

OHIO AUDITOR OF STATE  
KEITH FABER



OHIO  
PERFORMANCE  
TEAM



Department of  
Administrative Services

# Fleet Management Performance Audit

June 6, 2019

OHIO AUDITOR OF STATE  
**KEITH FABER**



88 E. Broad St.  
Columbus, Ohio 43215  
Phone: (614) 466-4514  
Toll Free: (800) 282-0370  
[www.ohioauditor.gov](http://www.ohioauditor.gov)

# Audit Highlights



►► State agencies may ask DAS for approval to self-manage their own fleets. Currently, six out of seven self-managed agencies do not meet the requirements to maintain self-managed status.

**RECOMMENDATION** DAS should withdraw fleet management authority from the self-managed agencies and consider requests for delegated authority only on a case-by-case basis.

**IMPACT** Savings of \$1,846,600 a year.



►► DAS uses a methodology to determine the point at which travel by state car is less expensive than personal mileage reimbursement for a traveler. This does not account for all costs associated with owning and operating a state car. Understating these costs can lead to inefficient decisions regarding travel.

**RECOMMENDATION** DAS should revise the methodology to accurately account for all costs of operating a state vehicle, then eliminate use of state vehicles that fall below the break-even point and move those drivers to personal mileage reimbursement.

**IMPACT** Savings of \$3,404,100 in the first year, \$1,178,900 annually thereafter



►► Consolidating the multiple pools of vehicles in Columbus will allow DAS to reduce the number of vehicles needed to meet peak demand. Replicating this methodology across the state could lead to even greater efficiency.

**RECOMMENDATION** DAS should consolidate pool fleets to reduce costs, obtain long-term trend data, and right-size the fleet.

**IMPACT** \$254,200 in the first year and \$107,400 annually thereafter for the Columbus-based fleet alone

# Table of Contents

<b>Audit Highlights</b> .....	i
<b>Letter from the Auditor</b> .....	5
<b>Audit Summary</b> .....	6
<b>DAS Overview</b> .....	7
<b>Fleet Management Consolidation</b> .....	12
<b>Pool Fleets</b> .....	18
<b>Breakeven Analysis</b> .....	25
<b>Mileage Optimization</b> .....	33
<b>Telematics</b> .....	41
<b>Appendix</b> .....	46
Engagement Scope and Purpose .....	49
Performance Audit Overview .....	49
Methodology .....	49
Audit Scope and Objectives .....	50
Audit Objectives and Recommendations .....	50
Abbreviations .....	50
Client Response .....	50

# Letter from the Auditor

**To the Governor’s Office, General Assembly, Director and Staff  
of the Ohio Department of Administrative Services,  
Ohio Taxpayers, and Interested Citizens:**

The Auditor of State’s Office recently completed a performance audit for the Department of Administrative Services’ (DAS or the Department) Office of Fleet Management. This service to DAS and to the taxpayers of the state of Ohio is being provided pursuant to Ohio Revised Code §117.46. This review was conducted by the Ohio Performance Team and provides an independent assessment of operations of the Office of Fleet Management in relation to industry standards and recommended or leading practices.

This performance audit report contains recommendations, supported by detailed analysis, to enhance the Department’s overall economy, efficiency, and/or effectiveness. This report has been provided to the Department and its contents have been discussed with the appropriate staff and leadership within the Department. The Department is reminded of its responsibilities for public comment, implementation, and reporting related to this performance audit per the requirements outlined under ORC §117.461 and §117.462.

It is the Auditor’s hope that the Department will use the results of the performance audit as a resource for improving operational efficiency as well as service delivery effectiveness. Additional resources related to performance audits are available on the Ohio Auditor of State’s website.

This performance audit report can be accessed through the Auditor of State’s website at <http://www.ohioauditor.gov> and choosing the “Search” option.

Sincerely,



Keith Faber  
Auditor of State  
May 29, 2019

# Audit Summary

This Performance Audit report is about the Office of Fleet Management within the Department of Administrative Services, a cabinet agency that provides support services for other state agencies.

**Recommendation 1** Withdraw fleet management authority from self-managed agencies. Consider agency requests for delegated authority on a case-by-case basis in accordance with statutory authority and DAS discretion. Continue to monitor delegated agencies to ensure compliance.

**Financial Impact** Consolidating six agencies that have not met the requirements to remain self-managed into the managed fleet could save the state about \$1,846,600 a year.

**Recommendation 2** Consolidate pool fleets to reduce costs, obtain long-term trend data, and right-size the fleet.

**Financial Impact** Consolidating pool fleets in Columbus could save approximately \$254,200 the first year; then \$107,400 annually.

**Recommendation 3** DAS should revise the breakeven methodology to accurately account for all costs of operating a state vehicle when calculating the annual personal mileage reimbursement threshold. In addition, DAS should develop an appropriate threshold for each agency based on actual costs.

**Financial Impact** See Recommendation 4.

**Recommendation 4** Use the breakeven mileage calculated in Recommendation 3 as the minimum expected use for cars statewide and use this calculation to optimize the fleet size. In addition, DAS should assign cars to drivers who accrue personal mileage above the breakeven mileage.

**Financial Impact** Optimizing cars and personal mileage by eliminating cars below the breakeven point and supplying vehicles for drivers who accrued reimbursements over the breakeven could save about \$3,404,100 the first year; then \$1,178,900 a year.

**Recommendation 5** Start using GPS/Telematics on state-owned motor vehicles to perform statewide fleet management.

**Financial Impact** Using telematics to confirm vehicles with zero utilization and eliminating those vehicles could save approximately \$171,400 the first year \$40,800 annually thereafter.



## Savings by the numbers

Improved fleet management, updated calculations, and fewer low-use vehicles are expected to save:

**First year:  
\$4,039,116**

**Each year  
after that:  
\$2,249,471**



# DAS Overview

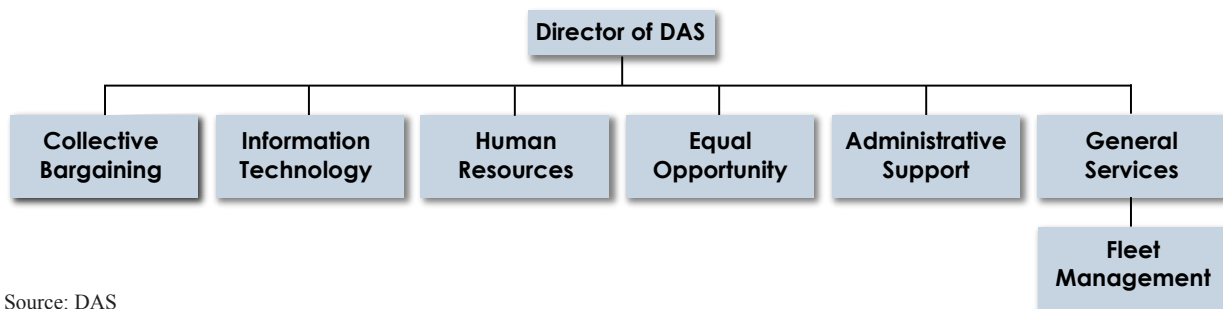
## Background

The Department of Administrative Services (DAS or the Department) provides information technology services, facilities and asset management, human resources management, printing, goods and services procurement management and oversight, real estate management, collective bargaining, state surplus auctions, and equal opportunity compliance oversight. The Department primarily provides services to other state agencies; however, DAS also offers some services to local governments throughout the state.

The majority of DAS’s operations are funded by revenues collected from other government entities. In fiscal year (FY) 2018, the Department’s budget was \$761.80 million, of which \$592.48, or 77.8 percent, represented revenue for services provided to other agencies. General Revenue funds (GRF) made up \$163.74 million, or 21.5 percent.<sup>1</sup> The remaining \$5.6 million, less than 1.0 percent of the Department’s total funding, comprises Federal Special Purpose and Dedicated Purpose funds.

The DAS director is appointed by the governor. The director is supported by deputy directors and assistant directors, which head each of the agency’s subdivisions: Office of Collective Bargaining, Office of Information Technology, Human Resources; Equal Opportunity, Administrative Support and General Services.

### DAS Organization



Source: DAS

The focus of this audit is the Office of Fleet Management (OFM) within the General Services Division. OFM is led by 1.0 FTE administrator who works with 10.0 FTE support staff. OFM “...provides state agencies with comprehensive motor vehicle management services, including vehicle purchases, leasing, motor pool rental, fuel/maintenance procurement cards, and compliance reporting and vehicle assignment authorizations.”

<sup>1</sup> 83.1 percent of the GRF expenditure were dedicated to lease payments and debt service.

## Fleet Management Practice

The services provided by OFM to each agency vary according to the agency's fleet management status as defined in ORC § 125.832. Agencies that are managed by DAS are referred to as 'managed' and agencies that are not managed by DAS are referred to as 'self-managed.'<sup>2</sup>

Currently, there are nine self-managed agencies:

- Adjutant General (ADJ)
- Bureau of Workers' Compensation (OBWC)
- Department of Commerce (COM)
- Environmental Protection Agency (OEPA)
- Department of Public Safety (DPS)
- Department of Transportation (ODOT)
- Department of Youth Services (DYS)
- Department of Natural Resources (ODNR)
- Lottery Commission (LOT)

ODOT and DPS have a primary mission that involves operating vehicles which are not defined as motor vehicles under ORC § 125.831 and are excluded from analysis in this report.

OFM maintains a fleet management information system known as Fleet Ohio, which is used by all agencies to track fleet data.<sup>3</sup> In addition, OFM provides all agencies with Voyager cards that are assigned to specific vehicles and automatically upload fuel and maintenance purchase data into Fleet Ohio.<sup>4</sup> Voyager accounts are paid in full each month, and all fleet purchases must be reconciled each month. Reconciliation involves checking that the amount of money charged on the bill matches the amount of money recorded in Fleet Ohio (See **Chart A-1**, in the **Appendix**).

In addition to Voyager cards, agencies also use a purchase order (PO) or a purchase card (Pcard) to make fleet purchases. Purchase orders are negotiated directly with vendors and could be used if the vendor cannot accept a Voyager or Pcard. Pcards are used by state agencies for general business purchases. OFM discourages the use of either purchase orders or Pcards because all transactions not performed using Voyager cards have to be manually reconciled in Fleet Ohio; however, there are situations where there is not a local vendor that accepts Voyager cards and therefore purchases must be made with purchase orders or Pcards.<sup>5</sup>

DAS has designed the master lease program (ORC § 125.832) as a loan, which is issued through

---

2 ORC § 117.46 specifically exempts the Ohio Attorney General; the Ohio Auditor of State; the Ohio Legislative Services Commission; the Ohio Secretary of State; and the Ohio Treasurer of State from state agency performance audits and therefore those agencies are excluded from analysis in this report.

3 ODOT uses an internal system to manage vehicle data.

4 Voyager cards are payment cards provided by US Bank.

5 Most vendors should be able to the Voyager card to process a payment exactly the same way purchases are processed with a standard consumer credit or debit card.



a commercial bank to DAS. DAS then leases the vehicles to the agencies.<sup>6</sup> OFM purchases all vehicles on behalf of managed agencies and invoices the agencies each month for the principal, interest, balance of the Voyager account, and management fee. Self-managed agencies do not finance vehicles but instead purchase them outright. OFM procures vehicles for self-managed agencies.

In addition to leasing and reconciliation, OFM also helps managed agencies reduce maintenance costs. DAS accomplishes this reduction by examining maintenance estimates, catching errors, and negotiating for better prices. **Overview Table 2** shows the number of estimates, estimated initial maintenance cost, actual maintenance billed cost, and the savings and percentage of the reduction for FY 2018. Examining the history of cost reductions shows the effects of OFM’s negotiations.

**Overview Table 2: Cost Reduction**

Month	# of Estimates	Total Estimated	Billed	Savings	% Reduction
Jul-17	69	\$68,326	\$44,685	\$23,641	34.6%
Aug-17	91	\$81,294	\$65,765	\$15,529	19.1%
Sep-17	99	\$85,192	\$78,706	\$6,486	7.6%
Oct-17	107	\$109,298	\$92,417	\$16,881	15.4%
Nov-17	102	\$67,969	\$59,594	\$8,375	12.3%
Dec-17	99	\$107,304	\$91,660	\$15,644	14.6%
Jan-18	109	\$82,804	\$81,447	\$1,357	1.6%
Feb-18	93	\$77,033	\$57,713	\$19,320	25.1%
Mar-18	108	\$97,798	\$72,305	\$25,493	26.1%
Apr-18	122	\$125,608	\$106,733	\$18,875	15.0%
May-18	144	\$117,478	\$88,472	\$29,006	24.7%
Jun-18	118	\$92,366	\$68,915	\$23,451	25.4%
<b>Total</b>	<b>1,261</b>	<b>\$1,112,470</b>	<b>\$908,412</b>	<b>\$204,058</b>	<b>18.3%</b>

Source: DAS

As shown in **Overview Table 1**, OFM was able to reduce costs by \$204,058, or 18.3 percent. This shows that having OFM review maintenance estimates can result in significant savings.

## Business Model

OFM operates on a fee-for-service model. Managed agencies are charged \$20 per month per vehicle, or \$240 per year, for all management services, whereas self-managed agencies are charged \$29.75 per year per vehicle for Fleet Ohio and Voyager.

