



May 2014

FEDERAL VEHICLE FLEETS

GSA Has Opportunities to Further Encourage Cost Savings for Leased Vehicles

Why GAO Did This Study

Agencies (excluding the U.S. Postal Service) spent about \$1.1 billion in fiscal year 2012 to lease about 190,000 vehicles from GSA. Recent legislative proposals have called for reductions in the cost and size of federal agencies' fleets. Agencies may choose to have telematic devices installed in leased vehicles; the data these devices provide can be used to manage fleets.

GAO was asked to review GSA's vehicle-leasing program. This report addresses (1) whether and how GSA's leasing rates, terms, and services support agency efforts to reduce fleet costs and (2) the views of selected experts regarding the cost-savings potential of telematics for fleets and the possible implications for GSA's leasing program. GAO reviewed program policies; interviewed GSA officials; held two panel discussions with fleet managers from 10 agencies representing 80 percent of the leased fleet in fiscal year 2011; and interviewed 19 experts with knowledge about telematics or fleet management, as demonstrated by recommendations from fleet management associations, among other considerations. Responses from the panelists and experts are not generalizable.

What GAO Recommends

GAO recommends that GSA (1) examine the trade-offs of changing GSA's lease-rate structure so that agencies pay for their actual fuel use and (2) request information on agencies' experiences with telematics in their fleets and share this information with agencies. GSA agreed with GAO's findings and recommendations.

View [GAO-14-443](#). For more information, contact Lori Rectanus at (202) 512-2834 or rectanusl@gao.gov.

FEDERAL VEHICLE FLEETS

GSA Has Opportunities to Further Encourage Cost Savings for Leased Vehicles

What GAO Found

Some aspects of the General Service Administration's (GSA) leasing rates, terms, and services support agency efforts to reduce fleet costs, while others do not. For example, GSA procures the vehicles it leases at a discount and passes those savings on to its customers, provides agencies with data analyses that can be used to eliminate unnecessary vehicles, and identifies fraud, waste, and abuse related to leased vehicles. However, GAO identified two areas where GSA's rates and terms have not encouraged agency efforts to reduce fleet costs. First, under GSA's leasing-rate structure, fuel costs are covered by a monthly fee based on miles traveled, among other things, but not on actual fuel used. This rate structure does not provide incentives for agencies to reduce some fuel costs that may not be fully reflected by miles travelled, such as costs associated with idling or speeding. Principles for designing government fees suggest that having each agency pay for the fuel it actually uses could increase incentives to reduce fuel costs. GAO has previously found that government fee decisions also involve considering trade-offs and that other considerations, such as administrative burden, are important. Without examining the trade-offs of changing GSA's rate structure so that agencies pay for the fuel they actually consume, GSA may be missing an opportunity to encourage agencies to minimize fuel costs and save taxpayer dollars. Second, lack of clear GSA guidance on what constitutes excessive wear and tear of leased vehicles can limit the ability of agencies to determine whether it is less expensive to lease or own vehicles. GSA just developed this guidance and is taking steps to implement it.

The experts and federal fleet managers GAO consulted agreed that the use of telematics can facilitate cost savings for some fleets by providing fleet managers with information—such as data on vehicle location, speed, or condition—that they can use to reduce fleet size, fuel use, misuse of vehicles, and unnecessary maintenance. For example, a fleet manager at the Department of Energy's Idaho National Laboratory reported that since fiscal year 2011, telematics data have helped officials at that facility decide to eliminate 65 leased vehicles for an estimated annual savings of approximately \$390,000. However, various factors—such as telematics' cost, characteristics of the fleet, and the level of management support—influence the potential of telematics to facilitate cost savings for a given fleet. The federal fleet managers on GAO's panels suggested that GSA lower the costs of telematic devices to improve the likelihood of achieving cost savings and to help allay management's concerns about return on investment. They also suggested that GSA provide information on agencies' experiences with telematics, such as studies or estimates of cost savings, to further support telematics' adoption in the federal fleet. GSA officials noted that they are currently engaged in efforts to obtain lower prices on telematic devices, and while officials do not currently collect information on agencies' experiences with telematics, they would be able to request it and share any information agencies voluntarily provide. One of GSA's strategic objectives is to enhance relationships with its customers, in part by sharing information that drives improved decision-making. By not collecting and sharing information on federal agencies' experiences with telematics, GSA may be missing an opportunity to help agencies determine whether to adopt telematics in their fleets and identify which devices or approaches have the greatest potential to facilitate cost savings.

Contents

Letter		1
	Background	4
	Some Aspects of GSA's Leasing Rates, Terms, and Services Support Agency Efforts to Reduce Fleet Costs, While Others Do Not	7
	Telematics Use Might, in Some Cases, Result in Cost Savings to Vehicle Fleets Leased from GSA	16
	Conclusions	26
	Recommendations for Executive Action	26
	Agency Comments	27

Appendix I	GSA's Vehicle-Leasing Program Services, Structure, and Costs	28
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Appendix II	GSA's Vehicle-Purchasing Program Services, Structure, and Costs	33
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Appendix III	Objectives, Scope, and Methodology	36
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Appendix IV	Fleet Characteristics That Experts Reported Could Influence Telematics' Cost-Saving Potential	40
-------------	--	----

Appendix V	Comments from the U.S. General Services Administration	41
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Appendix VI	GAO Contact and Staff Acknowledgments	42
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Tables		
	Table 1: Number of Vehicles Leased by GSA, by Vehicle Type, Fiscal Years 2008-2012	5
	Table 2: GSA Leasing Program Revenue and Costs, in Thousands, Fiscal Years 2008-2012	32
	Table 3: GSA's Purchasing Program Revenue and Costs, in Thousands, Fiscal Years 2008-2012	35

Figures

Figure 1: Examples of Cost Savings That Can Be Achieved with Telematics	17
Figure 2: Location and Number of Staff Responsible for GSA's Leasing Program	30

Abbreviations list

AFLA	Automotive Fleet and Leasing Association
AFV	alternative fuel vehicles
CBP	Customs and Border Patrol
FTE	full-time equivalent
GPS	Global Positioning System
GSA	General Services Administration

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May 7, 2014

The Honorable Darrell Issa
Chairman
Committee on Oversight and Government Reform
House of Representatives

The Honorable John L. Mica
Chairman
Subcommittee on Government Operations
Committee on Oversight and Government Reform
House of Representatives

Federal agencies rely on a variety of vehicles—including passenger cars and trucks, and special purpose vehicles (e.g., ambulances and buses)—to accomplish their missions and may lease or purchase these vehicles from the General Services Administration (GSA). Reported total costs associated with the federal fleet in fiscal year 2012, including both leased and owned vehicles, were about \$2.9 billion for civilian and military agencies.¹ From fiscal years 2002 through 2012, the overall number of leased and owned federal civilian and non-tactical military vehicles increased 19 percent, from about 364,000 to 441,000 vehicles. In recent years, Congress and the President have raised concerns about the size and cost of the federal fleet, and the President has directed agencies to take steps to eliminate non-essential vehicles. In addition, recent legislative proposals have been aimed at reducing the size and cost of agencies' fleets.²

GSA's leasing program provides over 40 percent of the vehicles that agencies use. In fiscal year 2012, agencies spent over \$1.1 billion to lease about 190,000 vehicles from GSA. GSA offers various types of vehicles for lease and its rates and terms include the costs of fuel,

¹The figures on agency leased and owned vehicles used in this report exclude vehicles owned or leased by the U.S. Postal Service. We have previously reported on the postal fleet. See GAO, *United States Postal Service: Strategy Needed to Address Aging Delivery Fleet*, [GAO-11-386](#) (Washington, D.C.: May 5, 2011).

²For example, legislation has been proposed that directs federal agencies to coordinate with the Office of Management and Budget to reduce vehicle budgets by 20 percent. See H.R. 37, 113th Cong. (2013); S. 417, 113th Cong. (2013).

maintenance, and various services. When leasing vehicles from GSA, agencies may choose to have telematic devices installed.³ Such devices, when used in vehicle fleets, provide information—including data on vehicle location, idling, and speed—that fleet managers can use to manage and reduce costs of fleet operations. You asked us to review GSA's vehicle-leasing program. This report addresses (1) whether and how GSA's leasing rates, terms, and services support or encourage agency efforts to reduce fleet costs and (2) the views of selected experts regarding the cost-savings potential of telematics for fleets and the possible implications for GSA's leasing program. In addition, we are providing requested information on the services provided by and structure and costs associated with GSA's vehicle-leasing program and its purchasing program. These topics are discussed in appendixes I and II, respectively.

To address both of our objectives, we reviewed applicable federal laws, federal fleet management regulations, GSA's strategic and performance plans, GSA's fleet guidance and policy, and other pertinent GSA documentation, and interviewed GSA officials. To determine whether and how GSA's vehicle-leasing rates, terms, and services support or encourage agency efforts to reduce fleet costs, we convened two panels of federal fleet managers to obtain their views. We selected fleet managers who managed federal fleets with over 7,000 vehicles leased from GSA in fiscal year 2011, the most recent fleet data available at the time of our fleet manager selection.⁴ One panel consisted of managers from five civilian agencies: the Departments of Agriculture, Energy, Homeland Security, the Interior, and Veterans Affairs. The other panel consisted of managers from five military agencies: the U.S. Marine Corps, the Army Corps of Engineers, and the Departments of the Air Force, Army, and Navy.⁵ While their views should not be used to generalize about the views of all federal fleet managers, they do provide the perspective of those managing most of the federal leased fleet, as

³The term "telematics" refers to a technology that combines telecommunications and information processing to send, receive, and store information related to remote objects, such as vehicles.

