the 67 flight days (67 percent), resulting in approximately \$122,000 in unnecessary costs.³

According to interviews with MoDOT and MDC personnel, the primary reasons flights are chartered is due to a lack of coordination with the MSHP and the MSHP's inability to guarantee flight availability. The MDC and

³ Unnecessary cost estimate is considered conservative since our analysis assumed (1) if a state plane flew on one of the charter flight days it was unavailable all day, and (2) unpressurized planes were not an option.



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MoDOT share one pressurized plane, but occasionally require additional pressurized flights when commission meetings occur.

According to state policy governing state-owned aircraft, SP-8, "Prior to chartering aircraft, each flight agency shall first confirm the inability of the other flight agencies to take the required flight and shall document this fact on the flight manifest." The MoDOT could not provide documentation of the unavailability of MSHP flight services for 39 of 45 chartered flights, and the MDC did not maintain such documentation for any of the 22 chartered flights.

Duplication of effort

Multiple agencies provide flight services resulting in a duplication of effort. In addition to having multiple aircraft, these agencies employ pilots and mechanics, provide hangar space, and utilize administrative staff to coordinate and schedule flights. The MSHP employs 12 pilots at an annual cost of approximately \$1.2 million in salary and benefits, while the MDC employs 3 pilots costing approximately \$251,000 in annual salary and benefits, and the MoDOT employs 1 pilot costing about \$79,170 in annual salary and benefits. MSHP pilots are all trained patrol troopers, while MDC and MoDOT pilots are not.

The consolidation of the state's aircraft fleet would allow for an increase in coordination among the agencies involved. In addition, having a single pool of pilots would help improve the efficiency, and potentially further reduce the number of aircraft necessary to meet the state's needs. MSHP officials stated consolidation would require changes in the makeup of the state's aircraft fleet, since the current fleet is comprised of aircraft of various manufacturers and models, which presents issues for pilot training and would be a safety concern. In addition, the existing pilot pool would require additional training to meet the state's needs.

1.2 Fleet analysis and planning

A formal comprehensive statewide analysis of flight service needs and how to most efficiently administer flight services has not been performed. As a result, the state has little assurance flight services are being administered efficiently. An accurate analysis of statewide fleet demand and need would currently be difficult to complete because the MSHP does not track instances of flight requests denied due to lack of plane or pilot availability. In addition, since the MSHP does not track flight data electronically, performing a usage analysis would require processing of manual information.

According to the Government Accountability Office,⁴ a comprehensive aircraft fleet management planning process can help aircraft programs

⁴ GAO 04-645, *Federal Aircraft; Inaccurate Cost Data and Weaknesses in Fleet Management Planning Hamper Cost Effective Operations*, June 2004.



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ensure that they acquire, manage, and modernize their aircraft in a cost-effective manner. This process is based on determining a program's long-term fleet requirements, acquiring the most cost-effective fleet of aircraft, and continually assessing the fleet's ability to meet a program's mission requirements. As noted above, the overall usage of the state-operated fleet is low and overall usage is not maximized to support current fleet levels. A comprehensive analysis of flight needs would enable the state to evaluate whether the potential of consolidation of passenger and utility flight services would result in reduced costs to the state.

Recommendations

- 1.1 The Office of Administration, in conjunction with the MSHP, perform a comprehensive statewide analysis of state agency flight service needs and how to most efficiently provide those services to state agencies. This analysis should include determining the need for each aircraft currently owned, the extent that existing aircraft should be consolidated, and which state agency can best provide passenger services.

The MDC and MoDOT comply with state policy requiring state agencies to check the availability of flight services from other state agencies before chartering flights, and maintain documentation of the verification.

- 1.2 The MSHP track instances of flight requests that are denied due to lack of plane or pilot availability, and develop a system to track flights electronically.

Auditee's Response

The Office of Administration provided the following response:

- 1.1 *The Office of Administration agrees to engage the departments utilizing and maintaining the state fleet of aircraft in order to analyze flight service needs and efficiencies.*

The MSHP provided the following response:

- 1.1 *The MSHP has no authority to perform a comprehensive statewide analysis of aircraft owned by the MDC and MoDOT.*
- 1.2 *The MSHP will develop and begin using a flight request log for all personnel flights. The flight request log will include the date of the flight, the requesting agency, whether the flight was completed or denied, and, if denied, the reason for the denial of the flight. The MSHP will develop a method to track flights electronically.*



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The MoDOT provided the following response:

- 1.1 *MoDOT does check with the MSHP prior to chartering flights. In the future, we will better document these inquiries.*

The MDC provided the following response:

- 1.1 *In calculating fleet usage, the SAO failed to account for days when flights could not occur due to bad weather, weekend usage, and days when pilots could not fly due to federal restrictions on flight hours. MDC staff work weekends and have situations where pilots cannot fly due to flight hour restrictions. Consequently, the SAO report could be misleading regarding the number of days when the aircraft were not used.*

The Department will check availability of flight services from MSHP before chartering flights and will maintain documentation.