Since 2013, OFM has sought to increase the use of the managed fleet program through an aggressive pricing and marketing model. Prior to February of 2018, OFM offered managed agencies a discount by reducing the monthly costs by an anticipated salvage value credit.

<sup>6</sup> The current contract that DAS negotiated in calendar year (CY) 2013 and was renewed through CY 2019, and sets interest rates based on the length of the loan and the LIBOR rate. In CY 2019, a typical term for a car is a 3.9 annual percentage rate (APR) for 72 months.

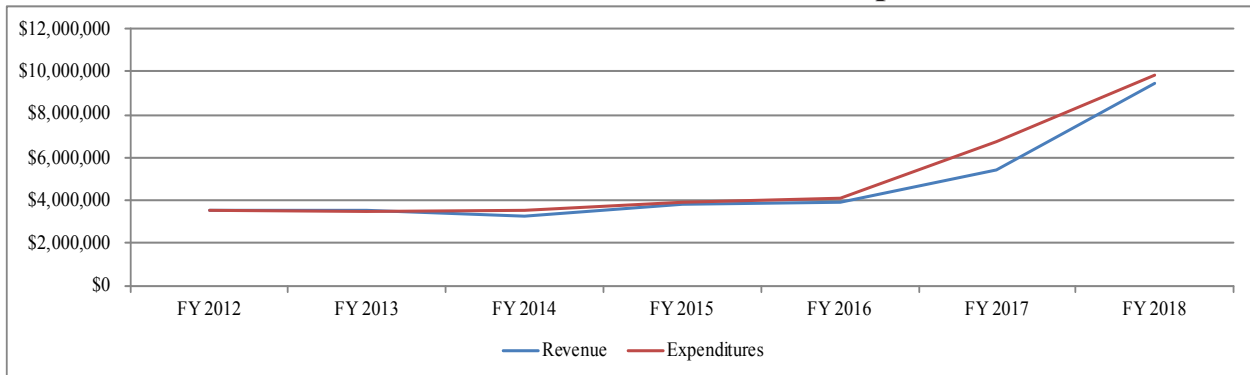
Salvage value has varied slightly and has been equal to anywhere from 20 to 30 percent of the initial purchase price of the vehicle. The average salvage value of a 6-year-old state-owned car was approximately \$4,600 in FY 2018.

The average salvage value would have been enough to cover the discount offered by OFM; however, the front-loaded nature of discount created a cash flow issue. There was at least a six-year gap between the first lease payment and salvage value being realized by OFM. In the interim, OFM had to make up the difference between the actual lease payment and the discounted rate charged to the agency.

In addition to the medium-term cash flow issues caused by discount, OFM faced additional funding pressure from expansion. In CY 2017, OFM absorbed the Ohio Department of Rehabilitation and Corrections (ODRC) into the managed fleet program, which increased the managed fleet from about 1,400 vehicles to about 2,500, an increase of 1,100 vehicles or 78.6 percent.

**Overview Chart 1** shows the revenues and expenditures of OFM from FY 2012 through FY 2018. The trend line reflects the impact of the OFM business practices.

**Overview Chart 1: OFM Revenue and Expenditures**



Source: DAS

As shown in **Overview Chart 1**, expenditures began to exceed revenue in FY 2014 and revenue continued to lag expenditures through FY 2018. The significant increase in both revenue and expenditures during the last three fiscal years reflects the overall expansion of the managed fleet, especially the addition of ODRC in CY 2017.

Another complicating factor for the OFM salvage credit is the disposition of funds from salvage vehicles. ORC § 125.832 (H) states that the proceeds derived from the disposition of any motor vehicle shall be paid to the funds from which the vehicle was purchased.

ORC §125.832 (I) states that if the vehicle was purchased with GRF, the proceeds can be transferred into either the Fleet Management Fund (FMF) or the Investment Recovery Fund

(IRF). ORC § 125.14 (2) (B) states that monies deposited into IRF shall be used to support the salvage program or returned to the general fund.

During the course of the audit, DAS leadership requested a language change to the ORC to clarify that DAS may transfer funds from fund IRF into FMF. This will enable the revenue from salvaged vehicles to offset the cost of OFM operations. This could lead to a reduction in the cost of services offered to managed agencies. There are, however, no plans to offer an upfront discount in the form of a salvage credit as was the practice in the past (see **Table A-1** in the **Appendix**).

## Authority

Ohio Revised Code (ORC) § 125.83, passed in 1997, established a motor vehicle fleet in Columbus under the purview of DAS. Furthermore, ORC § 125.83 granted DAS the authority to “...fix the rates of charge for the use of motor vehicles at a level sufficient to operate, maintain, and replace fleet vehicles.”

ORC § 125.831 (G) (1) and (G) (2) define motor vehicles as trucks less than 12,000 pounds and non-law enforcement vehicles.

Effective September 26, 2003, ORC § 125.832 does the following:

- (A), grants exclusive fleet management authority over motor vehicles to DAS, including the authority to approve the purchase or lease of each motor vehicle. Vehicles must be acquired under the master lease program unless DAS determines that leasing is not the most economical method of acquisition.
- (G) (1), grants DAS the authority to delegate any or all fleet management duties to another state agency if the agency demonstrates the capabilities of instituting and managing a fleet program including the ability to gather and analyze fleet data and any other criteria the Department considers necessary in evaluating the performance. DAS has the authority to determine that an agency is not in compliance and revoke its delegated authority.
- (O), grants DAS the authority to establish the minimum number of business miles that an employee must drive in order to qualify for approval to receive a motor vehicle for business use.

The exact requirements that an agency must meet to be eligible to receive delegated authority are set forth in the Ohio Administrative Code (OAC) § 123:6-01-04.

Recommendation 1

## Fleet Management Consolidation

▶▶ Withdraw fleet management authority from self-managed agencies. Consider agency requests for delegated authority on a case-by-case basis in accordance with statutory authority and DAS discretion. Continue to monitor delegated agencies to assure compliance.

▶▶ Consolidating six agencies that have not met the requirements to remain self-managed into the managed fleet could save the state approximately \$1,846,600 annually if all potential efficiencies are realized.

## Methodology

This section of the performance audit, Fleet Management Consolidation, evaluates the effectiveness of self-managed fleets relative to managed fleets. Analysis compared current DAS practice regarding the oversight of self-managed fleets with policies set forth in the OAC. Data used for comparison was provided by DAS and self-managed agencies. Data and operations from FY 2018 will be the primary focus of analysis.

Fleet expenditures captured in Fleet Ohio were compared with overall fleet expenditures to calculate the percentage of unreconciled maintenance transactions for each self-managed agency. For self-managed agencies, data on the cost of vehicle ordering and monthly reconciliation was calculated based on the fully loaded cost of labor hours dedicated to these tasks; hereafter these costs are referred to as “vehicle administration” (see **Business Model**).<sup>7</sup> The full costs for each agency, including the reconciled and unreconciled costs, were added together with the cost of vehicle administration and divided by the total number of vehicles, resulting in an average cost per vehicle.

$$\frac{\text{Reconciled} + \text{Unreconciled} + \text{Administration}}{\text{Total Number of Vehicles}} = \text{Average Cost per Vehicle}$$

For managed agencies, the reconciled and unreconciled costs were added together with the management fee for each vehicle. This total cost was then divided by the total number of vehicles in inventory to calculate an operating cost per vehicle.

$$\frac{\text{Reconciled} + \text{Unreconciled} + \text{Management Fee}}{\text{Total Number of Vehicles}} = \text{Operating Cost per Vehicle}$$

The full cost of ownership was calculated by adding up the total number of vehicles that are expected to be salvaged over the next 10 years and then making comparisons to the expected cost of replacing those vehicles with managed vehicles on the lease program (see **Table A-2** in the **Appendix**).

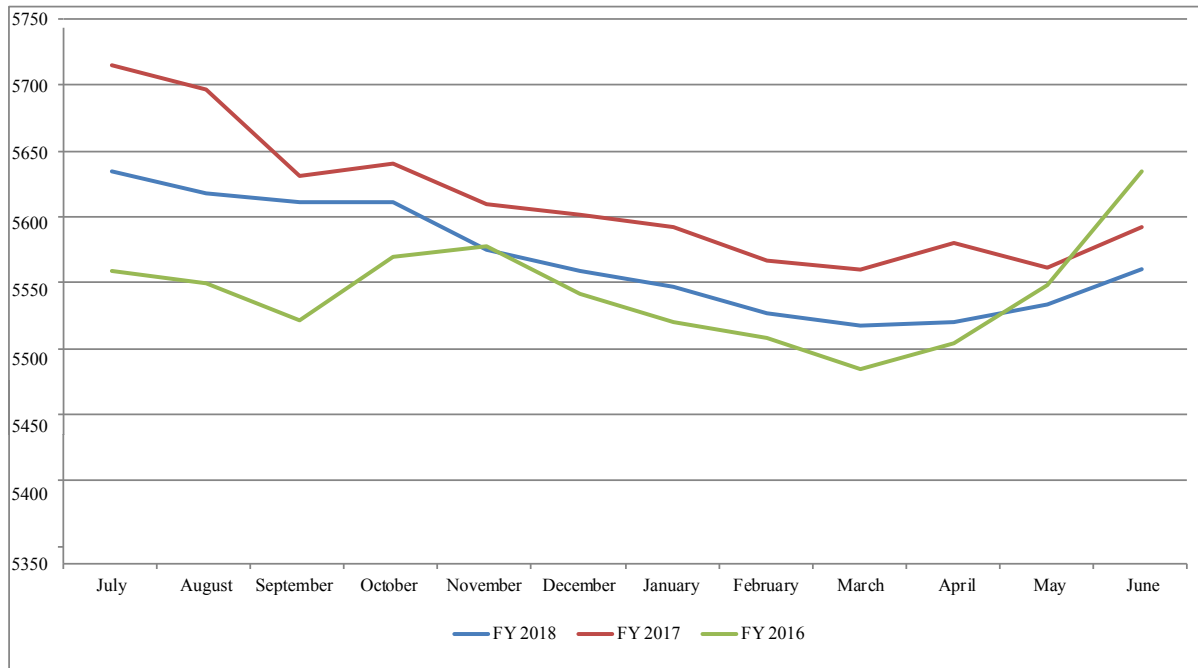
<sup>7</sup> Fully loaded costs refer to the hourly pay rate plus the cost of Medicare, retirement, and health insurance.

## Background

### Vehicle Counts

**Chart 1-1** shows active vehicle counts by month for FY 2016 through FY 2018. Changes in vehicle counts reflect vehicle cycling and changes in demand.

**Chart 1-1: Active Vehicles by Month**



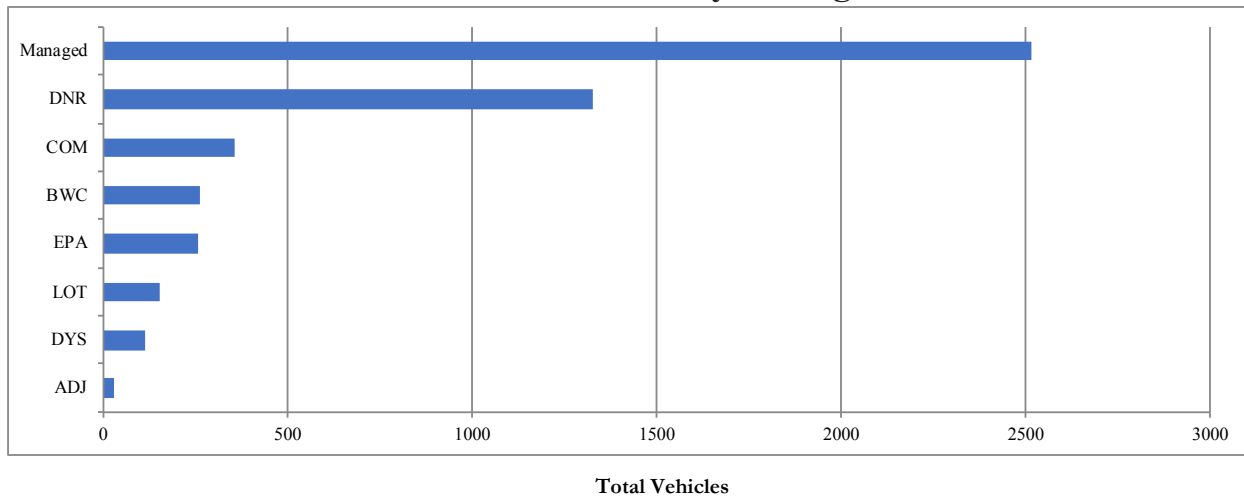
Source: DAS

**Note:** Does not include ODOT or DPS vehicles.

As shown in **Chart 1-1**, vehicle counts can vary throughout the year. Typically, new vehicles are purchased toward the beginning of the fiscal year while vehicle salvage occurs throughout the year, which is why the fleets are at their height during the month of July. Overall, the fleet has remained relatively stable over the last three fiscal years.

**Chart 1-2** shows vehicle counts by management type for FY 2018.

**Chart 1-2: Vehicle Count by Management\***



Source: DAS

\*Vehicle counts include units owned for all of FY 2018. Vehicles purchased or sold within the FY were excluded.