⁴Those agency fleets with over 7,000 leased vehicles represented over 80 percent of the federal fleet leased from GSA in fiscal year 2011. Additional agency fleets would have marginally increased the total number of vehicles under our review.

⁵Most of the agencies were represented by one fleet manager and some were represented by two or three.

together they managed over 80 percent of the vehicles leased from GSA in fiscal year 2011. We also analyzed GSA's leasing rate structure in relation to the principle of economic efficiency, which has often been used to assess the design of government fees.⁶ To obtain information regarding telematics' cost-savings potential, we spoke with 19 experts knowledgeable about telematics or fleet management, including consultants, representatives of associations, and fleet managers from corporations, government entities, and universities. We selected experts based on their knowledge of these topics, as demonstrated by their publications, participation as experts in prior relevant GAO work, or recommendation by other experts. We also sent a questionnaire to 15 of these 19 experts who manage fleets regarding the specific savings they had achieved through telematics, if any.⁷ Additionally, we reviewed literature on the cost savings associated with telematics. To understand the possible implications of the cost-savings potential of telematics for GSA's leasing program, we obtained the views of the federal fleet managers who took part in the panels we convened. We also examined GSA's telematics efforts in relation to GAO's internal control standards, which include relevant, reliable, and timely communications,⁸ and GSA's *2014-2018 Strategic Plan*. Further details about our scope and methodology can be found in appendix III.

We conducted this performance audit from July 2013 to May 2014 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that

⁶See GAO, *Federal User Fees: A Design Guide*, [GAO-08-386SP](#) (Washington, D.C.: May 29, 2008). Efficiency exists when the fee ensures that the government is providing the amount of the service that is economically desirable. Efficient fees increase awareness of the costs of government services, creating incentives to reduce costs where possible. GAO developed these criteria by reviewing economic and policy literature on federal and nonfederal user fees, including prior GAO work, and used case examples to illustrate different types of design elements and the impacts they may have.

⁷We received 10 of 15 responses; several corporate fleet managers indicated that this information was proprietary. However, this information was not material to our findings, conclusions, or recommendations.

⁸GAO, *Standards for Internal Control in the Federal Government*, [GAO/AIMD-00-21.3.1](#) (Washington, D.C.: November 1999).

the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

Agencies are responsible for managing their vehicle fleets in a manner that allows them to fulfill their missions and meet various federal requirements. For example, agencies must determine the number and type of vehicles they need and how to acquire them, including whether to own or lease them. Various statutes, executive orders, and policy initiatives direct federal agencies to, among other things, collect and analyze data on costs, reduce fuel consumption, and eliminate non-essential vehicles. In addition, GSA has issued federal fleet-management regulations that include requirements regarding agencies' fleet-management information systems, vehicle fuel efficiency, and vehicle utilization, among other things. GSA has also issued guidance to help agencies manage their fleets effectively and meet federal requirements, including guidance on assessing vehicle needs, using alternative fuel vehicles, and potential cost-saving techniques.

Federal agencies may approach GSA to lease some or all of the vehicles they determine necessary to meet their mission and program needs.⁹ Supported by a network of regional Fleet Management Centers, GSA manages the federal government's vehicle-leasing program (called GSA Fleet), which leases vehicles to over 75 federal agencies. The size of the federal leased fleet ranged from about 195,000 vehicles in fiscal year 2008 to about 199,000 vehicles in fiscal year 2011, but declined to about 190,000 vehicles in fiscal year 2012.¹⁰ See table 1 for additional information on the size of the leased fleet.

⁹Federal agencies may also lease from commercial vendors in certain instances, such as when unique vehicles are not available for leasing through GSA. An agency must have specific statutory authority to lease passenger motor vehicles. 31 U.S.C. § 1343(b). According to GSA officials, only an agency that lacks this specific authority or has not been delegated leasing authority is required to participate in the GSA centralized leasing program. Examples of when agencies may lease from commercial vendors include low speed electric vehicles and buses for the handicapped. According to GSA, agencies may elect to use commercial sources even when a vehicle is available through GSA.

¹⁰In a May 2011 memorandum, the President called on federal agencies to determine the optimum size of their fleets and eliminate non-essential vehicles. Fiscal year 2012 was the first year that agencies were required to report to GSA on their progress as well as plans and targets for achieving the optimal inventory by the end of 2015.

Table 1: Number of Vehicles Leased by GSA, by Vehicle Type, Fiscal Years 2008-2012

	2008	2009	2010	2011	2012
Passenger vehicles	118,433	120,907	120,207	120,785	115,203
Trucks	71,616	72,335	72,568	73,448	70,140
Other	4,818	4,833	4,863	4,978	4,972
Total	194,867	198,075	197,638	199,211	190,315

Source: 2012 GSA Federal Fleet Report.

GSA's leasing rates are designed to recover all costs of its leasing program.¹¹ GSA charges leasing fees to agencies monthly, based on a fixed rate and mileage rate determined by the type of vehicle. For example, a conventionally-fueled compact sedan has a fiscal year 2014 fixed rate of \$171 per month and mileage rate of \$0.15 per mile traveled in each month. GSA's fixed rate is designed to cover fixed costs such as the vehicle's acquisition cost, administrative costs (including staff and facilities), and depreciation. The mileage rate is designed to cover variable costs such as fuel, maintenance, and repair and is based on mileage data collected through fleet cards.¹² For each leased vehicle, GSA assigns a specific fleet card (a charge card) that is used to pay commercial vendors for fuel, maintenance, and repairs. Fleet card users enter odometer (mileage) readings at the gas pump at the time of purchase.¹³

In addition to the leasing rates, GSA has established lease terms to which agencies must adhere. The length of GSA leases varies, but is generally between 3 and 7 years for passenger vehicles and 7 to 12 years for trucks. GSA has established age and mileage thresholds for replacing

¹¹GSA is required by law to recover all costs it incurs in providing vehicles and services to federal customers. See 40 U.S.C. §605. For further information on the expenses and revenues of GSA's leasing program, see appendix I.

¹²While the majority of GSA leases include fuel and maintenance, GSA has a limited number of leases that do not include fuel or maintenance and leases that include only maintenance for agencies with specific needs.

¹³Mileage data can also be collected through Mileage Express or File Transfer Protocol. Mileage Express is GSA's web-based mileage reporting system. File Transfer Protocol is an electronic method of transferring data instantaneously from one database to another.

vehicles in regulations and guidance. For example, under GSA's regulations, passenger vehicles may not be replaced until they have reached 3 years or 60,000 miles of use.¹⁴ Decisions to replace or retain individual vehicles are made by the agency's local fleet service representatives, located in regional Fleet Management Centers, who consider age and mileage as well as additional factors such as the vehicle's condition and repair history. Agencies must return leased GSA vehicles with normal wear and tear and may be charged additional fees to cover damage or excessive wear and tear.

As part of the leasing arrangement, GSA provides various services, including vehicle maintenance and accident management; support from fleet service representatives; provision of fleet cards; access to and analysis of data on agencies' leased fleets, such as data on mileage, inventory, and fuel consumption; and identification and management of fraud, waste and abuse associated with leased vehicles. For further details on the services provided by GSA's leasing program, see appendix I.

GSA also offers agencies the option of having telematic devices installed in the vehicles they lease.¹⁵ Examples of telematics offered by GSA include devices that monitor speed, idle time, engine diagnostics, and the vehicle's location. Telematic devices installed in fleet vehicles can provide managers of those fleets with a variety of information—including aspects of driver behavior, how well vehicles are running, their past and present locations, and miles travelled—that managers can use to manage their fleets. To gather this information, these telematic devices may use Global Positioning System (GPS) navigation, in-vehicle video recording, or data recorders integrated with the vehicle's internal systems, among other technologies.

¹⁴41 C.F.R. 102-34.270. The vehicle replacement criteria in GSA's regulations are minimum requirements. GSA's guidance has more stringent standards than the replacement criteria in its regulations.

¹⁵Telematics in vehicles can be installed by the manufacturer as standard equipment, added as an after-market product, or accessed as a wireless mobile application.

Some Aspects of GSA's Leasing Rates, Terms, and Services Support Agency Efforts to Reduce Fleet Costs, While Others Do Not

GSA's leasing rates, terms, and services help agencies keep fleet costs down in a variety of ways. For example, GSA procures the vehicles it leases at a discount and passes those savings on to its customers, provides agencies with data analyses that can be used to eliminate unnecessary vehicles, and identifies fraud, waste, and abuse related to leased vehicles. However, we identified two areas where GSA's rates and terms have not encouraged agency efforts to reduce fleet costs. First, GSA's monthly mileage rate, which covers agency fuel costs, does not provide incentives for agencies to reduce some fuel costs, such as costs associated with idling. Second, lack of clear GSA guidance on what constitutes excessive wear and tear of leased vehicles can limit the ability of agencies to determine whether it is less expensive to lease or own vehicles. GSA is currently taking steps to develop such guidance.

Some Aspects of GSA's Rates, Terms, and Services Support Efforts to Reduce Fleet Costs

GSA's leasing rates, terms, and services help agencies minimize fleet costs in various ways, as discussed below.

Leasing Rates

GSA officials and our panels of civilian and military federal fleet managers¹⁶ told us that GSA's vehicle lease rates are lower, for the most part, than the commercial sector and provide a more economical choice for federal agencies.^{17, 18} Although some agencies may choose to lease

¹⁶Unless otherwise noted, views attributed to our panels reflect key messages or themes derived from these group discussions; for more information on our methods, see appendix III.