Auditor's Comment

Regarding the MDC's response; during our discussions with MSHP and MDC flight operations staff, they did not mention the issues of bad weather days or federal restrictions on flight hours as significant factors related to fleet usage, therefore, we did not consider these issues in our analysis of fleet usage. As stated in the methodology section of the audit, the audit focused on business day flight since including weekend use in the overall usage statistics unfairly reduced the usage percentages of all aircraft.

2. Commission Flights

The MDC and MoDOT spent approximately \$376,000⁵ during the 2 years ended June 30, 2013 flying commission members to commission meetings held across the state. In contrast, we estimate transportation of commissioners by car would cost the MoDOT \$48,000, and the MDC approximately \$34,000 for the 2-year audit period, resulting in potential cost savings of approximately \$294,000. Commission flights made up approximately 50 percent of the flight hours for MDC/MoDOT's pressurized passenger plane for the 2 years ended December 31, 2013. Without commission flights the pressurized passenger plane would not be necessary since any passenger flights could be absorbed by non-pressurized planes or other state-owned pressurized planes. Approximately \$660,000 was spent to maintain and operate the pressurized passenger plane the two agencies share for the 2 years ended December 31, 2013.

While Missouri has numerous state commissions and boards, the MoDOT and MDC are the only state agencies that regularly fly commissioners to commission meetings and other commission-related business. We did not

⁵ MDC flights cost approximately \$117,000, while MoDOT flights costs approximately \$259,000.



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identify any other members of state commissions and boards regularly using state planes. Commission members of other state boards typically receive motor vehicle mileage for reimbursement of travel costs to state meeting and the attendance of state business functions.

State statute⁶ dictates that the six MoDOT commissioners receive necessary traveling expenses, In addition, the state constitution⁷ also requires the four MDC commissioners to receive necessary traveling expenses. Neither state statute nor the state constitution requires travel by aircraft.

Transporting commissioners, who are appointed from various cities across the state, requires the use of multiple flights crisscrossing the state to gather all members for commission meetings. For example, current MoDOT commissioners are from Kansas City, Springfield, Clinton, and St. Louis; while MDC commissioners are from Kansas City, Sikeston, St. Louis, and Jefferson City. The MoDOT averaged about 4.3 flights for commissioners for each commission meeting while the MDC averaged 3.5 flights for commissioners for each such meeting.

Recommendation

The MoDOT and the MDC reevaluate the necessity of providing state plane transportation to commissioners.

Auditee's Response

The MoDOT provided the following response:

MoDOT and the commission evaluated the need to provide state plane transportation to commissioners. We will continue to use the plane for commissioner transportation. The monthly commission meetings are held all over the state, and generally require the better part of two days. In addition to that, retirement system meetings and other engagements frequently require additional time from commission members. Commissioners are appointed from various locations around the state to represent the transportation interests of all Missourians. It would simply not be possible for many commissioners to serve on the commission and devote the time required without this transportation option to reduce travel time.

The MDC provided the following response:

Conservation commissioners serve without compensation by providing thousands of hours of volunteer time. They provide direct representation for all areas of the state. In addition to their volunteer duties as commissioners, these dedicated individuals are fully engaged in professions of their own. The efficiency of travel by plane has enabled these commissioners to attend

⁶ Section 226.030, RSMo

⁷ Article IV, Section 40(a)



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Conservation business meetings. In addition, commissioners attend department events and public meetings throughout the state to engage with citizens. The department utilized the trip optimizer to compare costs associated with flying to costs associated with traveling by vehicle for the commission meetings held during the audit period. The department's calculations of flight costs associated with staff and commissioners attending commission meetings for the two year audit period totaled \$63,374.67. Department staff travels with commissioners to attend meetings and events that are held outside of the Jefferson City area. Thus, the costs noted in the audit report could be misleading as the amount is not exclusively for commission travel.

Auditor's Comment

We calculated our cost estimate for MDC commissioner flights by determining those flights that flew commissioners and multiplying flight hours for those flights by the MDC billing rate.

3. Flight Purpose Conflicts

State planes were utilized for purposes conflicting with state policy. In addition, the purpose of flights were not always sufficiently documented to determine if the flight was for legitimate state business.

3.1 Non-authorized passengers

The MoDOT allowed non-authorized passengers on state passenger flights. Unauthorized passengers included MoDOT commission members' spouses, family members, and former commissioners. State policy (SP-8) states "only authorized passengers shall ride aboard state aircraft. Other individuals such as volunteers, spouses, and/or children should not be passengers in a state aircraft."