As shown in **Chart 1-2**, managed vehicles accounted for 2,513 vehicles, or 50.2 percent of the passenger vehicle fleet in FY 2018.

## Delegated Authority

Fleet management authority may be delegated to agencies under ORC §125.832 when they employ a certified fleet manager and demonstrate the ability to use the fleet management information system (FMIS).<sup>8</sup> OAC § 123:6-1-07 further allows DAS to grant an agency employee provisional fleet manager certification if that employee is actively enrolled in the certified fleet manager training program and making progress.

The following list of requirements that an agency must meet to be considered eligible to receive delegated status are outlined in OAC § 123:6-1-04 (B):

- Employ a fleet manager.
- Demonstrate the ability to:
  - Use the fleet management information system.
  - Use the fleet credit card system.
  - Enter bulk fueling data (if applicable).
  - Regularly analyze motor vehicle cost per mile.
  - Regularly analyze mileage reimbursement.
- Develop and submit an approved comprehensive annual fleet plan on a timely basis.
- Demonstrate adequate process and procedures to ensure fleet management reporting and fiscal integrity for the administration of an on-site maintenance facility, if applicable.

<sup>8</sup> A certified fleet manager program was established in 2005, with Certification provided by the National Fleet Management Association.

- Demonstrate that the agency has an individual that can assume the duties of the fleet manager if the fleet manager is absent.

## Analysis

The following self-managed agencies lack either a certified or provisionally certified fleet manager:

- ADJ
- DYS
- OEPA
- ODNR

Self-managed agencies without a certified or provisional fleet manager are not in compliance with either ORC § 125.832 or OAC §123:6-01-04.

OAC §123:6-1-08 requires agencies to manually update Fleet Ohio with the cost and amount of items purchased, i.e. the gallons and price of fuel, as well as the vehicle mileage at time of purchase. In addition, DAS has an administrative policy, VF-03, which requires all agencies to reconcile receipts or purchase orders against the data in Fleet Ohio on a monthly basis.

One way to measure agency compliance with the requirement to manually enter data in Fleet Ohio is to compare total fleet maintenance and operating (M&O) expenditures with the expenditures in Fleet Ohio. **Table 1-1** shows M&O expenditures from Fleet Ohio, all M&O expenditures, unreconciled expenditures, and percent of expenditures unreconciled for FY 2018.

**Table 1-1: Unreconciled Fleet Expenditures**

Agency	Fleet Ohio M&O	All M&O	Unreconciled M&O	% Unreconciled M&O
ADJ	\$39,179	\$78,524	\$39,345	50.1%
OBWC	\$449,445	\$505,661	\$56,216	11.1%
COM	\$1,005,146	\$1,033,858	\$28,712	2.8%
ODNR	\$3,552,637	\$5,097,279	\$1,544,642	30.3%
DYS	\$273,213	\$284,176	\$10,963	3.8%
OEPA	\$383,084	\$427,025	\$43,941	10.3%
<b>Total</b>	<b>\$5,702,704</b>	<b>\$7,426,523</b>	<b>\$1,723,819</b>	<b>23.2%</b>

Source: DAS

As shown in **Table 1-1**, self-managed agencies had more than \$1.7 million in unreconciled transactions, or 23.2 percent. ADJ had the highest percentage of unreconciled expenditures, with \$39,345 or 50.1 percent of the total. This means that the amount of unreconciled fleet expenditures at ADJ was comparable to the amount of reconciled fleet expenditures.

By not fully reconciling fuel and maintenance expenditures, the agencies shown in **Table 1-1** are out of compliance with ORC § 125.832, OAC § 123: 6-01-04, OAC § 123:6-1-08, and DAS

policy VF-03. Therefore, they are no longer eligible to maintain self-managed status and are subject to DAS authority to revoke self-management privileges. Without a full accounting of M&O data, it is impossible to make well-informed decisions about fleet management.

**Table 1-2** shows each self-managed agency’s costs and the financial impact of management consolidation.

**Table 1-2: Management Consolidation Financial Impact**

Agency	Vehicles	Reconciled	Unreconciled	Total (R+UR)	Admin per Vehicle	Total Admin
ADJ	34	\$39,179	\$39,345	\$78,524	\$138.17	\$4,698
OBWC	391	\$449,445	\$56,216	\$505,661	\$138.17	\$54,025
COM	430	\$1,005,146	\$28,713	\$1,033,859	\$138.17	\$59,413
ODNR	1,671	\$3,552,637	\$1,544,642	\$5,097,279	\$138.17	\$230,882
DYS	154	\$273,213	\$10,963	\$284,176	\$138.17	\$21,278
OEPA	295	\$394,735	\$43,941	\$438,676	\$138.17	\$40,760
	Count	Total Cost (R+UR+A)	Cost per Vehicle	Managed Operating Cost	Operating Difference	Operating Savings/(Cost)
ADJ	34	\$83,222	\$2,448	\$1,850	\$598	\$20,332
OBWC	391	\$559,686	\$1,431	\$1,850	(\$419)	(\$163,829)
COM	430	\$1,093,272	\$2,543	\$1,850	\$693	\$297,990
ODNR	1,671	\$5,328,161	\$3,189	\$1,850	\$1,339	\$2,237,469
DYS	154	\$305,454	\$1,984	\$1,850	\$134	\$20,636
OEPA	295	\$479,436	\$1,625	\$1,850	(\$225)	(\$66,375)
	Vehicles Expected to be Salvaged w/in 10 Years	Annual Salvage Revenue*	Annual Finance	Difference	Operating Savings/(Cost)	Net Savings
ADJ	31	\$222	\$18,169	(\$17,947)	\$20,332	\$2,385
OBWC	237	\$74,986	\$107,310	(\$32,324)	(\$163,829)	(\$196,153)
COM	318	\$100,785	\$166,121	(\$65,336)	\$297,990	\$232,654
ODNR	905	\$264,999	\$550,837	(\$285,838)	\$2,237,469	\$1,951,931
DYS	69	\$0	\$50,132	(\$50,132)	\$20,636	(\$29,496)
OEPA	215	\$74,430	\$122,445	(\$48,015)	(\$66,375)	(\$114,390)
<b>Total Savings</b>						<b>\$1,846,631</b>

Source: DAS

\*See **Appendix, Table A-2**, for detailed breakdown of salvage revenue per year.

As shown in **Table 1-2**, consolidation would be cost beneficial for ADJ, COM, and ODNR. In total, taking back the management authority for the self-managed fleets not meeting ORC and OAC requirements for self-management status could save **\$1.84** million.



## Conclusion

ORC § 125.832, OAC § 123: 6-01-04 and OAC § 123: 6-01-08 grant DAS exclusive authority over passenger vehicles, allowing DAS to delegate fleet management authority if certain conditions are met. The current practice of DAS is to seek voluntary cooperation with the managed fleet program, which inverts the relationship between DAS and other agencies that was established by law. Furthermore, OAC § 123:06-1-04 sets forth nine specific requirements that agencies must meet in order to be considered for self-managed status. Of the seven self-managed agencies, six have not met the requirements sets forth in the ORC and OAC.<sup>9</sup>

## Issue for Further Study

In CY 2018, DAS purchased 400 light vehicles using commercial loans with a total value of \$11.1 million. During the same timeframe, DAS paid \$456,583 in principal and \$127,607 in interest on the purchased vehicles. Using commercial loans allows DAS to purchase vehicles without having to make large cash outlays; however, agencies then incur the cost of financing. The opportunity cost of financing can be explained through a comparison of the finance cost to a hypothetical alternative use for the same dollar. For example, in April of 2019, a Star Ohio bond had a 2.54 percent APR, meaning an agency could theoretically buy a State of Ohio bond for 2.54 percent annual interest or pay 3.9 percent to finance a vehicle, a difference of 1.36 percent. DAS should weigh the costs of financing vehicles against the costs of cash outlays for vehicles. One alternative to the current leasing arrangement could be to raise cash through the sale of bonds to buy vehicles outright. DAS could then use dollars recovered through salvage to offset the cost of future vehicle purchases. In addition to savings from reduced financing costs, cash purchases could also help DAS leverage its buying power to obtain a better price per vehicle.

---

<sup>9</sup> The Lottery Commission has a fleet manager and no unreconciled transactions.

## Recommendation 2

# Pool Fleets

► Consolidate pool fleets to reduce costs, obtain long-term trend data, and right-size the fleet.

► Consolidating pool fleets in Columbus could save approximately \$254,200 in the first year and \$107,400 annually thereafter.

## Methodology

This section of the performance audit, **Pool Fleets**, assesses and evaluates the effectiveness of data collection for all state-owned vehicles. Analysis focused on an assessment of utilization data collected by the DAS and OEPA pool fleet modules in FY 2018. The key metric used is the single day with the highest total number of vehicle reservations.

## Background

ORC § 125.832 (C) requires the director of DAS to establish a fleet reporting system that tracks accurate and timely fleet management data, including mileage and costs for state-owned vehicles. DAS uses an IT system based on Asset Works 4.0 known as Fleet Ohio to track the following fleet data:

- Mileage
- Odometer readings
- Maintenance
- Fuel
- Purchase cost
- Delivery date
- Sales date
- Revenue gained through sale

Other tools are used to collect and maintain daily utilization data, including daily reservations and purpose of a given trip. The amount of daily utilization data collected depends on the dispatching model for any given vehicle. Dispatching models are as follows:

- **Motor Pool (Pool)** – Vehicles in the motor pool are available to be checked out for business-related trips. They are reserved through an online system and data is collected on daily vehicle utilization. There are 144 vehicles assigned to the DAS motor pool software module. OEPA has an in-house reservation system for its 157 vehicles which does not interact with the DAS system.
- **Assigned Vehicles (Assigned)** – These vehicles are assigned to a specific driver for business use if job duties require 24-hour standby or if the driver accrues over 6,500

miles per year (see **Recommendation 3** and **4**). Agencies may require a driver to fill out a “driver sheet” detailing date and destination for each trip.

- **Non-Pooled/Non-Assigned** – These vehicles are neither assigned nor pooled and typically include administrative, light, and medium maintenance vehicles. They are parked at a state-owned building and used by agency employees on an as-needed basis. For example, the cars, SUVs, and pickups used at state parks are typically non-pooled and non-assigned.

Pooled vehicles are the vehicles for which the most detailed utilization data is available. Pool data includes vehicle check-out and check-in dates, miles driven, and the name of the driver. Non-pooled vehicles have less available data, typically only data recorded in Fleet Ohio because there is no system in place to record daily utilization for those vehicles.

**Table 2-1** shows each type of passenger vehicle that are either in pools, assigned, or non-pool/non-assigned as well as the total non-pooled and percent of vehicles in a pool.

**Table 2-1: Vehicle Dispatching**

Type	Pool	Assigned	Non-Pool/Non-Assigned	Total Non-Pooled	Pooled %
Car	230	859	856	1,715	13.4%
Pickup	30	262	836	1,098	2.7%
Mini Van	9	52	391	443	2.0%
SUV	9	242	192	434	2.1%
Full-size Van	7	28	459	487	1.4%
<b>Total</b>	<b>285</b>	<b>1,443</b>	<b>2,734</b>	<b>4,177</b>	<b>6.8%</b>

Source: DAS

The data in **Table 2-1** reveal that 2,734 vehicles, or 61.2 percent of the statewide passenger vehicle fleet, are non-pooled and non-assigned. The use of non-pooled, non-assigned vehicles is the dispatching model with the least amount of data collected, and prevents more detailed utilization analysis from being conducted on a large portion of state owned vehicles. DAS pools are located around central Ohio, with one pool in Lima. OEPA pools are located at Central Office in downtown Columbus and also at each of the OEPA regional offices. It should be noted that OEPA has placed 157 out of 295 total vehicles, or 53.2 percent, in pools.

**Table 2-2** shows the exact locations and number of vehicles in pools in Columbus and whether those vehicles are part of the overall DAS pool. Vehicles not included in the DAS pools cannot be used by employees of other agencies.

**Table 2-2: Downtown Columbus Pools**

<b>Location</b>	<b>Active Vehicles</b>	<b>DAS Pool?</b>
Rhodes Tower	25	Yes
William Green	16	Yes
Department of Education*	8	No
OEPA – Central Office	52	No
<b>Total</b>	<b>101</b>	

Source: DAS

\*The Ohio Department of Education (ODE) is a managed agency but their pool not available for use by non-ODE drivers.

As shown in **Table 2-2**, there are 101 vehicles located in downtown Columbus pools. A total of 41 of those vehicles, or 40.6 percent, are part of the DAS pool. Having separate pools in close proximity could lead to a missed opportunity to optimize the overall vehicle fleet through sharing.