¹⁷However, some federal fleet managers we spoke to noted that GSA adds a surcharge for the purchase of hybrid and alternative fuel vehicles that can be costly. GSA officials explained that the Energy Policy Act of 2005 requires GSA to assess a surcharge to all customer agencies to recover alternative-fuel vehicle's incremental costs. The alternative fuel surcharge covers the difference in cost between the alternative fuel vehicle and a comparable gasoline-fueled vehicle. Surcharges are assessed at the agency level depending on whether an agency is required to comply with Energy Policy Act alternative fuel mandates. According to GSA, this spreads the cost of higher priced alternative fuel vehicles across the entire federal fleet, allowing agencies to afford more alternative fuel vehicles each year.

from commercial vendors, only about 3 percent of federally leased vehicles, many of which are not offered by GSA—such as utility trucks with cranes and luxury executive vehicles—are leased through the commercial sector.

According to GSA officials, the agency keeps leasing rates low by minimizing vehicle acquisition costs, maximizing resale values, and not having to make a profit. They pointed out that the agency has the ability to buy vehicles at a discount, at prices that average 17 percent below invoice, because it buys in volume from manufacturers, about 50,000 vehicles annually. GSA is then able to pass these savings on to its customers and eventually resells the vehicles at a point when their resale value is still high. According to GSA officials, the agency's vehicle maintenance program also contributes to its low lease rates by ensuring that vehicles are maintained in good condition, decreasing the need for costly maintenance and repair.

Leasing Terms

GSA's vehicle lease terms can help keep down the cost of leasing to agencies. According to GSA officials, its vehicle lease terms, which include coverage of routine maintenance and repair, help ensure that vehicles receive proper maintenance and repair and encourage agencies to take care of their leased vehicles. According to GSA officials, ensuring vehicles received proper maintenance would be more difficult if GSA left it up to the leasing agencies. GSA officials believe these terms maximize the resale value of the vehicles for GSA, which, as noted, can help to keep overall leasing costs down.¹⁹ In addition, GSA offers short-term vehicle rentals for up to 120 days. Such leasing arrangements allow agencies to meet short-term vehicle needs rather than lease vehicles for longer periods when not needed or rent them from commercial vendors, which can be more expensive. Short-term rentals are commonly used for special events, such as conventions, or seasonal needs.

¹⁸GSA has conducted an analysis that supports this same general conclusion; it found that GSA's vehicle-leasing rates allowed agencies to lease vehicles for about half as much as it would cost them to lease from the commercial sector. We did not independently evaluate this analysis, as we had evidence from other sources supporting the same general conclusion, namely, that GSA's rates were substantially lower than those available in the commercial sector.

¹⁹In fiscal year 2013, according to GSA officials, GSA received an average of 114 percent of automobile black book value for used, previously leased vehicles sold through auction. The black book is a vehicle value guide issued weekly reflecting the latest prices of vehicles directly from automobile dealers.

Leasing Services

Federal fleet managers told us that they found GSA's analysis of data on their leased fleet, made possible through GSA's fleet card, to be helpful in identifying underutilized leased vehicles within their fleet that can be disposed of or shared.²⁰ For example, GSA officials told us that if the agency identified two underused vehicles in the same location travelling 5,000 miles annually, when the performance measure for full vehicle usage for each vehicle was 10,000 miles, it would suggest that the agency consider eliminating one of these vehicles. Some federal fleet managers also noted that GSA fleet data analysis helps agencies identify when inefficient driving practices may be occurring, particularly related to fuel purchases, within their fleets. According to GSA officials, GSA's fleet service representatives analyze fuel use data to identify when vehicles record low miles per gallon, which may indicate that a vehicle idles too much or that vehicle has an engine problem, and works with the agency to resolve any issues found. According to one fleet manager on our military panel, GSA identified excessive idling in the agency's fleet and worked collaboratively to curb it.

GSA also helps agencies reduce costs by identifying fraud, waste, and abuse within their fleets. According to GSA, the agency's Loss Prevention Team,²¹ in partnership with GSA's Office of Inspector General, has detected fraud on an average of approximately 300 cards per year over the last 4 fiscal years. For example, in fiscal year 2012, the dollar amount of fraud identified and prosecutable by GSA was \$517,000; in fiscal year 2011, it was \$981,000. The per-case amount of identified fraud in fiscal

²⁰Agencies' use of GSA's fleet cards allows GSA to collect various types of fleet data, including mileage as well as fuel, maintenance, and repair expenses. According to GSA officials, GSA's internal fleet management system makes the fleet data gathered from the fleet card available to agencies for analysis. GSA's fleet data analysis may provide value to agencies beyond fleet cost reduction. For example, one federal fleet manager told us that GSA's reports of missed opportunities to use alternative fuel at nearby stations were valuable. Federal agencies are required to reduce petroleum consumption and increase alternative fuel use, so agencies can use these data to help meet these requirements. See Pub. L. No. 110-140, § 142 (Dec. 19, 2007); Exec. Order No. 13514, 72 Fed. Reg. 3919 (Jan. 26, 2007).

²¹GSA's Loss Prevention Team is a group within GSA Fleet whose mission is to prevent misuse and abuse within GSA's vehicle leasing program. The Loss Prevention Team has a memorandum of understanding with the GSA Office of Inspector General (OIG) that specifies services, such as coordinating the initiation of investigations that the OIG is to provide for fleet charge card cases. GSA's OIG is an independent unit that is responsible for promoting economy, efficiency, and effectiveness and detecting and preventing fraud, waste, and mismanagement in GSA's programs and operations.

years 2009 to 2012 ranged widely from \$66 to \$299,000. The larger amount involved a case in which an individual was found to have stolen and used multiple GSA fleet cards to purchase and then resell gasoline. In partnership with the Department of Justice, GSA seeks the prosecution of individuals believed to have committed fraud and seeks to recoup the money.

In addition to the identification of fraud, GSA's leasing services can help with reducing the costs of accident management, according to some federal fleet managers. For example, one federal fleet manager noted that GSA's management of the fault resolution process when government vehicles are involved in accidents with private vehicles helps reduce costs that agencies incur from accidents. GSA seeks to ensure that, when government drivers are not at fault, the party responsible for the accident reimburses the federal government. GSA's vehicle maintenance program also helps reduce agency fleet costs, according to federal fleet manager panelists. GSA has national agreements with major maintenance and tire companies to provide discounted maintenance services and vehicle parts. A GSA automotive technician, who is responsible for ensuring that the repairs are necessary and appropriately priced, must validate all repairs over \$100.²²

According to GSA officials, its overall management of the leasing program—including its approaches for acquiring, maintaining, and replacing vehicles and the various services it offers to its customer agencies—provides economies of scale and a “unified way of conducting business” that ultimately reduces costs. For example, according to these officials, their centralized management of the leased fleet provides an enhanced ability to detect waste, fraud, and abuse related to leased vehicles and helps prevent duplicative fleet management operations in federal agencies that can be more costly.

²²These technicians are part of GSA's National Maintenance Control Center, which is responsible for the oversight and authorization of vehicle maintenance and repair. The center maintains complete computerized vehicle history records on all vehicles leased from GSA.

Some Aspects of GSA's Vehicle Rates and Terms Do Not Encourage Agency Efforts to Reduce Certain Fleet Costs

Leasing Rate Structure

Under GSA's leasing rate structure, the monthly mileage fee charged to agencies covers fuel costs, as well as other variable costs, such as those for vehicle maintenance. A customer agency's mileage fee, which is determined by the miles its leased vehicles travel and GSA's mileage rate per category of vehicle leased, may not fully reflect some fuel costs not associated with miles traveled. These include costs associated with some driver behaviors such as idling, speeding, and fast stops and starts.

GSA bases its mileage rate partly on the average cost of fuel per mile across all agencies for each category of vehicle available for leasing.²³ According to GSA officials, the rate is designed to cover the leasing program's overall variable costs, which GSA pays for, and is a good approximation of these costs. The fee each agency pays does not necessarily reflect the fuel it actually uses, however, as the rate is not designed to capture individual agencies' fuel costs. Specifically, drivers of vehicles leased by some agencies may engage in behaviors such as idling, speeding, and fast stops and starts—which increase fuel use—to a greater extent than drivers in some other agencies, but all agencies would pay the same rate per mile for each category of vehicle leased. For example, according to Air Force officials, GSA identified excessive idling in leased vehicles at the Dover Air Force base and worked with the Air Force to curb it. In addition, vehicles used by DHS's Customs and Border Patrol (CBP) in the desert on the southern border of the United States may need to idle often to keep the occupants of the vehicle cool during hot days. Yet with GSA's monthly mileage rate, CBP generally pays based on the number of miles traveled, not the actual amount of fuel consumed by idling. According to GSA officials, the agency occasionally adds a surcharge to agency monthly mileage rates for excessive idling, which GSA evaluates on a month-by-month basis. GSA officials have

²³More specifically, in calculating its mileage rate for each vehicle category, GSA divides an estimate of the average fuel price per gallon for the upcoming year by the average miles per gallon performance of the vehicles in the category, and then adds an estimate of the average maintenance and repair costs per mile based on historic data.

acknowledged that its mileage rate does not capture some fuel costs at the customer agency level, such as those associated with each agency's idling or speeding.