3.2 Documenting flight purposes

Flight reports completed for MSHP-related passenger and utility flights were not always documented in sufficient detail to determine the flight purpose as required by state policy. Flight reports contained fields for personnel relays (passenger flights), maintenance flights, and other utility purposes, however, there was often not enough detail to determine if the purpose of the flight was for official state business. In addition, MSHP personnel did not always document the identity of passengers, or their relationship to MSHP.

Per state policy for state-owned aircraft, "All flight agencies shall document the clear business purpose as provided by the state agency for each flight scheduled with the flight agency." Without a clear purpose included on the flight log, there is no documentation to support the flight was for official state business.

Recommendations

- 3.1 The MoDOT comply with state policy and discontinue allowing non-authorized passengers to fly on state aircraft.



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3.2 The MSHP document the business purpose of all flights as required by state policy.

Auditee's Response

The MoDOT provided the following response:

3.1 *MoDOT occasionally has individuals who are not commissioners or MoDOT employees on the plane. We will better document the state business purpose when this occurs.*

The MSHP provided the following response:

3.2 *The statement made in the Auditor's report that MSHP flights were not always documented in sufficient detail to determine the purpose for a flight is not accurate. While the MSHP had a small number of flight reports that could have included a more detailed description of the flight purpose, they did contain sufficient detail for responsible personnel to determine such and provide a verbal explanation to the examining auditor. The MSHP recognizes the importance of including a detailed purpose for each flight and has addressed the matter with affected personnel. The MSHP will continue to ensure all future flight reports include a more detailed description of the purpose for each flight.*

4. Flight Costs

The MSHP did not include some operating costs in hourly billing rate calculations, and therefore the MSHP subsidized the flight costs of state agencies utilizing flight services.

The following table lists agencies billed for flights on MSHP aircraft for the 2 years ended December 31, 2013:

Agency	Number of Flights	Flight Hours	Amount Billed
Governor	208	321	\$419,371
MoDOT	31	69	47,449
Public Safety	30	52	55,394
Attorney General	9	16	15,240
Natural Resources	3	8	2,330
Labor and Industrial Relations	2	8	1,188
University of Missouri	4	6	7,002
Total	287	480	\$547,974

Source: MSHP flight manifests

The MSHP billing rate calculation did not include various operating costs in excess of \$675,000 for the 2 years ended December 31, 2013. These costs included mechanic fringe benefits, pilot training, hangar expense, other clerical and administrative expenses, and amortization of the purchase price



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of the aircraft. In comparison, the MDC includes these costs in its billing rate calculation. As a result, MDC's hourly rate of \$1,256 per hour is significantly higher than the MSHP hourly rate of \$1,010 per hour for the new King Air (N83MP). The MDC rate is also more comparable to charter flight billing rates that averaged approximately \$1,250 per hour.

As noted in the table above, the most frequent user of MSHP flight services is the Governor's office. Had the MSHP included all applicable indirect costs in its billing calculation, we estimate the Governor's office would have been billed an additional \$127,000 for flight services during the 2 years ended December 31, 2013. In total, the MSHP would have received an additional \$191,500⁸ from state agencies utilizing its flights services over that timeframe.

To ensure the MSHP recoups the total cost of providing flight services to user agencies, the MSHP must include all associated costs when calculating billing rates.

Recommendations

MSHP ensure that hourly rate calculations for passenger flight services include all operating costs.

Auditee's Response

The MSHP provided the following response:

The MSHP uses an hourly rate calculation based specifically on actual costs and manufacturer's data to maintain and operate the aircraft. Our objective is to determine a true operating cost for the aircraft. Pilot training, as suggested in the Auditor's report, is consistent with our objective and will be incorporated into future hourly rate calculations. The other costs listed in the Auditor's report are not included in this calculation as they employ the use of estimates that can vary greatly. Utilizing these estimates could result in inaccuracies and inconsistencies with rates. This, in turn, will have a disparate impact on requesting agencies.

Auditor's Comment

The MSHP response indicating its hourly billing rate is based on actual costs and determines the true cost to operate aircraft is illogical and inaccurate. Because the costs to acquire, store, and maintain aircraft are not fully reflected in billing rates, the costs are borne solely by the MSHP. As a result, the MSHP is subsidizing the cost of flight services it provides state agency users.

⁸ The majority of the \$675,000 would not have been billed to other agencies due to the MSHP's own use. Our estimate of \$191,000 in potential billings is considered conservative since it was calculated using the MDC's amortization cost rate, which would be less than the potential MSHP rate due to the higher value of the new plane.



5. Flight Approval and Review

The OA has not developed a policy adopting required procedures to ensure passenger flight services represent the most efficient method of travel. Agencies operating state aircraft also need to establish procedures and/or better document supervisory reviews of flight reports to ensure required flight information has been properly recorded and flights represent a legitimate use of state resources.