## Analysis

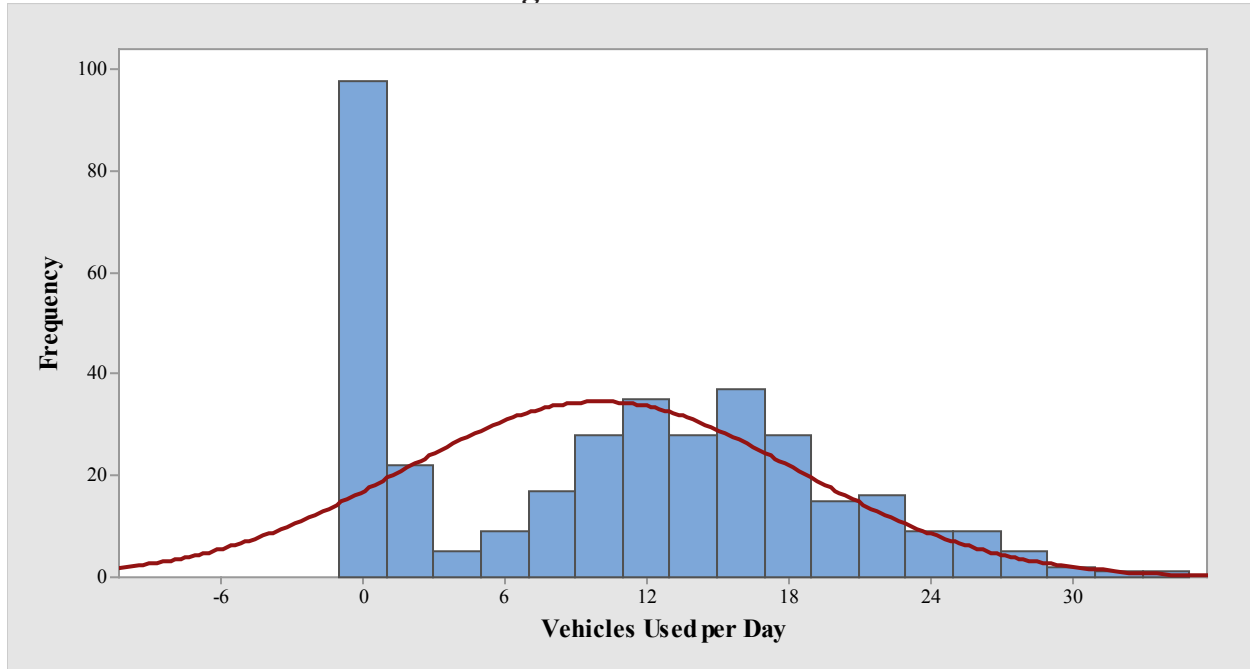
According to *Show Me the Data: How to Cut Motor Pool Costs with Utilization Metrics* (Agile Fleet, 2017), utilization data is a critical data element necessary to assess whether it is appropriate to “...shift, add, or eliminate assets”. The data presented in **Table 2-1** show that DAS has, at best, limited utilization data available for the majority of vehicles in the pool fleet. Fleet Ohio does collect odometer readings for each vehicle in the system, but odometer readings in a vacuum may not always provide sufficient daily usage data to assess the needs of the fleet.

### Columbus Pools Case Study

Utilization data can help right-size a fleet. As an example, the following is an assessment of combining pool fleet vehicles in downtown Columbus based on their combined utilization data for the single busiest day, which results in an overall smaller pool fleet and reduced cost for agencies.

**Chart 2-1** shows peak daily utilization for managed motor pools in the downtown Columbus in FY 2018. Peak daily utilization can be a useful metric to measure vehicle demand.

**Chart 2-1: Managed Fleet Pool Peak Utilization**

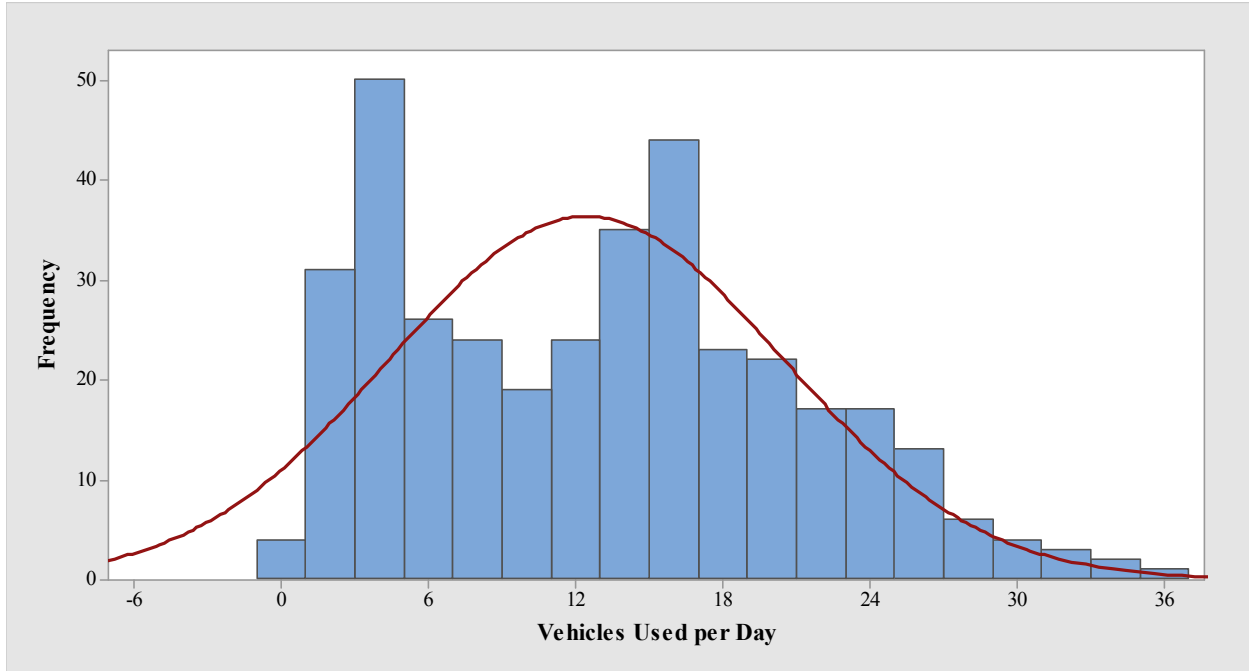


Source: DAS

As shown in **Chart 2-1**, on the busiest day, 33 of the managed motor pool vehicles, or 67.3 percent of the fleet, were reserved. On the average day, 10 vehicles, or 20.4 percent of the fleet, were reserved. In addition, there were more than 90 single days when no vehicles were used. Looking at the downtown pools together shows that there may be opportunities to reduce the fleet.

**Chart 2-2** shows peak daily utilization for the OEPA motor pool in downtown Columbus. The chart shows that, on the busiest day, 36 of the OEPA motor pool vehicles, or 69.2 percent of the fleet, were reserved. On an average day, 14 vehicles, or 26.9 percent of the fleet, were reserved.

**Chart 2-2: OEPA Fleet Peak Utilization**



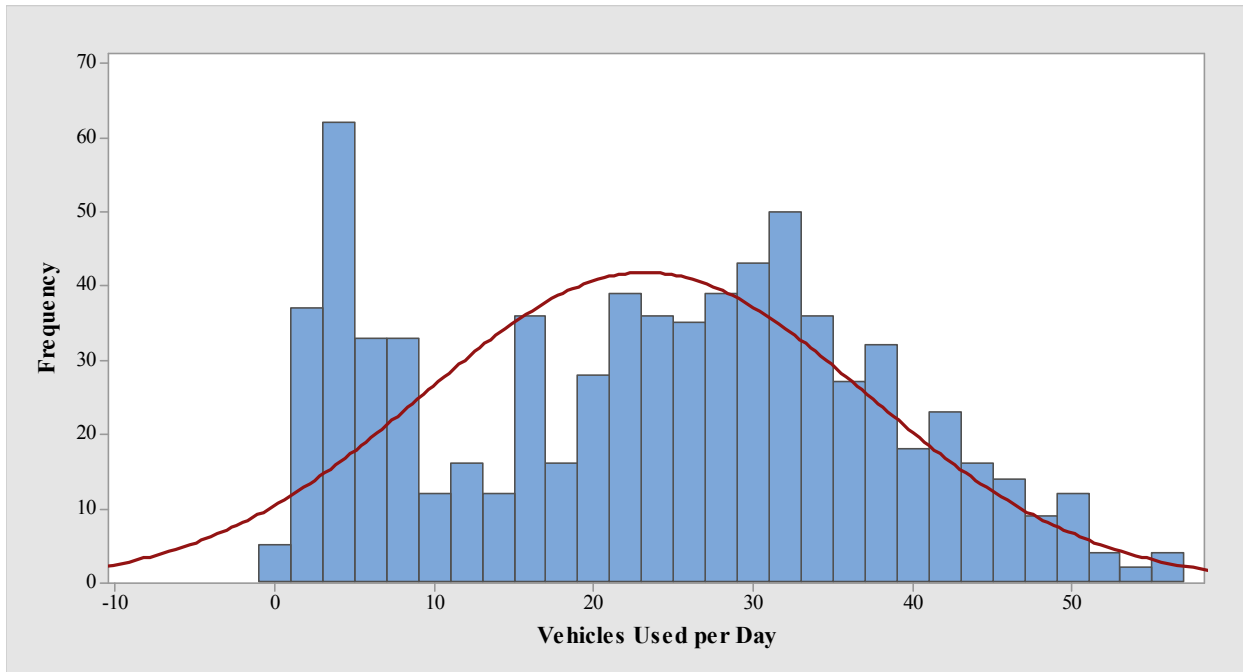
Source: OEPA

Viewed together, **Chart 2-1** and **Chart 2-2** show that neither the managed fleet pool nor the OEPA pool fleet used all vehicles on the single busiest day of the year. Furthermore, the managed and OEPA pool fleets achieved 67.3 and 69.2 percent peak utilization, respectively. This peak utilization lagged the 80.0 percent peak utilization the State of Michigan was able to achieve through motor pool optimization as outlined in *Managing Multiple Motor Pools* (Agile Fleet, 2017).

One approach that could be used to optimize pools in Ohio would be to combine the DAS-managed and OEPA pools located in downtown Columbus. In total, the DAS-managed pools and OEPA have 101 vehicles. The lots where these pool vehicles are kept are all within walking distance of one another, but currently a user of the DAS-managed fleet pool can only reserve a managed vehicle, while vehicles in the OEPA pool can be reserved only by OEPA employees. Putting all the pools on the same software, while leaving the actual vehicles in current locations, could be one way to share resources and meet driver needs with a minimum number of overall vehicles.

**Chart 2-3** shows peak utilization for a pool fleet that combines the managed vehicles and OEPA vehicles. Utilization is based on peak utilization for the combined fleets.

**Chart 2-3: Peak Utilization for Combined Fleet**



Sources: DAS and OEPA

As shown in **Chart 2-3**, the peak utilization of the 101 vehicles in the combined managed and OEPA fleet would be 55 vehicles, or 54.5 percent of the fleet. The average utilization was 23 vehicles, or 22.8 percent of the total fleet. In total, there would be 46 unused vehicles in the single day with the highest utilization. A single, combined pool fleet would require only 69 vehicles using the above criteria, which is equal to 68.3 percent of the current fleet.

**Table 2-3** shows the effect of creating a single pool fleet for downtown Columbus and then optimizing to meet peak demand.

**Table 2-3: Pool Fleet Optimization**

Category	Count
Total Vehicles	101
Max Demand	55
Percent	54.5%
Optimized	69
Max Demand	55
Percent	79.7%
Vehicles Eliminated	32
Vehicle Salvage *	\$4,588
Total Salvage	\$146,816
Annualized Ownership Costs **	\$107,434
<b>First Year Financial Impact</b>	<b>\$254,250</b>
<b>Annual Financial Impact</b>	<b>\$107,434</b>

Source: DAS

Note: Removing vehicles from downtown lots will free up additional parking spaces.

\* Salvage value based on 30.3 percent of the original purchase price for a six-year old car less the 17.0 percent salvage fee.

\*\* Includes the cost of maintenance, operation, administration, and depreciation.

As shown in **Table 2-3**, optimizing the pool fleet to achieve an 80.0 percent utilization rate could result in a net reduction of 32 vehicles, or 31.7 percent of the fleet. This could result in a savings of \$254,250 during the first year and \$107,434 in annual savings in subsequent years.

## Conclusion

DAS collects daily utilization data on only a small subset of vehicles that should be used to more accurately size the fleet. Moving away from having a large number of non-pooled, non-assigned vehicles, and including these in the pool fleet, will improve utilization data and allow for further optimization of fleet size.



### Recommendation 3

## Breakeven Analysis

▶▶ DAS should revise the breakeven methodology to accurately account for all costs of operating a state vehicle when calculating the annual personal mileage reimbursement threshold. In addition, DAS should develop an appropriate threshold for each agency based on actual costs.

▶▶ See **Recommendation 4**

## Methodology

This section of the performance audit, **Breakeven Analysis**, assesses and evaluates the effectiveness of DAS methods of calculating the annual mileage threshold used as the statewide benchmark for determining when it is more cost-effective to put an individual employee in a state vehicle rather than pay mileage reimbursement for the trip. DAS-provided data used in the comparison was drawn from DAS primarily from FY 2014 through FY 2018, with older or more recent data used to provide context when necessary.

Metrics used for comparison included vehicle cost, statewide personal mileage reimbursement rate, average annual mileage, and the cost per mile (CPM) for maintenance and operation (M&O).<sup>10</sup> In addition to CPM, additional costs were compared across potential management models. These include all administrative costs associated with fleet management and maintenance plus the costs of lease financing, management fees, and elective auto physical damage insurance. All lifecycle costs were based on a car kept for six years and 90,000 miles.