The fuel costs of GSA's leasing program are significant; they totaled about \$431 million in fiscal year 2012. GSA has identified reducing the use of resources and environmental impacts as an agency goal,²⁴ but its monthly mileage rate structure does not provide agencies with incentives to reduce the types of fuel use, cited above, that are not reflected in distance traveled. According to economic principles, when the price paid for a good does not reflect the full costs of that good, consumers will tend to use higher amounts of the good than is optimal from a societal standpoint. Therefore, under the current leasing rate structure in which some agencies may not bear the full cost of their fuel consumption, agencies may seek to have the government provide fuel levels that are economically inefficient. Also, as discussed later in this report, agencies may lack incentives to adopt telematics, which could lead to savings in fuel costs and other costs under certain circumstances, since their monthly leasing fees may not fully reflect any cost savings they achieve. Principles for designing government fees suggest that having each agency pay for the fuel it actually uses could foster greater efficiency by increasing 1) awareness of the costs of fuel and 2) incentives to reduce fuel costs not reflected in miles traveled.²⁵

Some federal fleet managers on our panels acknowledged that paying for their own fuel might provide more of an incentive to reduce fuel use in leased vehicles. However, GSA officials and some panelists stated that they preferred the current structure. According to GSA officials and these panelists, including fuel costs as part of the mileage rate aids the customer agency's budgeting because GSA assumes the risk of fuel price increases, allowing agencies to reduce uncertainties in managing fleet

²⁴GSA's *2013 Annual Performance Report* and *2015 Performance Plan* cites providing savings to federal departments and agencies, including reducing resource use and environmental impact, as a strategic goal. Strategies identified to achieve this goal include reduced use of petroleum based fuel and the expansion of the use of alternative fuel vehicles government-wide.

²⁵GAO has previously found that efficiency is a key consideration in designing government fees. See [GAO-08-386SP](#); *User Fees: Additional Guidance and Documentation Could Further Strengthen IRS's Biennial Review of Fees*, [GAO-12-193](#), (Washington, D.C.: Nov. 22, 2011); and *Agricultural Quarantine Inspection Fees: Major Changes Needed to Align Fee Revenues with Program Costs*, [GAO-13-268](#), (Washington, D.C.: Mar. 1, 2013).

costs. GSA sets its mileage rate at the beginning of the year based on what it estimates fuel will cost over the course of the year. GSA, not the agencies, generally bears the cost burden of the increase in fuel prices. According to GSA officials, the agency imposes a surcharge on agencies if fuel prices rise to such an extent that GSA believes it cannot absorb the unanticipated level of costs and also issues a rate reduction when fuel prices significantly decline in a given fiscal year.²⁶ In addition, GSA officials noted that its coverage of fuel costs reduces the fleet-management administrative burden on agencies and prevents duplication of management effort on the part of GSA and agencies.

GSA officials also cited reasons that, in their view, changes in the rate structure may not be needed or may not lead to reduced fuel costs. According to these officials, improving agency incentives for reducing fuel use is not needed because agencies are legally required to reduce fuel costs.²⁷ GSA officials also told us that they can keep fuel costs down by using data on agency fuel purchases to identify when fuel use is well above expected levels and then take appropriate actions, including adding a fuel surcharge or determining if excessive fuel use is due to fraud, waste, or abuse. These officials noted, however, that the addition of a fuel surcharge has been an infrequent occurrence.

GSA officials also pointed out that even if agency incentives to reduce fuel use in leased vehicles improve, agencies would have to develop the data systems, technology, and fleet expertise to be able to reduce activities such as idling and speeding. Furthermore, a fleet manager on one of our panels noted that fleet managers in his agency lacked control over the driver behaviors that lead to excessive fuel use because mission achievement was the focus of his superiors, not fleet concerns, so changing the rate structure would not affect fuel use. As discussed later in this report, agency use of telematics in leased vehicles, under certain

²⁶In the last 5 years, GSA issued a surcharge in April 2008 to cover increases in fuel prices and rate reductions in May 2009 and May 2013 to account for a decline in fuel prices.

²⁷Executive Order 13514, issued in 2009, directs federal agencies operating a fleet of at least 20 motor vehicles to reduce petroleum consumption by a minimum of 2 percent annually through the end of 2020, from a 2005 baseline. In addition, the Energy Independence and Security Act of 2007 requires federal agencies to achieve at least a 20 percent reduction in annual petroleum consumption by 2015 based on a 2005 baseline. Pub. L. No. 110-140, § 142; Exec. Order No. 13514, 72 Fed. Reg. 3919.

conditions, could help agencies identify and reduce driver behaviors that cause excessive fuel use, but agencies do face some challenges in adopting these technologies.

We have not fully evaluated the pros and cons of changing GSA's rates so that agencies pay for the fuel they actually consume, and according to GSA officials, no studies have been performed on its leasing rate structure.²⁸ In a May 2008 report, we found that there are trade-offs to consider in designing government fees and that every design will have pluses and minuses.²⁹ In addition to efficiency, which we have discussed, we found that considerations in designing fees include equity (meaning that everyone pays a fair share), the extent to which collections cover costs, and the administrative burden on agencies. While GSA has flexibility in administering its rate structure, GSA's current leasing rate structure may not be fully equitable, as agencies that are more efficiently using fuel are to some extent subsidizing agencies that are less efficient because all agencies are charged the same mileage rate per category of vehicle. While GSA is required to collect adequate fees to cover the costs of its leasing program, the extent of the administrative burden for GSA and its customers of the current rate structure versus one in which agencies pay for their actual fuel costs is unclear and would depend on how any changes were implemented. Nevertheless, under the current rate structure, some excessive fuel use due to driver behaviors such as idling and speeding may be occurring, resulting in higher costs to taxpayers than would be the case if agencies paid for actual fuel consumed and therefore had increased incentives to minimize fuel use.

Definition of Excessive Wear and Tear

Federal fleet managers on both our civilian and military panels told us that they sometimes receive large unexpected charges, as much as thousands of dollars, from GSA during vehicle lease terms for damage done to vehicles beyond normal wear and tear. In fiscal year 2012, GSA issued damage charges for excessive wear and tear to 40,802 federal vehicles, or about 21 percent of its leased fleet, totaling about \$18.5 million. For vehicles charged an excessive damage bill, the average bill was about \$453 per vehicle. The highest bill was \$10,400, according to

²⁸However, according to GSA, leasing-program rates are evaluated annually to ensure cost recovery and competitive market position.

²⁹[GAO-08-386SP](#).

GSA. Fleet managers told us that these charges could considerably increase the cost of managing a leased fleet.³⁰

According to some of our panelists, lack of a clear GSA policy or guidance defining excessive wear and tear limits an agency's ability to decide whether it is more economical to lease or own vehicles. Without this information, agencies may be hindered in keeping overall fleet costs down because it is more difficult to estimate life-cycle costs for leased vehicles, estimates that serve as a basis for agencies making decisions about whether to lease or own a vehicle. Fleet managers told us that had they known that certain wear and tear would result in post-lease charges, they would choose to own the vehicle rather than lease it through GSA because ownership would have had lower life-cycle costs. Our past work has found and GSA's fleet management guidance states that life-cycle cost analysis is an important practice to help manage fleet costs and determine whether to purchase or lease vehicles.³¹

Furthermore, federal fleet managers on both panels told us that what constitutes excessive wear and tear is often interpreted differently by GSA's local fleet service representatives, who are responsible for making these determinations when agencies turn in vehicles. Federal fleet managers on the military panel proposed that GSA develop a policy that would clarify and standardize the definition of excessive wear and tear, making it less subject to interpretation by regional fleet service representatives. Appropriate policies are a useful internal control for agencies to help ensure that decisions and practices are applied consistently.³²

During most of our review, GSA policies and guidance for its vehicle-leasing program did not include a definition of excessive wear and tear.

³⁰According to GSA officials, many charges that are billed to agencies reflect repairs caused by driver behavior or operating conditions that would have been borne by the agency whether the vehicle was leased or owned. They also noted that most charges for excessive wear and tear are less than \$250.

³¹Life-cycle cost analysis captures vehicle costs from acquisition to vehicle disposal. We have previously found that life-cycle cost analysis is a leading practice for managing fleets. See *Federal Vehicle Fleets: Adopting Leading Practices Could Improve Management*, [GAO-13-659](#) (Washington, DC: July 31, 2013).

³²GAO, *Standards for Internal Control in the Federal Government*, [GAO/AIMD-00-21-3.1](#) (Washington, D.C.: Nov. 1, 1999).

GSA officials told us that the concept of normal wear and tear is discussed internally during ongoing regional and headquarters meetings, such as fleet service representative and Federal Fleet Policy Council³³ meetings, to aid in delivering consistent practices. In addition, GSA explained that GSA publications such as the *Guide to Your GSA Fleet Vehicle* serve as reference material for agencies as well as fleet service representatives, but a definition of excessive wear and tear is not provided in this guide. In March 2014, GSA completed development of guidance for fleet service representatives containing details on what constitutes normal and excessive wear and tear to leased vehicles. According to GSA officials, the agency will provide internal training as well as guidance to its customers on this issue through the spring and summer of 2014.

Telematics Use Might, in Some Cases, Result in Cost Savings to Vehicle Fleets Leased from GSA

The experts we consulted agreed that in some cases, telematics could facilitate cost savings by providing fleet managers with information needed to reduce fleet size, fuel use, misuse of vehicles, and unnecessary maintenance. Federal fleet managers on our two panels agreed that telematics can produce cost savings under certain circumstances and that GSA should do more to support telematics use, including lowering costs of telematic devices and providing information on agencies' experiences in using telematics in their fleets. GSA is taking steps to reduce telematics' costs, but does not currently collect and share information about agencies' experiences with telematics.