5.1 Cost analysis

The three agencies operating state aircraft do not utilize consistent procedures prior to undertaking a flight. The MSHP has developed a trip optimizer for MSHP employee travel, however, documentation of the optimizer's use is not maintained. In addition, while the MDC has developed a trip optimizer, it is only used for passenger flights outside of the state. The MoDOT does not utilize a trip optimizer for flights of its employees and the use of a trip optimizer is not required by the Office of Administration for travel of other agencies' personnel.

Preparing and maintaining a trip optimizer to verify the most cost effective and efficient method of travel is utilized helps ensure state funds are being expended efficiently. In addition, documentation of decisions for not utilizing the method of travel with the lowest cost should be maintained to justify the use of state-owned aircraft over a lower cost method of travel.

5.2 Review of flight reports

Neither the MSHP or the MDC document supervisory reviews of passenger flight reports. Flight reports document the names of each passenger on the flight, the destination, the number of hours the flight takes, and the reason or purpose for the flight. Though both agencies indicated reviews of flight reports are performed, neither of the agencies documented these reviews.

Thorough documented reviews of flight reports provide assurance flights are for legitimate state business purposes, have been conducted in accordance with state and agency specific policies and procedures, and helps ensure documentation of flights is consistently maintained and recorded.

Recommendations

- 5.1 The OA establish a policy requiring the use of a trip optimizer to ensure flight services represent the most efficient method of travel.
- 5.2 The MSHP and the MDC establish formal procedures to formally monitor flight reports, and ensure the review is documented by the individual performing the oversight.

Auditee's Response

The Office of Administration provided the following response:

- 5.1 *The Office of Administration will consider a policy based on discussion with the departments utilizing and maintaining the state fleet of aircraft.*



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The MSHP provided the following response:

- 5.2 *The MSHP reviews and approves all flight requests before a flight occurs. No flights take place without a review of the purpose and prior approval. A documented review of a flight report, which would be completed after a flight has already occurred, can be implemented to supplement our pre-flight review process. This pre-flight review ensures flights are conducted for legitimate state business purposes, in accordance with state policies. It also ensures unnecessary flight requests are rejected prior to incurring any costs.*

The MDC provided the following response:

- 5.1 *The department will continue to use the trip optimizer for both in-state and out-of-state travel and retain documentation of its use or note why driving was not an option for the trip.*
- 5.2 *The chief pilot will continue to review the flight reports and will retain documentation of his review.*

Fleet Usage Data

The usage data below represents business day usage for the 2 years ended December 31, 2013.

Passenger Fleet

Tail Number	N2MP	N83MP ¹	N128T	N92MP	N402MC	N84MC
Location	Jefferson City	Jefferson City	Jefferson City	Jefferson City	Jefferson City	Jefferson City
Age (in years)	15	2	22	33	29	28
Pressurized	Yes	Yes	Yes	No	No	No
Agency	MSHP	MSHP	MDC/MoDOT	MSHP	MDC	MDC
Days in Use	164	116	192	121	171	103
Days Out of Service	55	37	122	120	118	143
Days Idle	277	92	182	255	207	250
Usage Percent	37.2	55.0	51.3	32.2	45.2	29.2

Utility Fleet

Tail Number	N79MP	N81MP	N91MP	N94MP	N95MP	N97MP	N873MC	N422MT
Location	Poplar Bluff	Moberly	St. Joseph	Lee's Summit	Kirkwood	Springfield	Jefferson City	Jefferson City
Age (in years)	13	29	30	16	29	30	28	6
Pressurized	No	No	No	No	No	No	No	No
Agency	MSHP	MSHP	MSHP	MSHP	MSHP	MSHP	MSHP	MoDOT
Days in Use	107	176	111	206	171	170	166	47
Days Out of Service	52	96	117	76	45	62	78	13
Days Idle	337	224	268	214	280	264	252	436
Usage Percent	24.1	44.0	29.3	49.1	37.9	39.2	39.7	9.7

Helicopter Fleet

Tail Number	N93MP	N177MP	N283MP ²	N383F	N90MP	N42MC
Location	Jefferson City	Cape Girardeau	Jefferson City	Bolivar	Moberly	Jefferson City
Age (in years)	8	45	46	24	22	17
Pressurized	No	No	No	No	No	No
Agency	MSHP	MSHP	MSHP	MSHP	MSHP	MDC
Days in Use	167	39	19	53	100	129
Days Out of Service	83	165	174	110	129	71
Days Idle	246	292	303	333	267	296
Usage Percent	40.4	11.8	5.9	13.7	27.2	30.4

¹ Placed in service January 2013.

² Removed from service in October 2013.

Source: MSHP, MDC and MoDOT flight records