## Background

The costs of owning and operating a motor vehicle can be broadly divided into fixed and variable costs. Fixed costs do not change as vehicle utilization increases, whereas variable costs increase as vehicle utilization increases. Examples of fixed costs are:

- Initial purchase
- Financing
- Insurance
- Management or administrative
- Cost of reconciling Voyager or other purchases

Variable costs are the costs of fuel and maintenance.

Breakeven mileage (breakeven) refers to the point at which it is more cost beneficial to shift a driver from receiving personal mileage reimbursement to using a state-owned vehicle. According

---

<sup>10</sup> M&O includes the cost of fuel and maintenance.

to ORC § 125.832, DAS is required to annually establish the minimum number of business miles per year an employee of a state agency must drive in order to qualify for approval by DAS to receive a motor vehicle for business use. The breakeven mileage is determined by taking the annual motor vehicle cost (VC)<sup>11</sup> divided by the amount that is the reimbursement rate per mile (RR)<sup>12</sup> minus the amount that is the sum of the fuel cost (FC)<sup>13</sup>, the operating cost (OC)<sup>14</sup>, and the insurance cost (IC).<sup>15</sup> This formula may be written as follows:

$$\frac{\text{Vehicle Cost}}{\text{Reimbursement Rate per mile} - (\text{Fuel Cost} + \text{Operating Cost} + \text{Insurance Cost})}$$

## Analysis

**Table 3-1** shows how the personal mileage reimbursement breakeven threshold is calculated based on ORC §125.832. According to ORC §125.832 (O) (3) (D), the operating cost in the formula is defined as “the maintenance cost of a motor vehicle per year divided by the product resulting when the number of miles an average motor vehicle is driven per year is multiplied by the number of years an average motor vehicle is used.” The formula expressed in statute has a significant impact on fleet management policy across Ohio.

**Table 3-1: Breakeven Using ORC Method**

Category	Amount
Annual Miles	15,000
Years Maintained	6
Lifetime Mileage	90,000
Annual Maintenance Cost	\$700
Maintenance CPM	\$0.01
Annual Insurance Cost	\$110
Insurance CPM	\$0.01
Annual Fuel Cost	\$1,500
Fuel CPM	\$0.10
Total Annual Operating CPM	\$0.12
Reimbursement CPM	\$0.52
Reimbursement Rate Less Operating CPM	\$0.40
Initial Vehicle Cost	\$17,500
Annual Fixed Cost of Depreciation	\$2,917
<b>Breakeven Mileage</b>	<b>7,204</b>

Source: DAS and ORC

11 The price of a motor vehicle divided by the number of years an average motor vehicle is used.

12 The reimbursement per mile rate is set under ORC § 126.31 (B).

13 The average price per gallon of motor fuel divided by the miles per gallon fuel efficiency of a motor vehicle.

14 The maintenance cost of a motor vehicle per year divided by the product resulting when the number of miles an average motor vehicle is driven per year is multiplied by the number of years an average motor vehicle is used.

15 The cost of insuring a motor vehicle per year divided by the number of miles an average motor vehicle is driven per year.

ORC §125.832(O) (3) (D) directs that the annual maintenance costs to be divided by the lifetime miles driven rather than by the annual miles driven, which results in a maintenance cost per mile (CPM) of \$0.01, as shown in **Table 3-1**; however, if the annual maintenance costs of \$700 were used and correctly divided by the 15,000 assumed annual miles driven, the maintenance CPM would instead be \$0.05. This error in the current statutory language has a major effect on the personal mileage breakeven threshold.

In addition to the formula error detailed above, ORC §125.832 also includes insurance as a component of the denominator. Although insurance costs vary from year to year, it is a fixed annual payment amount, so it is more accurate to consider it as part of the annual vehicle cost in the numerator of the formula, as DAS does, as opposed to considering part of the cost per mile in the denominator. Wherever the insurance cost is reflected in the formula will have an effect on the calculation of the mileage reimbursement breakeven threshold.

Additionally, there is a lack of clarity about the term “vehicle cost” or (VC). It could include the actual purchase price or the purchase price plus the cost of financing. DAS interprets the VC of a car to be the purchase cost minus the anticipated future salvage value. In addition, DAS does not include the cost of financing a vehicle when calculating the breakeven point.

DAS’s assumption of the salvage credit was based on practices from prior FYs. As of February 2018, DAS no longer offers the managed agencies an upfront salvage credit (see **Background**). There are additional cost factors that should be considered as part of the VC in the numerator of any personal mileage breakeven formula:

- **Vehicle financing costs** – the lifetime interest costs under the DAS leasing program.
- **Fleet management fees** – costs paid to DAS to cover the cost of the Voyager card, Fleet Ohio data management system, and the administrative costs of being part of the managed fleet program.
- **Administrative costs**<sup>16</sup> – the cost of labor associated with fleet management under a self-managed model, to include time spent on vehicle ordering and delivery as well as Voyager card reconciliations.
- **Personnel downtime** – the costs of labor a driver incurs during vehicle maintenance, to include time spent driving to and from the vendor, waiting for approval of more costly repairs, and waiting for repairs to be completed.

All of these are true costs that would be incurred by the state when shifting a state employee from personal mileage reimbursement to a state vehicle; therefore, any formula used to determine a personal mileage reimbursement threshold should take these additional costs into account.

**Table 3-2** shows a comparison between the breakeven formula from ORC § 125.832 and the formula DAS used in FY 2019. The difference between the ORC and DAS methods is caused by different methodologies for assessing the cost of insurance and the assumption of the salvage credit.

<sup>16</sup> These costs are included as part of the fleet management fees for all agencies in the OFM managed fleet program.

**Table 3-2: Breakeven Using DAS Method**

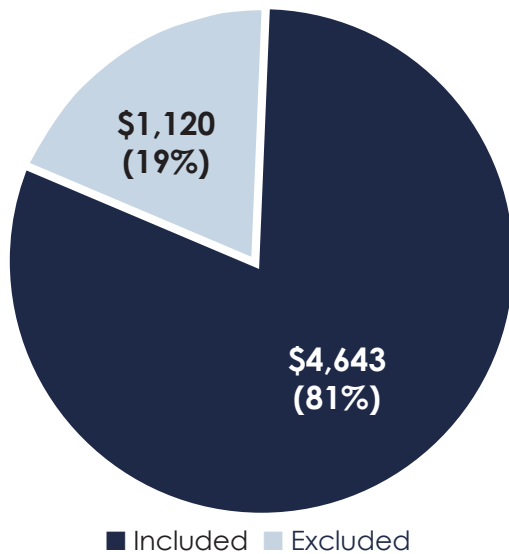
<b>Expense Type</b>	<b>DAS Method</b>
Initial Vehicle Cost	\$17,500
Salvage Credit	\$3,500
Depreciable Amount	\$14,000
Annual Depreciation	\$2,333
Financing	\$0
Annual Financing Cost	\$0
Insurance Cost	\$110
Management Fees	\$0.00
Cost of Administrative Time	\$0
Cost of Personnel Downtime	\$0
Annual Fixed Cost (includes insurance)	\$2,443
Annual Miles	15,000
Lifetime Mileage	90,000
Reimbursement CPM	\$0.52
Fuel CPM	\$0.100
Maintenance CPM	\$0.047
Total Operating CPM	\$0.1467
Reimbursement Rate Minus Operating CPM	\$0.3733
<b>Breakeven</b>	<b>6,545</b>
<b>Breakeven with ORC Formula</b>	<b>7,204</b>
<b>Difference</b>	<b>659</b>

Source: DAS

As shown in **Table 3-2**, the DAS method results in a breakeven mileage of 6,545 miles. This is 659 miles, or 10.1 percent, below the breakeven mileage using the ORC method outlined in ORC § 125.832.

In addition to the variations in methodology, excluding key costs such as financing, administration, personnel downtime, or the management fee impacts the breakeven point and can lead to an inaccurate breakeven analysis **Chart 3-1** shows the included and excluded ownership costs using the current breakeven methodology.

**Chart 3-1: Included and Excluded Costs**



Source: DAS

As shown in **Chart 3-1**, excluding the cost of financing, the management fee, administrative costs, and personnel downtime can understate the actual ownership cost of a vehicle by \$1,120, or 19.4 percent per year.

**Table 3-3** shows the current DAS method of calculating a breakeven analysis compared with a fully burdened method for managed cars.

**Table 3-3: Managed Breakeven**

<b>Expense Type</b>	<b>DAS Method</b>	<b>Fully Burdened</b>	<b>Difference</b>
Initial Vehicle Cost	\$17,500	\$18,242	(\$742)
Salvage Credit	\$3,500	\$0	\$3,500
Depreciable Amount	\$14,000	\$18,242	(\$4,242)
Annual Depreciation	\$2,333	\$3,040	(\$707)
Financing	\$0	\$2,312	(\$2,312)
Annual Financing Cost	\$0	\$385	(\$385)
Insurance Cost	\$110	\$121	(\$11)
Management Fees	\$0	\$240	(\$240)
Cost of Administrative Time	\$0	\$0	\$0
Cost of Personnel Downtime	\$0	\$495	(\$495)
Annual Fixed Cost (includes insurance)	\$2,444	\$4,282	(\$1,838)
Annual Miles	15,000	15,000	0
Lifetime Mileage	90,000	90,000	0
Reimbursement CPM	\$0.52	\$0.52	\$0
Fuel CPM	\$0.100	\$0.075	\$0.025
Maintenance CPM	\$0.047	\$0.037	\$0.010
Total Operating CPM	\$0.1467	\$0.1123	\$0.0344
Reimbursement Rate Minus Operating CPM	\$0.3733	\$0.4077	(\$0.0344)
<b>Breakeven</b>	<b>6,545</b>	<b>10,501</b>	<b>(3,956)</b>

Source: DAS

Note: DAS used an estimate for insurance, fuel, and maintenance CPM; the fully burdened model reflects actual costs.

As shown in **Table 3-3**, DAS's current method understates the actual breakeven cost by \$0.034 per mile, which is equal to 3,956 miles, or 60.4 percent.

**Table 3-4** shows the DAS method of calculating a breakeven analysis compared with the fully burdened method for self-managed vehicles, as the self-managed vehicles do not include financing costs and therefore the breakeven mileage is lower.

**Table 3-4: Self-Managed Breakeven**

<b>Expense Type</b>	<b>DAS Method</b>	<b>Fully Burdened</b>	<b>Difference</b>
Initial Vehicle Cost	\$17,500	\$18,242	(\$742)
Salvage Credit	\$3,500	\$4,312	(\$812)
Depreciable Amount	\$14,000	\$13,930	\$70
Annual Depreciation	\$2,333	\$2,322	\$12
Financing	\$0	\$0	\$0
Annual Financing Cost	\$0	\$0	\$0
Insurance Cost	\$110	\$121	(\$11)
Management Fees	\$0.00	\$29.75	(\$29.75)
Cost of Administrative Time	\$0	\$138	(\$138)
Cost of Personnel Downtime	\$0	\$495	(\$495)
Annual Fixed Cost (includes insurance)	\$2,443	\$3,106	(\$662)
Annual Miles	15,000	15,000	0
Lifetime Mileage	90,000	90,000	0
Reimbursement CPM	\$0.52	\$0.52	\$0
Fuel CPM	\$0.100	\$0.075	\$0.025
Maintenance CPM	\$0.047	\$0.037	\$0.010
Total Operating CPM	\$0.1467	\$0.1123	\$0.0344
Reimbursement Rate Minus Operating CPM	\$0.3733	\$0.4077	(\$0.0344)
<b>Breakeven Mileage</b>	<b>6,545</b>	<b>7,616</b>	<b>(1,071)</b>

Source: DAS

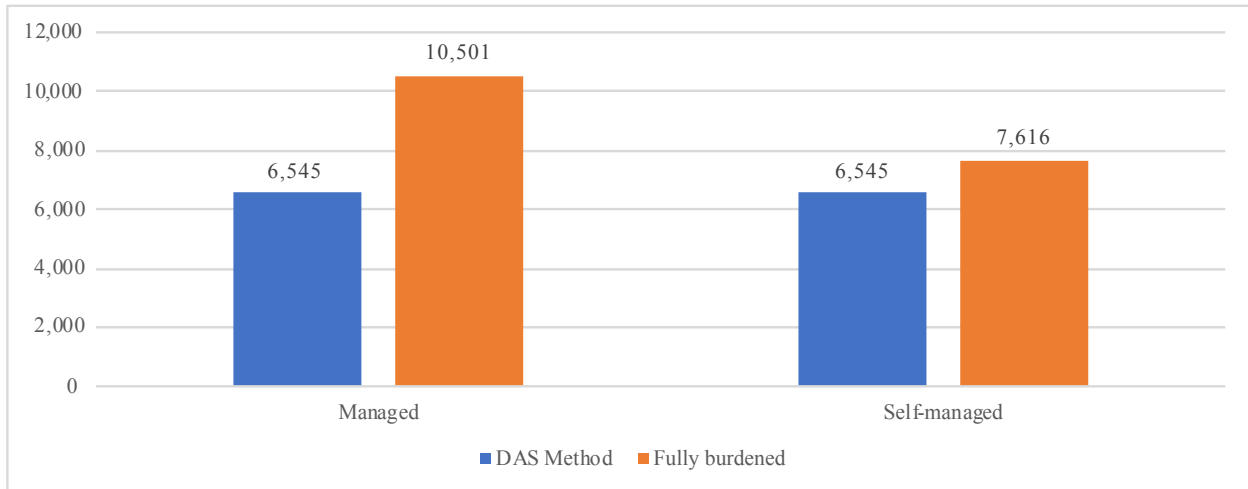
Note: DAS used an estimate for insurance, fuel, and maintenance CPM; the fully burdened model reflects actual costs.