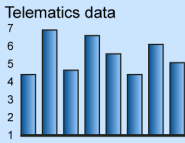
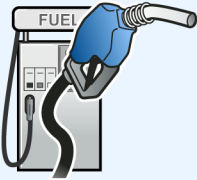
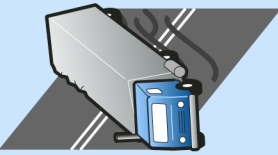

Experts Reported That Telematics Can Result in a Variety of Cost Savings, under Certain Conditions

According to all of the experts we consulted, telematics have the potential, under certain circumstances, to provide cost savings to vehicle fleets. The experts identified various areas in which fleet managers can achieve cost savings, including fleet utilization, fuel use, misuse of vehicles, and maintenance (see fig. 1).³⁴

³³The Federal Fleet Policy Council consists of representatives from agencies operating a federal motor vehicle fleet. The council provides a mechanism for coordinating federal vehicle-management programs and policies, reviewing new technologies and automated systems, and analyzing the impact of current and proposed regulations, laws, Executive Orders, and international agreements.

³⁴We also conducted a literature review, which supported the experts' views regarding the areas in which cost savings could be achieved. We searched for studies that quantified cost savings; however, the information in the literature was typically anecdotal and could not be used to determine any potential cost savings to the federally leased fleet.

Figure 1: Examples of Cost Savings That Can Be Achieved with Telematics

Telematics data	Potential cost savings
Fleet utilization 	<p>Telematics can help determine precise utilization rates. Fleet managers can then eliminate underutilized vehicles to reduce overall fleet costs.</p>
Fuel use 	<p>Telematics can monitor idling, speeding, rapid starts, and sudden stops, all of which burn excess fuel. Fleet managers can use this information to provide drivers with feedback on their behavior.</p>
Vehicle misuse and abuse 	<p>Telematics can provide information on employee productivity, improper personal use of a vehicle, and the circumstances immediately preceding an accident. Fleet managers can use this information to provide feedback to employees and can be used to defend employees against fraudulent, third-party accident accusations.</p>
Maintenance and repair 	<p>Telematics can provide information such as remaining brake pad depth and engine diagnostics. Fleet managers can use this information to reduce unnecessary preventive maintenance and improve the services performed.</p>

Source: GAO analysis of interviews.

Fleet managers can achieve savings by analyzing the data provided by telematics devices and taking actions to reduce costs based on those data. For example, managers can reduce fleet size by eliminating vehicles with insufficient use and provide feedback to drivers to reduce wasteful, abusive, or dangerous behaviors such as speeding or unauthorized personal use. Fleet managers can also tailor vehicle maintenance based on improved knowledge of the vehicle's actual condition and avoid unnecessary preventative maintenance. One expert, who is a fleet manager, reported that telematics helped him reduce his fuel costs by 8 to 15 percent among sections of his fleet with almost universal telematics installation, though he cautioned that these vehicles

CASE STUDY 1:
City of St. Louis, Missouri



Approximate fleet size: 1,300 vehicles

Types of vehicles:

On-road, non emergency vehicles, such as snow plows, dump trucks, and passenger vehicles

Percentage of vehicles with telematics:
Between 25-50%

First year of telematics program: 2007

Benefits and cost savings the fleet manager attributed to telematics:

Fuel savings: 8-15% over 60 months in sections with almost universal telematics installation

Fleet size savings: 2% of the entire fleet, including some vehicles without telematics, over 48 months

Maintenance, accident reduction, and worker productivity are areas where additional savings are believed to have occurred, but quantification of the cost reduction is not readily available.

Return on investment as reported by the fleet manager: It took between 12-24 months for the telematics investment to break even.

Source: GAO analysis of interviews and questionnaire.

received telematics because they were the most likely to achieve savings. Another expert reported that telematics helped him reduce his fleet size by 7 percent over 60 months among the vehicles with telematics installed. (See sidebars for additional information on the experiences with telematics of selected experts who manage fleets).

Experts cautioned that it is not always possible to calculate a comprehensive return on investment. Experts told us that it can be challenging to quantify cost savings when a comparative baseline is not available, telematics are part of a larger improvement effort, or the type of savings are difficult to quantify financially (such as savings associated with safety improvements). For example, one expert noted that he was unable to calculate fuel savings because the devices had been installed on new plug-in hybrid vehicles; he was unable to differentiate between the fuel savings achieved by using plug-in hybrids and the fuel savings from actions taken in response to telematics data.

Furthermore, experts also noted that the potential return on investment from the adoption of any telematic technology will vary and that telematics will not achieve cost savings for every fleet. For example, two experts explained that telematics would not provide a return on investment for their own fleets because of how their vehicles are used. One noted that the vehicles are not used on a daily basis, so the benefits would not justify the costs. In addition, two experts explained that employees at their respective companies are authorized to use the vehicles for personal use, so after-market tracking devices would likely face opposition because of privacy concerns. Experts also noted that telematics can be a legal liability if information is gathered but not acted upon. For example, if telematics data shows that a driver regularly speeds but no corrective action is taken to stop this behavior, the employer may have a greater liability risk in the event that the driver is involved in an accident, according to one expert.

CASE STUDY 2:
University of California, Davis



Approximate fleet size: 1,200 vehicles

Types of vehicles: Passenger vehicles

Percentage of vehicles with telematics:
Less than 25%

First year of telematics program: 2009

Benefits and cost savings the fleet manager attributed to telematics:

Vehicle utilization, asset theft avoidance and worker productivity are areas where savings are believed to have occurred, but quantification of the cost reduction is not readily available.

Fuel savings are undetermined. Telematics were installed in new plug-in hybrid vehicles; therefore, there was no comparable baseline against which to compare the fuel usage.

Cost savings associated with **safety benefits** have not been determined; however, the fleet manager reported that telematics data helped him investigate a report of uncontrolled acceleration.

Return on investment, as reported by the fleet manager: An overall return on investment has not been determined.

Source: GAO analysis of interview and questionnaire.

The experts we interviewed highlighted four key factors that influence telematics' potential to facilitate cost savings in vehicle fleets.³⁵

Cost of the technology selected: The experts emphasized that the cost of any telematics program must be accounted for when considering overall cost savings. As a result, costs must be carefully evaluated in comparison to projected savings to avoid a net loss. This comparison can be challenging because the term "telematics" encompasses a broad array of technologies, which results in a wide range of associated costs. For example, telematics can include original equipment installed by the manufacturer, after-market add-on systems, or mobile device applications and programs. Further, data can be transmitted via satellite or cellular connections on a regular basis or when a vehicle passes a fixed-data download station. Fixed download stations pose mostly upfront, fixed costs, whereas the cost for a satellite connection is typically levied in ongoing monthly data charges. In addition, fleets may rent telematic devices for a short period of time to obtain a snapshot of usage data, or may select a long-term contract for ongoing monitoring. Various combinations of device, data access, and contract type will have different costs, which in turn influences the potential return on investment.

Fleet characteristics: Experts reported that the characteristics of the fleet also affect the return on investment. For example, fleets that idle frequently will have more opportunity for fuel savings than fleets with carefully controlled fuel consumption. In addition, the number of miles driven may influence how much fuel can be saved. Experts also emphasized that the technology must be aligned with the fleet's characteristics, or the likelihood for savings will be reduced or eliminated. For example, some kinds of telematic devices depend on satellite signals that can be impaired by tall buildings in urban areas. Other devices depend on wireless connectivity that may be limited in rural locations. Still others rely on all vehicles in a fleet returning to or passing by a central location on a regular basis. If data are received sporadically, fleet managers will have less detailed information on which to act, which reduces the potential for cost savings. More information on the fleet characteristics that experts noted could influence the cost savings potential of telematics can be found in appendix IV.

³⁵These factors were raised during group discussions and were further confirmed during individual interviews with some of the participants.

CASE STUDY 3:
Turlock Irrigation District



Approximate fleet size: 300 vehicles

Types of vehicles: Varied; includes bucket trucks, passenger vehicles and off road equipment.

Percentage of vehicles with telematics:
More than 75%

First year of telematics program: 2004

Benefits and cost savings the fleet manager attributed to telematics:

Fleet size savings: 7% over 60 months for the portion of the fleet with telematics installed.

Vehicle utilization, asset theft avoidance and worker productivity are areas where savings are believed to have occurred, but quantification of the cost reduction is not readily available.

Return on investment as reported by the fleet manager: An overall return on investment has not been determined.

Source: GAO analysis of interview and questionnaire.

Management and organizational support: The experts we consulted reported that upper management support, fleet managers' buy-in, and organizational culture will influence the degree to which telematics can facilitate cost savings, since these factors can either support or hinder the cost-savings actions taken in response to telematics data. The experts said that upper management support is necessary to secure funding, change policies in response to problems identified through telematics data, and ensure that corrective actions are taken in a timely manner. Moreover, a fleet manager will need to have the time, ability, and desire to conduct analyses of the data to understand what changes are needed, unless the telematic device includes analytical support. In addition, some organizations may have cultures and structures that either embrace or reject monitoring efforts. For example, one expert noted that some unions support monitoring because of the safety benefits and liability protection, while other unions resist monitoring to prevent disciplinary actions against their members.

Information technology systems: Experts also highlighted the importance of information technology systems that can efficiently collect and distribute the data provided by telematics devices. They noted that cost-saving changes can be more effectively implemented when the data gathered by telematics are readily accessible and integrated with all relevant information systems. For example, if a fleet uses multiple telematic-service providers to address different aspects of the fleet, then the overall visibility will be compromised without an integrated platform.