As shown in **Table 3-4**, DAS’s current method would understate the actual breakeven cost per \$0.034 per mile, which is equal to 1,071 miles, or 16.5 percent. Considering the breakeven of 7,616 miles calculated above in light of the determinations shown in **Table 3-3** shows that the breakeven point can vary based on the management model and salvage recovery for a given agency.

Additional costs that can be incurred in some circumstances include parking costs as well as auto-physical damage insurance, which offers agencies full replacement cost if a vehicle is damaged. While not common, agencies should consider these costs when applicable.

**Chart 3-2** shows breakeven mileage for managed and self-managed agencies. This table does not reflect known, unreconciled costs (see **Recommendation 1**).

**Chart 3-2: Breakeven Mileage**



Source: DAS

As shown in **Chart 3-2**, applying the fully-burdened costs results in a breakeven point of 10,501 miles, which is 3,956 miles, or 60.4 percent, over the breakeven point calculated by DAS. Furthermore, self-managed agencies have a breakeven point which is 1,071 miles, or 16.5 percent over the 6,545-mile breakeven point calculated by DAS.

## Conclusion

ORC § 125.832 requires DAS to calculate a breakeven mileage to determine when it makes sense to shift a driver from reimbursement to a state-owned car; however, this statute contains a maintenance CPM error in the breakeven formula, which affects the breakeven analysis. Additionally, DAS calculates the breakeven threshold without incorporating all costs of ownership. Due to this error, DAS is miscalculating the true breakeven threshold for state-owned vehicles.



**Recommendation 4**

## Mileage Optimization

▶▶ Use the breakeven mileage calculated in R.3 as the minimum expected utilization for cars statewide and use this calculation to optimize the fleet size. In addition, DAS should assign cars only to drivers who accrue personal mileage above the breakeven mileage.

▶▶ Optimizing cars and personal mileage by eliminating vehicles below the breakeven point and supplying cars for drivers who accrued reimbursements over the breakeven could save approximately \$3,404,100 in the first year and \$1,178,900 annually thereafter.

## Methodology

This section of the performance audit, **Mileage Optimization**, compares annual car utilization and personal mileage reimbursement with the breakeven mileage calculated in **Recommendation 3**. Data was drawn primarily from FY 2018, with older or more recent years used to provide further context if needed.

Analysis compared the per-mile cost of owning an average car on a per-mile basis with the cost of personal mileage at the current reimbursement rate of \$0.52 per mile, the rate throughout FY 2019. Analysis of cars was based on one full year of usage and excluded vehicles purchased or sold within the fiscal year.

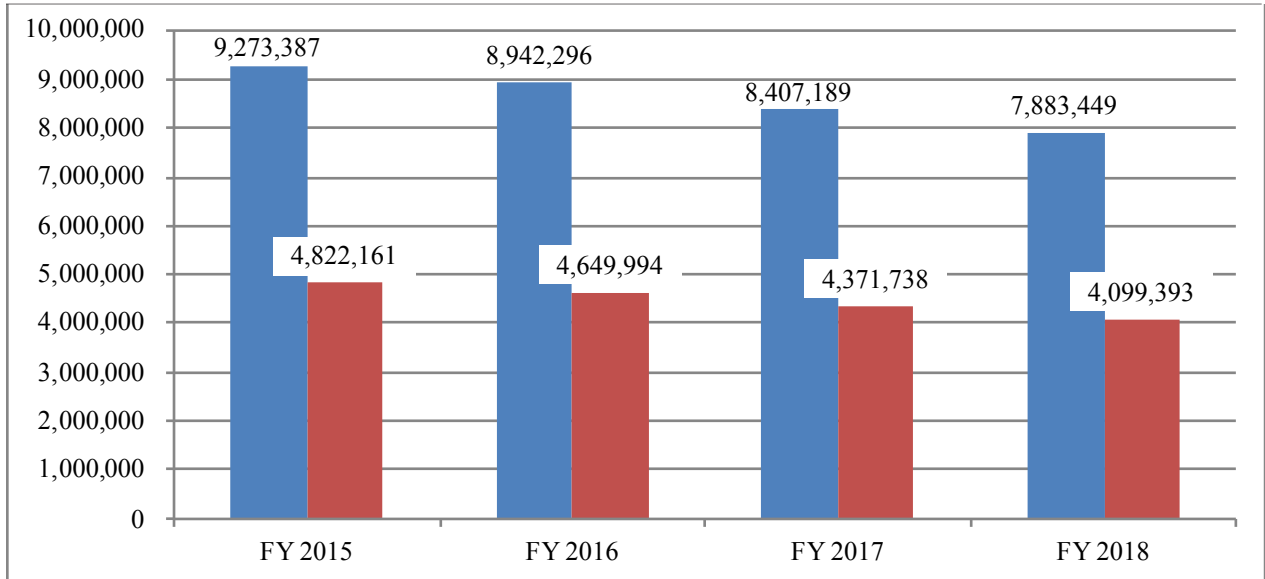
For the purpose of this analysis, a car is considered underutilized if annual utilization falls below 10,501 miles for DAS-managed fleets and 7,616 miles for self-managed fleets (based on the fully burdened breakeven analysis above). The analysis calculated the cost of shifting drivers out of underutilized state-owned cars and replacing the mileage with personal reimbursement. For personal mileage, analysis focused on drivers who received annual reimbursements in excess of the breakeven mileage and calculated the potential savings if drivers with personal mileage over the breakeven mileage had driven the same mileage in a state-owned car.

## Background

ORC § 126.31 (B) allows the Office of Budget and Management (OBM) to reimburse employees of state agencies who travel for state business. Furthermore, OAC § 126-1-02 (C) (2) authorizes a reimbursement rate of "...up to the Internal Revenue Service's (IRS) standard mileage rate..." The reimbursement rate in FY 2018 was \$0.52 per mile, which was first established in FY 2015.

**Chart 4-1** shows personal mileage totals and the reimbursement totals for FY 2015 through FY 2018.

**Chart 4-1: Personal Mileage Reimbursement**

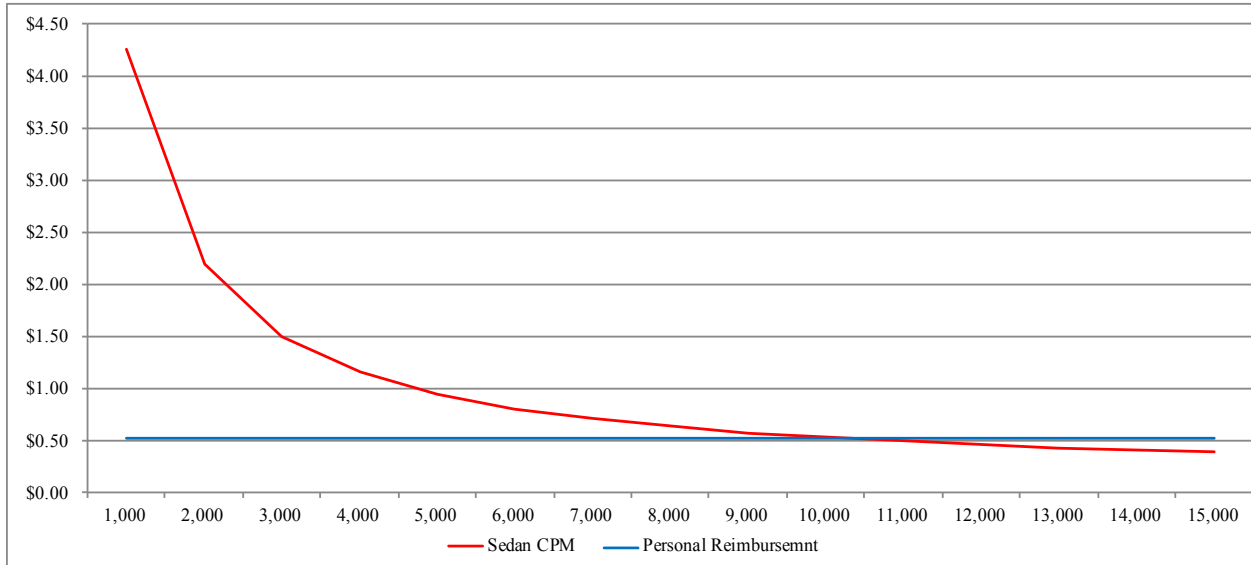


Source: Oaks BI

As shown in **Chart 4-1**, personal mileage declined from 9.3 million miles and a reimbursement of over \$4.8 million dollars in FY 2015, to 7.9 million miles and a reimbursement of almost \$4.1 million dollars in FY 2018, a decrease of 1.4 million miles, or 15.0 percent. The decrease reflects the focus by DAS on reducing personal mileage coupled with changing business practices, including increased use of video conferencing.

**Chart 4-2** shows the relationship between miles driven and effective cost-per-mile for a state-owned car compared with the personal mileage reimbursement rate. This chart is a visualization of breakeven mileage.

**Chart 4-2: Personal Mileage vs. State-Owned Car Breakeven**



Source: DAS

As shown on **Chart 4-2**, there is an inverse relationship between the miles driven and the effective cost-per-mile of a vehicle. This inverse relationship is due to the fixed cost of ownership, including the purchase price and cost of financing. As the fixed costs are spread out over a greater number of miles (divided by a larger denominator), the effective cost-per-mile decreases. In addition, **Chart 4-2** shows that the cost-per-mile of a car drops below the personal mileage reimbursement rate at 10,501 miles per year.

The decrease in cost-per-mile as vehicle utilization increases is the reason that retaining an underutilized car represents an opportunity cost for an agency. Likewise, allowing a driver to accrue mileage in excess of the breakeven cost also represents an opportunity cost.

## Analysis

**Table 4-1** shows the usage range for managed and self-managed cars, a count of cars that fall into that range, the total, the cumulative total, and the percent of total. Green shaded cells represent annual utilization below the DAS breakeven mileage and darker shades represent utilization ranges below the breakeven rates calculated in **Recommendation 3**. Vehicle underutilization represents an opportunity cost to the state.

**Table 4-1: Car Usage Range\***

Usage Range	Managed	Self-Managed	Total	Cumulative	% of Total
0-500	6	1	7	7	0.4%
501-1,000	4	1	5	12	0.7%
1,001-1,500	6	3	9	21	1.2%
1,501-2,000	10	7	17	38	2.2%
2,001-2,500	11	3	14	52	3.0%
2,501-3,000	16	6	22	74	4.3%
3,001-3,500	17	7	24	98	5.7%
3,501-4,000	18	6	24	122	7.1%
4,001-4,500	19	7	26	148	8.6%
4,501-5,000	27	7	34	182	10.6%
5,001-5,500	24	7	31	213	12.4%
5,501-6,000	24	9	33	246	14.3%
6,001-6,500	32	10	42	288	16.8%
6,501-7,000	22	17	39	327	19.1%
7,001-7,500	27	16	43	370	21.6%
7,501-8,000	32	16	48	418	24.4%
8,001-8,500	41	27	68	486	28.3%
8,501-9,000	37	13	50	536	31.3%
9,001-9,500	38	14	52	588	34.3%
9,501-10,000	25	13	38	626	36.5%
10,001-10,500	35	12	47	673	39.2%
10,501-11,000	35	17	52	725	42.3%
11,001-11,500	38	22	60	785	45.8%
11,501-12,000	23	22	45	830	48.4%
12,001-12,500	39	20	59	889	51.8%
12,501-13,000	26	16	42	931	54.3%
13,001-13,500	29	16	45	976	56.9%
13,501-14,000	38	14	52	1,028	59.9%
14,001-14,500	31	19	50	1,078	62.9%
14,501-15,000	35	9	44	1,122	65.4%
15,001+	430	163	593	1,715	100.0%
<b>Total</b>	<b>1,195</b>	<b>520</b>	<b>1,715</b>	<b>N/A</b>	<b>N/A</b>
				<b>Managed</b>	<b>Self-Managed</b>
Cars below DAS breakeven				214	74
Cars between DAS breakeven and calculated breakeven				257	33
Total under breakeven				471	107
<b>Total cars below breakeven</b>					<b>578</b>
<b>Total cars</b>					<b>1,715</b>
<b>% of cars eliminated</b>					<b>33.7%</b>

Source: DAS

\* Excludes vehicles analyzed in **Recommendation 2**.

As shown in **Table 4-1**, there are a total of 578 vehicles, or 33.7 percent, that were driven for less mileage than the breakeven point in FY 2018. In addition, 288 vehicles, or 16.8 percent of the total, were driven less than the DAS’s calculated breakeven of 6,500 per year (see **Recommendation 3**). Any mile incurred in a vehicle that is utilized under the breakeven point would be better reassigned to a personal mileage reimbursement or to an underutilized state-owned car.