Federal Fleet Managers Agreed That Telematics Can Reduce Costs and Suggested GSA Do More to Support Use of This Technology

The federal fleet managers on our two panels agreed that the use of telematics has the potential to reduce costs in the federally leased fleet.³⁶ While GSA currently provides leasing customers with various types of information, such as information on fuel use and potential fraud, based on data collected through its fleet payment card, fleet managers told us that telematics can provide information that is more detailed. In addition, telematics may also be able to reduce administrative costs, such as the

³⁶Unless otherwise noted, views attributed to our panels reflect key messages or themes derived from these group discussions; for more information on methods, see appendix III.

cost of personnel to perform manual vehicle data collection. The majority of panelists' fleets had at least some experience with telematics, and a few recently initiated or completed studies on or estimates of the outcomes of telematics use. For example, according to federal fleet managers with whom we spoke:

- The Air Force has installed a telematic device, designed to reduce unaccounted-for fuel loss, on approximately 30,000 vehicles at 171 installations. While the Air Force predicts full system activation is one year out, an initial cost savings analysis will be conducted using three test sites in the summer of 2014. In addition to improving fuel accountability, telematics may also reduce the manpower required to conduct periodic vehicle and equipment inventories.
- The Department of Veterans Affairs regularly uses telematics in some vehicles and has realized some cost savings but found the return on investment to be better on some types of vehicles than others.³⁷ The agency plans to equip most vehicles with telematics by the end of 2016.
- The Department of Energy has used telematics in some of its vehicles for approximately 5 years, and this use has led to savings in all of the cost categories previously discussed.³⁸ For example, a fleet manager at Idaho National Laboratory reported that telematics data have helped inform decisions to eliminate 65 vehicles since fiscal year 2011, with an estimated average annual savings of approximately \$390,000 (including the cost of telematics on the remaining vehicles).
- Some Marine Corps bases and recruiting districts regularly use telematics. In a separate interview from the panel discussions, a Marine Corps fleet manager stated that he believed telematics' use at seven installations in the southwestern United States improved safety and helped defend Marines against fraudulent or erroneous accident claims. He stated that he believes telematics has been the single most effective tool for reducing vehicle-operating, maintenance, and

³⁷The panelist from Veterans Affairs also noted that the department found that some volunteers were driving in excess of 90 miles per hour when taking veterans to medical appointments and took actions to stop such behavior. The panelist also noted that it is challenging to quantify the cost savings associated with these changes.

³⁸These categories include fleet utilization, fuel use, vehicle misuse and abuse, and vehicle maintenance and repair.

abuse costs, but that no formal analysis has been conducted on the cost savings.

Federal fleet managers also agreed that the previously discussed factors (telematics' costs, fleet characteristics, management and organizational support, and information technology systems) influence telematics' cost-saving potential for the federal fleet.³⁹ They noted that cost, in particular, impedes further federal adoption of telematic devices. For some fleet managers the initial cost was the greatest financial concern, and for others, it was the rate of ongoing, monthly charges. A few fleet managers observed that because fuel and some other costs are included in GSA's vehicle-leasing rate, it is more challenging for an agency to recoup the costs of using telematics in leased vehicles under the current rate structure.⁴⁰ As discussed previously, GSA's monthly mileage rate covers fuel costs as well as other variable costs of an agency's leased fleet, based on the average cost of fuel and maintenance in each vehicle category. Therefore, agencies' individual fees would not necessarily reflect all of the cost savings they achieve from telematics. Fleet managers from two agencies also noted that this reduces agencies' incentives to use telematics.

In addition, federal fleet managers on our panels told us that lack of upper management support sometimes poses challenges for federal agencies in adopting telematics. They said that the reasons for this lack of support include:

- The potential savings from implementation of telematics can be minor in comparison with agency budgets and are not seen as a priority for agency leadership.

³⁹Regarding information technology systems and their effect on the cost savings potential of telematics, GAO has previously found that some agencies' fleet management systems do not capture all of the data elements recommended by GSA. Also, some of these systems are not integrated with other key agency systems. See GAO, *Federal Vehicle Fleets: Adopting Leading Practices Could Improve Management*, [GAO-13-659](#) (Washington D.C.: July 31, 2013).

⁴⁰We asked the 15 experts who were fleet managers which types of costs represent the largest expenditures for their fleets. Fuel and maintenance were in the three most frequently mentioned expense categories among those who responded, along with depreciation.

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- Funds are limited and investments in other areas may be viewed as providing a better return.
 - Upper management officials are wary about making an investment in telematics if benefits may be challenging to quantify in financial terms or if there is no known precedent in other agencies.

Given the potential of telematics to facilitate cost-saving decisions and the concerns about cost and management support, the panels of federal fleet managers proposed some changes, discussed below, that GSA could make to enhance agencies' abilities to use telematics in their federally leased vehicles.⁴¹

Lower the cost of telematic devices: Both panels of federal fleet managers proposed that GSA lower the cost of telematic devices to improve the likelihood of achieving a cost-effective solution and to help allay management concerns about cost and return on investment. GSA Fleet offers agencies the option of having selected vendors install telematics devices in their leased vehicles. GSA negotiates discounts for these devices through an agreement it has established with vendors.⁴² However, federal fleet managers told us that the prices are still a barrier to increasing telematics' use in federal fleets. The pricing of telematics devices and service plans available varies depending on many factors, including the desired capabilities, the quantity ordered, and the length of time the technology is required. For example, according to a GSA informational brochure, monthly costs for basic GPS tracking typically range from \$22.50 to \$32.50 per vehicle, or \$810 to \$1,170 for a 3-year

⁴¹In addition, one of the experts we consulted recommended that GSA negotiate with auto manufacturers during future vehicle acquisitions to obtain access to data collected through manufacturer-installed telematic equipment. The expert noted that such telematics are increasingly becoming standard equipment. For example, the National Highway Traffic Safety Administration estimates that more than 96 percent of model year 2013 passenger vehicles are equipped with "black boxes" that collect data like speed, braking, and seatbelt use. Privacy groups and policy makers have noted that there are privacy concerns surrounding how the data from manufacturer-installed telematics are used, and there is pending legislation regarding data ownership. See GAO, *In-Car Location-Based Services: Companies Are Taking Steps to Protect Privacy, but Some Risks May Not Be Clear to Consumers*, [GAO-14-81](#) (Washington, DC: Jan. 6, 2014).

⁴²GSA passes on the costs of telematics to customer agencies; it does not mark up prices or charge a service fee.

contract, though agencies can negotiate to obtain lower prices.⁴³ Because agencies' leased fleets can include thousands of vehicles, the total costs of using telematics can be significant.

One of GSA's priorities, as stated in its *2012 Annual Performance Report* and reiterated in a 2013 memo from the Administrator to all GSA staff, is to use the purchasing power of the federal government to drive down prices, deliver better value, and reduce costs to their customer agencies. Agency officials explained that GSA has not pursued additional discounts for telematics because federal agencies have only recently begun to pursue the technology in significant quantity. GSA is currently engaged in efforts to secure new contracts for telematics devices for customers and hopes to have these available by the end of fiscal year 2014. As part of this effort, they are seeking to provide these devices at a lower cost to customers.⁴⁴

Provide information on federal agencies' experiences with telematics:

Both panels noted that it would be helpful if GSA were to collect information on federal agencies' experiences in using telematics in their fleets and share this information. Based on information provided by GSA officials, 12 of the 15 executive branch departments as well as some independent agencies, such as the Environmental Protection Agency and the National Aeronautics and Space Administration, acquired telematics for some portion of their fleets (owned or leased) between 2008 and 2012. GSA's Office of Government-wide Policy published an article relating the Marine Corps' experiences with telematics in its fleet in 2006. However, GSA has not compiled information on agencies' recent telematic efforts and therefore is unable to provide such information to agencies. Although GSA has not provided such information, it does regularly communicate with agencies regarding fleet management topics through various means, including providing information on its website and presenting webinars, among other approaches.

⁴³Agencies also have the option of short-term telematics rentals through the GSA Schedule. Renting equipment for a few weeks to measure utilization patterns costs approximately \$3 per day or \$95 per vehicle per project, and includes analytic services.

⁴⁴However, GSA officials noted that they could not guarantee that this effort would result in lower prices.

Federal fleet managers agreed that knowing more about the experiences of other fleets would help them better understand how telematics might be applied in their own fleets and could be used to bolster support from upper management, program managers, and drivers. Such information could include descriptions of federal agencies' efforts as well as studies or other information on results of these efforts, including estimates of cost savings achieved or nonfinancial benefits, such as enhanced program performance or improved safety and liability protection for employees. It could also include lessons learned from the experiences. One fleet manager on our military panel noted that the military services' fleet managers already share their experiences with each other, and that such information sharing, facilitated by GSA, would also be beneficial for civilian agencies. Another panelist suggested that the studies performed by other federal fleets would be more credible than the studies provided by telematics vendors. GSA officials explained that while they do not currently collect this information, GSA's Office of Government-wide Policy would be able to request information from agencies and share information that agencies voluntarily provided.

GAO has found that a key factor in helping agencies better achieve their missions and program results is through appropriate internal controls, which include relevant, reliable, and timely communications.⁴⁵ In addition to internal communications, this includes communicating with, and obtaining information from, external stakeholders that may have an impact on the agency achieving its objectives. GSA is pursuing several strategic objectives that would be better supported by obtaining and sharing additional information about telematics with other federal agencies. One such objective is for GSA to enhance relationships with its customers, in part by improving customer knowledge, and sharing information that drives improved decision-making and performance in the fleet policy area.⁴⁶ Another such objective is to help provide savings to federal agencies, including by providing them with information that can be useful in reducing fuel use. GSA has noted in strategic planning documents and during interviews that it strives to ensure that customers receive assistance that meets client needs and strives for a culture of continuous improvement. Without information, facilitated by GSA, about

⁴⁵GAO, *Standards for Internal Control in the Federal Government*, [GAO/AIMD-00-21.3.1](#) (Washington, D.C.: November 1999).

⁴⁶GSA 2014-2018 *Strategic Plan*.

other agencies' experiences with telematics, agencies may expend additional time and resources to find such information and identify devices that would best meet their needs and may encounter problems that could have been avoided. In addition, they may not be able to gather the internal support needed to start or increase the use of telematics in their leased fleets.

Conclusions

Given the amount that federal agencies pay GSA to lease vehicles— over \$1.1 billion in fiscal year 2012—and concerns by Congress and the Administration about costs associated with federal agencies' fleets, it is important for GSA to ensure that it is operating its leasing program in a manner that encourages agencies to minimize costs associated with their leased vehicles. While various aspects of GSA's leasing rates, structures, and services support agency efforts to keep costs down, its current leasing rate structure does not provide incentives for agencies to take actions to reduce some types of fuel costs associated with poor driving behavior. Without an examination of the trade-offs of changing this rate structure so that agencies pay for the fuel they actually consume, GSA may be missing an opportunity to encourage agencies to minimize fuel costs and save taxpayer dollars or ensure that its leasing rate structure is the most appropriate one.

While telematic devices are not cost-effective for every vehicle fleet, under certain circumstances they could produce cost savings in fleets leased from GSA. GSA, through its existing resources and expertise, is well positioned to facilitate agencies' adoption of telematics by offering these technologies to agencies at a reduced cost and by asking agencies to voluntarily provide information about their experiences with telematics that it can share. GSA is currently seeking to reduce prices for telematics. By providing information on its website or through other methods on federal agencies' experiences in using telematics in their fleets, such as information on agencies' telematic efforts or studies or estimates of pilot or program results, GSA could help agencies better identify the circumstances under which devices or approaches might or might not achieve cost savings. Such information could also help agencies obtain support from upper management for telematics adoption or improve their existing telematics programs.

Recommendations for Executive Action

To help reduce costs associated with vehicles leased from GSA, we recommend that the Administrator of GSA take the following two actions:

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1. examine and document the trade-offs of changing GSA's vehicle leasing rate structure so that each agency pays for the fuel that it actually uses, and
 2. request information from agencies on their experiences with telematics in their fleets, such as studies or estimates of cost savings achieved, and share this information with agencies through GSA's website or other methods.

Agency Comments

We provided a draft of this report to GSA for review and comment. GSA agreed with our findings and recommendations and said that it will take appropriate action to implement them. GSA reiterated its view that its centralized fleet management operations provide standardization, economies of scale, and the tools necessary for the effective and efficient management of the federal fleet. GSA's comments are reprinted in appendix V. GSA also provided technical comments for our consideration. We incorporated these as appropriate.

We are sending copies of this report to interested congressional committees and the Administrator of GSA. In addition, this report will be available at no charge on GAO's Web site at <http://www.gao.gov>.

If you or your staff have any questions about this report, please contact me at (202) 512-2834 or rectanusl@gao.gov. Contact points for our Office of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made major contributions to this report are listed in appendix VI.



Lori Rectanus
Director, Physical Infrastructure Issues

Appendix I: GSA’s Vehicle-Leasing Program Services, Structure, and Costs

Leasing Program Services	<p>The General Services Administration (GSA) manages the vehicle leasing program (called GSA Fleet) and offers federal agencies a variety of vehicles for lease, including sedans, light and heavy-duty trucks, and specialty vehicles such as ambulances.⁴⁷ In addition, GSA provides various services to its leasing customers, including:</p> <ul style="list-style-type: none">• support of fleet service representatives, located in regional offices, throughout the vehicle leasing process, including the selection of vehicles, maintenance, and disposal;• provision and management of fleet cards to purchase fuel and maintenance and repair services; tracking of fuel, maintenance, and repair expenses; and identification of fraud, waste, and abuse;• access to GSA’s Fleet Drive-thru system, which contains automated information on agencies’ fleets, including mileage, inventory, fuel consumption, and agency incurred expenses (such as bills for damage to leased vehicles);• analyses of fleet data that, among other things, may identify underutilized vehicles to be eliminated or shared through examination of mileage and usage data;• management of accident-related needs and maintenance, including authorizing and tracking repairs, working with third parties and insurance company officials to collect payments (for accidents in which a third party is at fault) and an automated vehicle recall program with major manufacturers; and• access to GSA Fleet Solutions, which provides additional services such as a short-term rental program and telematics.
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Leasing Program Structure and Organization	<p>GSA Fleet provides support to its leasing customers through the following offices:</p> <ul style="list-style-type: none">• Leasing Operations Division: responsible for monitoring vehicle expenses—including expenses associated with GSA’s accident and
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⁴⁷GSA does not guarantee that it will offer the agency a new vehicle; sometimes, vehicles returned from other agencies are used to fill another agency’s request. However, GSA guarantees that even used vehicles will be in good mechanical and cosmetic condition. GSA Fleet procures new vehicles using GSA Automotive’s on-line procurement system. GSA Automotive, which manages GSA’s vehicle-purchasing program, is discussed in appendix II.

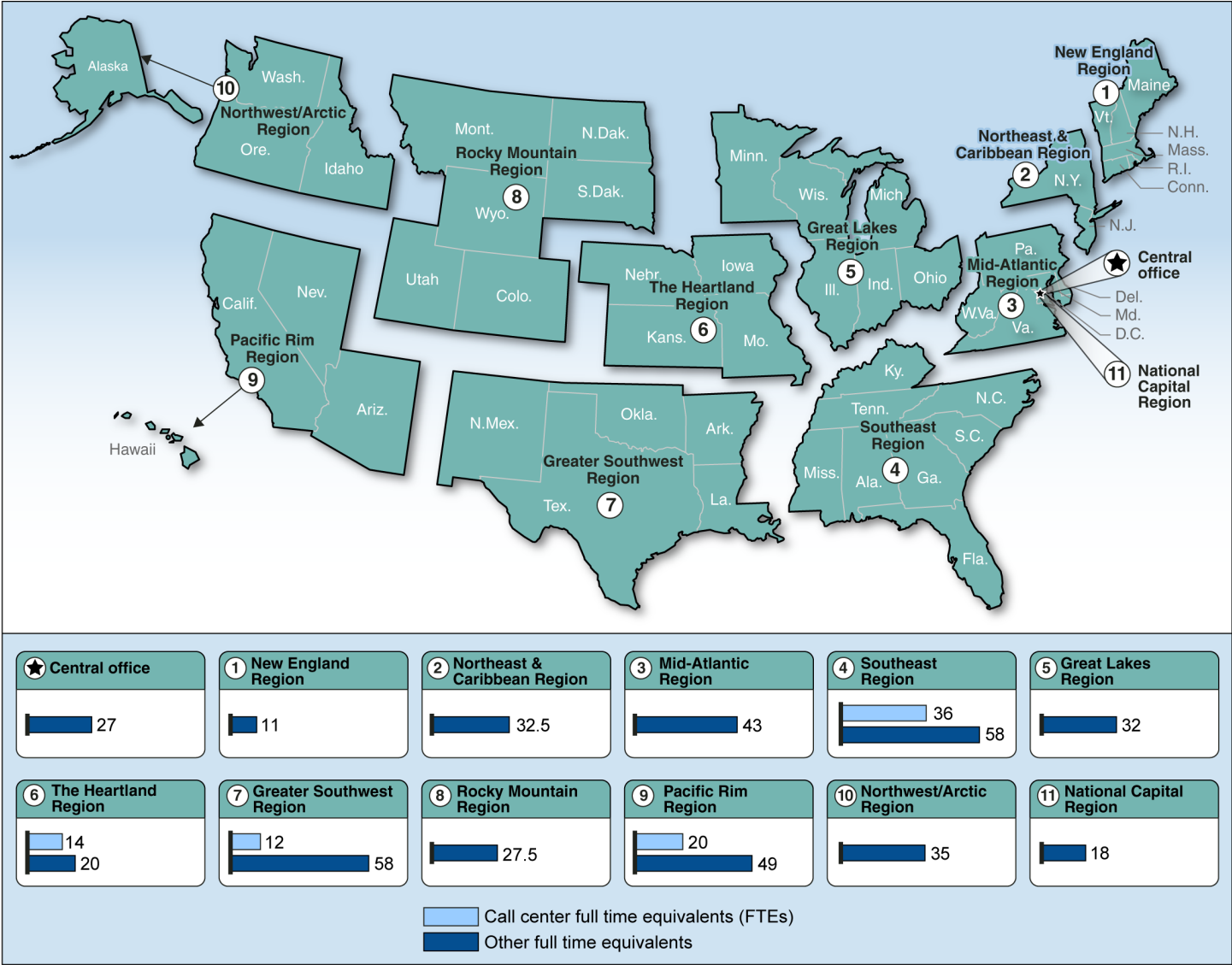
maintenance management services—and reviewing regional operations to identify opportunities to reduce costs and increase efficiency.