In addition to underutilized cars, allowing a driver to accrue personal mileage reimbursement over the breakeven threshold presents an opportunity cost. ORC § 125.832 (L) prohibits reimbursement payments incurred “...above an amount that the department shall determine annually unless reimbursement for the excess mileage is approved by the department in accordance with standards for that approval the director shall establish in those rules.”

**Table 4-2** shows the usage range and a count of drivers at managed and self-managed agencies who accrued that range. It also shows the total count of drivers within each range as well as the cumulative count and percent of total drivers for FY 2018. Drivers incurring mileage over the breakeven threshold may be incurring unnecessary travel expense.

**Table 4-2: Personal Mileage Range**

Mileage Range	Managed Agencies	Self-Managed Agencies	Total	Cumulative	% of Total
0-500	1,625	560	2,185	2,185	43.0%
501-1,000	851	157	1,008	3,193	62.9%
1,001-1,500	385	72	457	3,650	71.9%
1,501-2,000	234	38	272	3,922	77.2%
2,001-2,500	202	33	235	4,157	81.9%
2,501-3,000	131	24	155	4,312	84.9%
3,001-3,500	104	17	121	4,433	87.3%
3,501-4,000	96	9	105	4,538	89.4%
4,001-4,500	61	6	67	4,605	90.7%
4,501-5,000	66	6	72	4,677	92.1%
5,001-5,500	57	4	61	4,738	93.3%
5,501-6,000	49	4	53	4,791	94.3%
6,001-6,500	38	3	41	4,832	95.2%
6,501-7,000	24	5	29	4,861	95.7%
7,001-7,500	29	2	31	4,892	96.3%
7,501-8,000	17	3	20	4,912	96.7%
8,001-8,500	19	1	20	4,932	97.1%
8,501-9,000	16	0	16	4,948	97.4%
9,001-9,500	12	1	13	4,961	97.7%
9,501-10,000	15	0	15	4,976	98.0%
10,001-10,500	14	1	15	4,991	98.3%
10,501-11,000	10	0	10	5,001	98.5%
11,001-11,500	10	1	11	5,012	98.7%
11,501-12,000	8	0	8	5,020	98.9%
12,001-12,500	8	0	8	5,028	99.0%
12,501-13,000	4	1	5	5,033	99.1%
13,001-13,500	6	0	6	5,039	99.2%
13,501-14,000	3	0	3	5,042	99.3%
14,001-14,500	5	0	5	5,047	99.4%
14,501-15,000	3	1	4	5,051	99.5%
15,001+	26	1	27	5,078	100.0%
<b>Total</b>	<b>4,128</b>	<b>950</b>	<b>5,078</b>	<b>N/A</b>	<b>N/A</b>
		<b>Managed</b>		<b>Self-Managed</b>	
Drivers over DAS breakeven		229		17	
Drivers Above Calculated Breakeven		83		10	
Drivers Above Calculated Breakeven			93		
Total Vehicles			5,078		
Percent of Drivers Over Breakeven			1.8%		

Source: DAS

As shown in **Table 4-2**, a total of 93 drivers, or 1.8 percent of the total drivers, accrued mileage over the calculated threshold. In addition, 246 drivers, or 4.8 percent, accrued mileage in excess of the DAS calculated threshold of 6,500 miles. Ultimately, calculating a fully burdened breakeven as recommended in **Recommendation 3** will result in more drivers accruing personal mileage, but will be more cost-effective relative to having a number of underutilized cars in the fleet.

**Table 4-3** shows the financial impact of eliminating cars that fall below the breakeven utilization calculated in **Recommendation 3** and moving those drivers to personal mileage reimbursement. In addition, **Table 4-3** also shows the impact of moving all drivers who received reimbursement over the breakeven threshold to state-owned vehicles.

**Table 4-3: Financial Impact**

	Managed Agencies	Self-Managed Agencies
<b>Underutilized Cars</b>		
Assigned	151	45
Unassigned	320	62
<b>Total</b>	<b>471</b>	<b>107</b>
<b>Drivers Over Breakeven</b>		
Reassigned *	83	10
<b>Net Financial Impact</b>		
Net Reduction	388	97
Salvage Value **	\$4,588	\$4,588
One-Time Salvage	\$1,780,144	\$445,036
Savings switching from State-Owned Vehicles to Personal †	\$731,563	\$76,964
Savings from Switching from Personal to State-Owned ‡	\$121,728	\$12,783
Reduced Purchases §	\$234,382	\$1,577
First-Year Savings	\$2,867,817	\$536,360
Annual Savings	\$1,087,673	\$91,324
<b>Net Sedan Reduction</b>		<b>485</b>
<b>Total First Year Savings</b>		<b>\$3,404,177</b>
<b>Total Ongoing Annual Savings</b>		<b>\$1,178,997</b>

Source: DAS

\* Currently underutilized cars that will be reassigned to individual drivers.

\*\* Based on salvage value of a six-year-old car less a 17.0 percent salvage fee.

† Based on the per mile savings from shifting miles from underutilized cars to personal mileage reimbursement at \$0.52 per mile.

‡ Based on the per-mile savings of shifting drivers who accrued mileage over the breakeven threshold to a state-owned car.

§ Based on the percentage of the total fleet that will not have to be replaced each year.

As shown in **Table 4-3**, optimizing mileage by eliminating cars with annual utilization rates below the breakeven mileage and switching drivers over the breakeven mileage to state-owned vehicles could result in a net savings of approximately **\$3.40** million in the first year and **\$1.17** million annually thereafter.

## Conclusion

ORC § 126.31 (B) allows the Office of Budget and Management (OBM) to reimburse employees of state agencies who travel for state business. The current reimbursement rate is \$0.52 per mile. There are opportunity costs to maintaining underutilized state-owned cars. In addition, allowing drivers to accrue mileage over the breakeven mileage represents an inefficient use of personal reimbursement. The current practices are wasteful and the state should optimize personal reimbursement or fleet use to best use taxpayer resources.



**Recommendation 5**

## Telematics

▶▶ Institute the use of GPS/Telematics on state-owned motor vehicles and use the data to perform statewide fleet management.

▶▶ Using telematics to confirm vehicles with zero utilization and eliminating those vehicles could save approximately \$171,400 during the first year \$40,800 annually thereafter.

## Methodology

This section, **Telematics**, seeks to analyze missing or unusual data points. Data will be drawn from FY 2018. Analysis will focus on vehicles without recorded utilization data and vehicles having utilization but without recorded maintenance.

## Background

ORC § 125.832 grants DAS the authority to determine the information system used to collect and maintain fleet data. Currently, DAS uses Fleet Ohio to collect and maintain fleet data. Fleet Ohio is either updated automatically when a Voyager card is used to make a fleet-related purchase, or manually when purchases are made outside Fleet Ohio (see **R.2** and **Background**). Fleet Ohio does not have the ability to track vehicles in real-time.

A global positioning system (GPS) device with telematics is an electronic device that plugs into a vehicle’s data terminal. A telematics device can be used to remotely track a vehicle’s location and route traveled as well as send maintenance alerts.

## Analysis

Light vehicles require regular maintenance in order to continue to function properly. Vehicles are required to have oil changes at regular intervals, typically every 7,500 miles. When properly updated, Fleet Ohio is able to produce reports showing accurate mileage and maintenance expenditures and allow a fleet manager to confirm that vehicles are receiving appropriate maintenance. Inaccurate or incomplete data entries can make it difficult to confirm that appropriate maintenance occurred.

**Table 5-1** shows self-managed cars and pickups with significant utilization and no recorded maintenance, and the potential number of deferred service occurrences. This type of analysis shows a potential impact of incomplete or inaccurate data collection.

**Table 5-1: Deferred Maintenance**

Agency	Equipment #	Total Maintenance Costs	Expected Maintenance Interval	Miles Driven	Deferred Service Occurrences
ADJ	43-139	0	7,500	8,995	1.2
ADJ	43-142	0	7,500	8,162	1.1
ADJ	ONG-81	0	7,500	15,589	2.1
ADJ	ONG-82	0	7,500	17,284	2.3
ADJ	ONG-83	0	7,500	15,434	2.1
OBWC	21-365	0	7,500	8,092	1.1
OBWC	21-511	0	7,500	8,726	1.2
COM	22-794	0	7,500	28,400	3.8
COM	27-819	0	7,500	11,146	1.5
COM	27-821	0	7,500	8,384	1.1
ODNR	15-126	0	7,500	8,110	1.1
ODNR	15-348	0	7,500	8,352	1.1
ODNR	15-695	0	7,500	9,590	1.3
ODNR	15-725	0	7,500	11,631	1.6
ODNR	15S-103	0	7,500	17,963	2.4
ODNR	15S-119	0	7,500	9,106	1.2
ODNR	15S-128	0	7,500	10,169	1.4
ODNR	15S-201	0	7,500	10,723	1.4
ODNR	15S-334	0	7,500	8,349	1.1
ODNR	15S-336	0	7,500	8,051	1.1
ODNR	15S-348	0	7,500	11,042	1.5
ODNR	15S-40	0	7,500	9,824	1.3
ODNR	15S-596	0	7,500	15,468	2.1
ODNR	15S-653	0	7,500	10,687	1.4
ODNR	15S-940	0	7,500	13,777	1.8
ODNR	15S-B14	0	7,500	8,846	1.2
DYS	53-565	0	7,500	8,065	1.1
OEPA	65-218	0	7,500	20,325	2.7
OEPA	65-267	0	7,500	14,589	1.9
OEPA	65S-642	0	7,500	9,450	1.3
LOT	70S-209	0	7,500	29,331	3.9
<b>Total</b>					<b>51.2</b>

Source: DAS

As shown in **Table 5-1**, there were a total of 31 vehicles with significant utilization that also showed zero maintenance costs. If data were recorded accurately in Fleet Ohio, these 31 vehicles did not receive a combined total of at least 51.2 oil changes. Deferring basic maintenance could shorten vehicle life and contribute to additional expenses in the future.

Table 5-2 shows the type and assignment model for managed and self-managed vehicles with zero utilization during all of FY 2018.

**Table 5-2: Zero Utilization Vehicles**

Managed		
Type	Unassigned	Assigned
Pickup	12	0
Full-size Van	7	0
Mini Van	2	0
<b>Sub-Total</b>	<b>21</b>	<b>0</b>
Self-managed		
Type	Unassigned	Assigned
Pickup	5	3
Full-size Van	2	1
Mini Van	3	0
<b>Sub-Total</b>	<b>10</b>	<b>4</b>
<b>Total Vehicles</b>		<b>35</b>

Source: DAS

As shown in Table 5-2, a total of 35 vehicles had zero utilization. Pickup trucks were the vehicles most likely to have zero utilization, with 17 of the non-utilized vehicles being pickups (48.6 percent). The reason pickups are the most likely not to be utilized is because they are the most common vehicles at remote locations of ODRC and ODNR. Remote locations are the most likely to use internal maintenance and fuel and therefore the most likely to have to manually update Fleet Ohio. It is therefore not possible to know if the vehicles with zero utilization were actually unused or if utilization was not reported.

Table 5-3 shows the count of vehicles with zero utilization, average salvage value, average annual depreciation, and total financial impact of removing vehicles with zero utilization from inventory.

**Table 5-3: Financial Impact of Reducing Unutilized Vehicles**

Type	Count	Salvage	Annual Depreciation	Financial Impact
Pickup	20	\$3,356	\$1,047	\$88,060
Full-size Van	10	\$5,407	\$1,301	\$67,080
Mini Van	5	\$1,863	\$1,389	\$16,260
<b>First Year Impact</b>				<b>\$171,400</b>
<b>Ongoing Impact</b>				<b>\$40,895</b>

Source: DAS

As shown in **Table 5-3**, removing the 35 unused vehicles from the fleet could result in an annual financial impact of **\$171,400** during the first year and **\$40,895** in subsequent years.

The Ohio Attorney General’s Office (AGO) and Ohio Department of Transportation (ODOT) have both implemented telematics in recent years. The AGO uses telematics to track vehicle utilization and to receive maintenance alerts; ODOT uses telematics to optimize snow plow routes. Both agencies report that telematics have helped optimize operations.

Telematics is one tool that could be used to reduce the risk of having underutilized or under-maintained vehicles in the fleet. Telematics can be used to track vehicle utilization from a distance and can also be set to send alerts when a vehicle needs maintenance.

The adoption of telematics will require additional annual expenditures. Each telematics unit will have to be purchased and installed, and DAS will incur a monthly fee for service. The exact details of the service contract will have to be negotiated with a vendor. **Table 5-4** show cost categories and cost from the AGO contract, the cost of the same category from the General Services Administration (GSA) contract for telematics service, and the average of the two contract prices. Average costs from other government entities should serve as a guide for what DAS can expect to pay.

**Table 5-4: Telematics Cost**

<b>Category</b>	<b>AGO Contract</b>	<b>GSA Price</b>	<b>Average</b>
Cost of Unit *	\$140.00	\$146.50	\$143.25
Monthly Service	\$18.95	\$12.00	\$15.48
Total First Year	\$367.40	\$290.50	\$328.95
Ongoing	\$227.40	\$144.00	\$185.70

Source: DAS

\* Includes the purchase of the telematics unit and installation.

As shown in **Table 5-4**, the average first year cost, including installation, is \$328.95 per vehicle. The ongoing, annual cost of service is \$185.70 per vehicle.

**Table 5-5** shows the total number of cars and other vehicles removed from the inventory as a result of this audit, the total financial impact, and the net savings if DAS installs telematics on all remaining vehicles.

**Table 5-5: Financial Impact of Telematics**

Total Vehicles FY 2018	5,529
Sedans Removed	517
Other Vehicles Removed	35
Vehicles Remaining	4,977
First Year Telematics per Vehicle	\$328.95
First Year Total Telematics Cost	\$1,637,184
Total Audit Savings	\$5,676,320
Net Savings Post Install	\$4,039,136
Annual Cost per Telematics Unit	\$185.70
Annual Cost	\$924,229
Annual Audit Savings	\$3,173,958
Net Savings	\$2,249,729

Source: DAS

As shown in **Table 5-5**, the net first year financial impact of fully implementing all recommendations of this report and using the savings to outfit each remaining vehicle with telematics could be **\$4.03 million** in the first year and **\$2.24 million** annually thereafter.

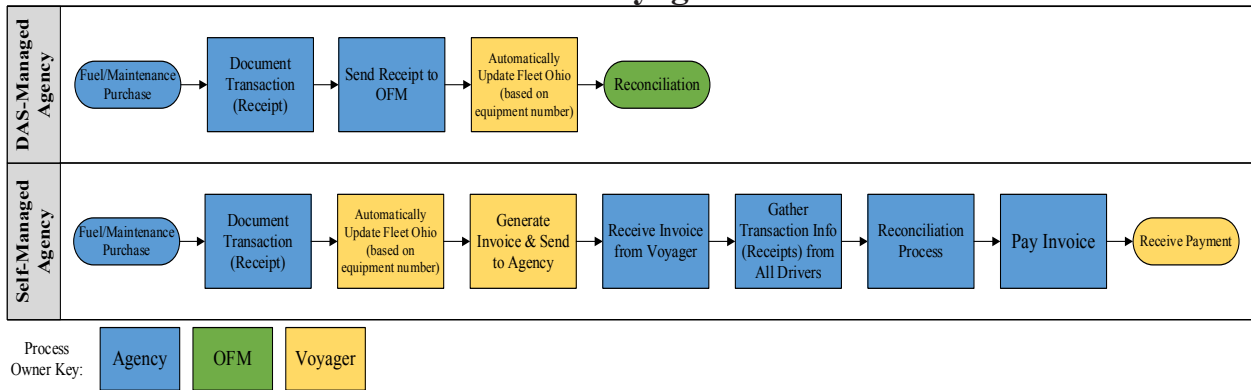
## Conclusion

The current data-gathering systems routinely leave key pieces of data uncaptured. This results in vehicles that were completely unused for a full year, used but not receiving appropriate maintenance, or used with uncaptured maintenance costs. Telematics could be used to help avoid similar issues in the future.

# Appendix

**Chart A-1** shows the process that occurs when a purchase is made using Voyager card at a self-managed and managed agency, respectively, including the reconciliation process. Examining these procedures highlights differences in the practices of managed and self-managed agencies.

**Chart A-1: Voyager Process**



Source: DAS

As shown in **Chart A-1**, self-managed agencies must perform Voyager reconciliations each month. By contrast, OFM performs all reconciliations for managed agencies.

**Table A-1** shows the agencies and the average percent of salvage revenue returned to the agency for FY 2015 through FY 2018. The disposition of salvage revenue is determined by the method used to purchase a vehicle.

**Table A-1: Salvage Funds Returned to Agency**

Agency	% Returned
Managed*	40.5%
ADJ	2.2%
OBWC	100.0%
COM	98.3%
ODNR	87.4%
DYS	0.0%
OEPA	96.4%
LOT	100.0%

Source: DAS

\*Once a managed agency’s fleet transitions to being made up completely of vehicles purchased on the lease program, DAS will recoup 100.0 percent of the salvage; the current state reflects the fact that currently managed agencies joined the program with a pre-existing inventory of vehicles purchased by the agency.

As shown in **Table A-1**, four out of seven, or 57.1 percent of self-managed agencies, see over 90.0 of salvage revenue returned directly to the agency. This is reflective of the fact that OBWC, COM, OEPA, and LOT are not primarily GRF-funded. In addition, ADJ and DYS are mostly GRF-funded agencies, and therefore see little salvage returned to the agency.

**Table A-2** shows expected salvage and finance cost per vehicle and total finance cost along the top as well as the average percentage recovered from salvage, total salvage projected per year, total financing cost, and annual financing net salvage. Salvage vehicles can be a source of revenue which could offset the cost of financing.

**Table A-2: Expected Salvage and Finance Cost**

Agency	Type	Count	Avg. Age at Salvage	Expected Salvage	Total Salvage *	Finance Cost	Total Financing
ADJ	Sedan <sup>2</sup>	4	9	\$3,674	\$12,199	\$385	\$1,541
ADJ	Mini Van	1	11	\$2,244	\$1,863	\$476	\$476
ADJ	Pickup	23	13	\$4,043	\$77,177	\$623	\$14,337
ADJ	SUV	3	10	\$3,966	\$9,875	\$605	\$1,814
OBWC	Sedan	159	9	\$3,674	\$484,915	\$385	\$61,266
OBWC	Full-size Van	18	10	\$6,514	\$97,323	\$690	\$12,423
OBWC	Mini Van	21	11	\$2,244	\$39,115	\$476	\$9,997
OBWC	Pickup	2	13	\$4,043	\$6,711	\$623	\$1,247
OBWC	SUV	37	10	\$3,966	\$121,796	\$605	\$22,378
COM	Sedan	127	9	\$3,674	\$387,322	\$385	\$48,935
COM	Full-size Van	3	10	\$6,514	\$16,221	\$690	\$2,070
COM	Mini Van	2	11	\$2,244	\$3,725	\$476	\$952
COM	Pickup	90	13	\$4,043	\$301,998	\$623	\$56,101
COM	SUV	96	10	\$3,966	\$316,011	\$605	\$58,062
ODNR	Sedan	34	9	\$3,674	\$103,692	\$385	\$13,101
ODNR	Full-size Van	27	10	\$6,514	\$145,985	\$690	\$18,634
ODNR	Mini Van	26	11	\$2,244	\$48,428	\$476	\$12,377
ODNR	Pickup	647	13	\$4,043	\$2,171,027	\$623	\$403,301
ODNR	SUV	171	10	\$3,966	\$562,894	\$605	\$103,424
DYS	Sedan	77	9	\$3,674	\$234,833	\$385	\$29,669
DYS	Full-size Van	15	10	\$6,514	\$81,103	\$690	\$10,352
DYS	Mini Van	16	11	\$2,244	\$29,802	\$476	\$7,617
DYS	Pickup	4	13	\$4,043	\$13,422	\$623	\$2,493
OEPA	Sedan	97	9	\$3,674	\$295,828	\$385	\$37,376
OEPA	Full-size Van	15	10	\$6,514	\$81,103	\$690	\$10,352
OEPA	Mini Van	11	11	\$2,244	\$20,489	\$476	\$5,236
OEPA	Pickup	94	13	\$4,043	\$315,420	\$623	\$58,594
OEPA	SUV	18	10	\$3,966	\$59,252	\$605	\$10,887
Agency	% Recovered	Total Salvage Projected	Salvage Realized Based on Historical %	Salvage Realized per Year Over Next 10 Years	Total Expected Financing Cost	Difference between and Finance Cost Expended	
ADJ	2.2%	\$101,114	\$2,225	\$222	\$18,169	(\$17,946)	
OBWC	100.0%	\$749,680	\$749,860	\$74,986	\$107,310	(\$32,324)	
COM	98.3%	\$1,025,276	\$1,007,846	\$100,785	\$166,121	(\$65,336)	
ODNR	87.4%	\$3,032,027	\$2,649,991	\$264,999	\$550,837	(\$285,838)	
DYS	0.0%	\$359,160	\$0	\$0	\$50,132	(\$50,132)	
OEPA	96.4%	\$772,092	\$744,296	\$74,430	\$122,445	(\$48,016)	

Source: DAS

\* Calculated as average salvage, multiplied by the count, less a 17.0 percent salvage fee.

\*\* The estimated value of a sedan in this table is lower than the estimates in **Recommendations 2, 3 and 4** because it assumes that the sedans remaining after the implementation of **R.2, R.3, and R.4** will be older and therefore less valuable.

As shown in **Table A-2**, the cost of financing will exceed the anticipated annual salvage revenue in each case; however, in four of six cases, the managed fleet experiences lower per-vehicle operating costs.



## Engagement Scope and Purpose

ORC §117.46 directs that the Auditor of State (AOS) shall conduct performance audits of at least four state agencies each biennium. The Department of Administrative Services (DAS) was selected for the FY 2017-19 Biennium, encompassing FY 2018 and FY 2019.

The Ohio Performance Team (OPT) engaged in a collaborative planning and scoping process with DAS leadership, which included interviews and a high-level review of data. Fleet Management was selected for evaluation.

## Performance Audit Overview

OPT conducted this performance audit in accordance with generally accepted government auditing standards. These standards require that OPT 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. OPT believes that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

## Methodology

Audit work was conducted from September 2018 to April 2019. OPT worked with DAS to obtain data and conduct interviews to establish current operating conditions. Criteria used for comparison included statutory requirements from ORC and OAC as well as DAS policies. Each section of this audit report contains the specific criteria used for comparisons and detailed methodology.

The performance audit process involved sharing preliminary information with the client, which included status meetings with the client. Input from the agency was considered and taken into account, as appropriate. This audit report contains recommendations that are intended to provide DAS with options to enhance its operational efficiency and effectiveness.

## Audit Scope and Objectives

Based on the agreed upon scope of Fleet Management, OPT developed the following objective designed to identify improvements to efficiency and/or effectiveness.

## Audit Objectives and Recommendations

Objective:

What opportunities exist to improve the efficiency and effectiveness of fleet management practices in relation to industry standards and leading practices?

Although assessment of internal controls was not specifically an objective of this performance audit, internal controls were considered and evaluated when applicable to scope areas and objectives. This performance audit did not identify internal control deficiencies which would have required a separate communication to be issued, as control deficiencies are noted in the recommendations.

## Abbreviations

ADJ ..... Adjutant General's Office  
COM ..... Ohio Department of Commerce  
CPM ..... Cost per Mile  
DAS..... Department of Administrative Services  
DPS ..... Ohio Department of Public Safety  
GPS ..... Global Positioning System  
LOT..... Ohio Lottery Commission  
OBWC..... Ohio Bureau of Workers' Compensation  
ODNR ..... Ohio Department of Natural Resources  
ODOT ..... Ohio Department of Transportation  
ODRC ..... Ohio Department of Rehabilitation and Corrections  
OEPA..... Ohio Environmental Protection Agency  
OFM..... Office of Fleet Management

## Client Response

The letter on the following page is the official response from DAS to the performance audit. Throughout the audit process, staff met with Agency officials to ensure substantial agreement on the factual information presented in the report. When the Agency disagreed with information contained in the report and provided supporting documentation, revisions were made to the audit report.



Department of  
Administrative Services

Mike DeWine, Governor  
Jon Husted, Lt. Governor

Matt Damschroder, Director

May 22, 2019

Dear Auditor Faber:

As public servants, we both share the goal of providing efficient and cost-effective services to all Ohioans. As such, I appreciate the recent audit conducted by your office on our Office of Fleet Management (OFM). My staff have commented on the professionalism of your office and have expressed their appreciation for your efforts to include them throughout the process.

Like other divisions of the Ohio Department of Administrative Services, OFM works behind the scenes to provide service and savings to other state agencies. Your audit provides us with valuable insight to help us improve upon those efforts.

In particular, I welcome your focus on data collection, and its use in increasing the efficiency of our fleet. Better collecting, understanding and utilizing data to make decisions is at the core of our ongoing efforts to operate more efficiently, and more importantly, to improve customer service.

Thank you again for your partnership and the professionalism of your team. We look forward to utilizing the information provided in your audit, as we continue to optimize our fleet management efforts.

Thank you for your collaboration.

Sincerely,

Matthew Damschroder  
Director

Administrative Support Division  
30 East Broad Street, 40th Floor  
Columbus, Ohio 43215

614-466-6511  
das.ohio.gov

The State of Ohio is an equal opportunity employer.

**DAS Fleet Management**  
Performance Audit  
June 6, 2019



88 E. Broad St.  
Columbus, Ohio 43215  
Phone: (614) 466-4514  
Toll Free: (800) 282-0370  
[www.ohioauditor.gov](http://www.ohioauditor.gov)

# OHIO AUDITOR OF STATE KEITH FABER



**OHIO DEPARTMENT OF ADMINISTRATIVE SERVICES**

**FRANKLIN COUNTY**

## **CLERK'S CERTIFICATION**

**This is a true and correct copy of the report which is required to be filed in the Office of the Auditor of State pursuant to Section 117.26, Revised Code, and which is filed in Columbus, Ohio.**

*Susan Babbitt*

**CLERK OF THE BUREAU**

**CERTIFIED  
JUNE 6, 2019**