- Leasing Acquisition & Vehicle Remarketing Division: responsible for coordinating the leasing arrangement and delivery and subsequent resale of leased vehicles.
- Regional Offices: provide day-to-day support to local customers.
- Motor Vehicle Management Team: provides support to GSA's motor vehicle department as a whole, including both GSA Fleet and GSA Automotive. For more information on GSA Automotive, see appendix II.
 - Systems Support Division: provides general information-systems support for the Office of Motor Vehicle Management, including information systems used to process and report fleet management data for the leased fleet.
 - Business Management Division: provides general analytical support for the Office of Motor Vehicle Management.

Employees in these divisions—27 full-time equivalents (FTE)—are assigned to GSA's central office located in Washington, D.C., while 82 call center employees reporting to the central office are responsible for handling accident, maintenance, and repair needs for GSA's leased fleet from offices in four GSA regions. There are 384 regional FTEs, of which 334 are GSA's fleet service representatives who serve as the primary point of contact for agency customers in GSA's 11 regional offices. Additionally, 37 FTEs provide support to both GSA Fleet and GSA Automotive as part of the motor-vehicle management team. See figure 2 for information on the location and staffing levels of GSA's central and regional offices. GSA works with third-party vehicle dealers, maintenance facilities, and auction houses to deliver, store, maintain, and sell leased vehicles.⁴⁸ As such, GSA does not maintain any parking or maintenance facilities for its leased fleet.

⁴⁸GSA uses a nationwide network of commercial auction firms to sell and dispose of vehicles. GSA uses sale proceeds to help purchase new vehicles.

Figure 2: Location and Number of Staff Responsible for GSA's Leasing Program



Sources: GAO analysis of GSA data; Map Resources (map).

Note: The term full-time equivalent (FTE) is a standard measure of labor that equates to one year of full-time work.

Leasing Program Costs

GSA is required by law to recover all costs incurred in providing vehicles and services to federal customers.⁴⁹ Since leasing activities operate through the use of a revolving fund that is reconciled each year, GSA Fleet does not receive appropriations through the annual budget cycle. GSA purchases vehicles through the GSA Automotive program (discussed in app. II); these vehicles are ultimately used for GSA's centralized leasing program. The funding used to purchase these vehicles comes from GSA's revolving fund. GSA leases to federal customers and recovers these costs, as well as vehicle maintenance and administrative costs through lease fees and the resale of vehicles at the end of their life cycle. See table 2 for more detailed information on the revenues and expenses of GSA Fleet's leasing program.⁵⁰ From fiscal years 2008 through 2012, the difference between the program's revenues and expenses was highest at about \$70 million in fiscal year 2009 and lowest at about minus \$47 million in fiscal year 2008. In fiscal year 2012, the highest expenses were those associated with vehicle depreciation, which accounted for about 42 percent of total expenses. The next largest expense in fiscal year 2012 was fuel for leased vehicles, which accounted for about 38 percent of total expenses. Overhead expenses accounted for about 4.9 percent of total expenses.

⁴⁹40 U.S.C. § 605.

⁵⁰Because the data on expenses and revenue provided in this section were not material to the findings of this report, we did not assess the reliability of the data.

**Appendix I: GSA's Vehicle-Leasing Program
Services, Structure, and Costs**

Table 2: GSA Leasing Program Revenue and Costs, in Thousands, Fiscal Years 2008-2012

	2008	2009	2010	2011	2012
Revenue					
Net revenue – revenue from fixed monthly leasing fees and variable monthly mileage fees	\$1,160,882	\$1,171,869	\$1,214,609	\$1,237,041	\$1,237,646
Expenses					
Business unit expenses – costs associated with direct management and operation of the leasing program	\$61,919	\$62,174	\$66,702	\$66,074	\$65,305
Overhead expenses – overhead costs allocated to the Fleet program, such as costs of acquisition services, GSA corporate management, and office rent	\$38,478	\$43,937	\$41,854	\$51,912	\$55,070
Fleet vehicle related expenses – costs associated with maintenance and operation of leased vehicles, excluding fuel, and gains/losses resulting from vehicle sales	\$189,550	\$198,292	\$174,207	\$108,296	\$93,964
Fuel costs – costs for fuel associated with leased vehicles	\$454,186	\$291,393	\$344,202	\$426,841	\$431,454
Depreciation – the cost of leased vehicles less estimated resale value, allocated over their estimated useful life.	\$397,389	\$427,691	\$464,851	\$473,627	\$475,328
Total operating expenses	\$1,141,523	\$1,023,486	\$1,091,816	\$1,126,750	\$1,121,121
Operating results – Net revenue less total operating expenses	\$19,360	\$148,383	\$122,793	\$110,292	\$116,525
Provisions and reserves – portion of GSA's revolving vehicle acquisition fund reserved for cost increases in vehicle replacements in order to stabilize vehicle prices from year to year and to fund the incremental cost of alternative fuel vehicles (AFVs) ^a	(\$66,189)	(\$77,984)	(\$79,363)	(\$85,724)	(\$80,306)
Net operating results – difference between revenue and costs ^b	(\$46,829)	\$70,399	\$43,430	\$24,568	\$36,219

Source: GSA data.

Notes: Since these data were not material to the findings of this report, we have not assessed their reliability.

Totals may not add due to rounding.

^aThe incremental costs of alternative fuel vehicles (AFVs) are generated from a surcharge by GSA applied to every vehicle in agencies' fleets, as required by the Energy Policy Act of 2005. The alternative fuel surcharge covers the difference in cost between the alternative fuel vehicle and a comparable gasoline-fueled vehicle. Surcharges are assessed at the agency level depending on whether an agency is required to comply with Energy Policy Act alternative fuel mandates. According to GSA, this spreads the cost of higher priced alternative fuel vehicles across the entire agency, allowing the agency to afford more alternative fuel vehicles each year.

^bWhen expenses are lower than the net revenue, extra funds are put back in to the leasing program's revolving fund to account for fluctuations in cash flow and to fund capital projects approved by the Administrator.

Appendix II: GSA's Vehicle-Purchasing Program Services, Structure, and Costs

Purchasing Program Services

GSA Automotive manages the vehicle purchasing program and offers an array of non-tactical vehicle products at a savings from the manufacturer's invoice price, including alternative fuel vehicles, sedans, light trucks, ambulances, buses, and heavy trucks. In fiscal year 2012, federal agencies excluding the postal service owned about 245,000 vehicles, including 118,000 passenger vehicles and 122,000 trucks. The number of owned vehicles has increased from about 224,000 vehicles in fiscal year 2008 to about 245,000 vehicles in fiscal year 2012. GSA provides various services to customers who purchase vehicles, including:

- access to GSA's online ordering tool, AutoChoice, which provides information and pricing on available vehicles;
- access to GSA's Automotive Express Desk, which handles vehicle requirements on an "unusual and compelling urgency" basis;
- engineering and technical assistance for ordering non-standard customized vehicles including design, construction, and project management through delivery of the custom vehicle; and
- use of the Federal Fleet Management System, a web-based fleet management information system that identifies, collects, and analyzes vehicle data (including data on costs incurred for the operation, maintenance, acquisition, and disposal of agency owned vehicles), offered at no additional cost.

Purchasing Program Structure and Organization

GSA Automotive provides support to its purchasing customers through the following offices:

- Vehicle Purchasing Division: provides professional engineering, contracting, technical, and vehicle design services.
- Motor Vehicle Management Team: provides support to GSA's motor vehicle department as a whole, including both GSA Fleet and GSA Automotive. For more information on the motor vehicle management team, see appendix I.

Employees in these divisions work out of GSA's central office located in Washington, D.C., and GSA Automotive currently employs approximately 18 FTEs. Purchased vehicles are delivered directly to a marshalling location by the manufacturer, where the customer picks up the vehicle. As such, GSA does not maintain parking or other facilities for vehicle storage at any point in the process.

Purchasing Program Costs

GSA is required by law to recover all costs incurred in providing vehicles and services to federal customers.¹ Since GSA procurement activities operate through the use of a revolving fund that is reconciled each year, GSA Automotive does not receive appropriations through the annual budget cycle. GSA Automotive awards contracts for vehicles, provides information to agencies on pricing for evaluation, and places orders against the awarded contracts using their revolving fund. Using the previous year's total purchases as a baseline, GSA contracts with auto manufacturers and other suppliers to procure vehicles for federal customers through "indefinite quantity, indefinite delivery" contracts.² The costs associated with this acquisition process are recovered through a surcharge added to the vehicle price (which averaged about 1 percent of the price in fiscal year 2012). See table 3 for more detailed information on GSA's purchasing program revenue and expenses.³ From fiscal years 2008 through 2012, the difference between the program's revenue and expenses was highest at about \$10.5 million in fiscal year 2009 and lowest at about \$4.1 million in fiscal year 2011. The highest expenses were those associated with the cost of vehicles sold to federal agencies and GSA's leasing program, which accounted for about 99 percent of total expenses in fiscal year 2012. Overhead expenses accounted for about 0.4 percent of total expenses in fiscal year 2012.

¹40 U.S.C. § 605.

² "Indefinite Delivery, Indefinite Quantity" contracts provide for an indefinite quantity, within stated limits, of goods or services during a fixed period of time. Agencies place separate task or delivery orders for individual requirements that specify the quantity and delivery terms associated with each order.

³Because the data on expenses and revenue provided in this section were not material to the findings of this report, we did not assess the reliability of the data.

**Appendix II: GSA's Vehicle-Purchasing
Program Services, Structure, and Costs**

Table 3: GSA's Purchasing Program Revenue and Costs, in Thousands, Fiscal Years 2008-2012

	2008	2009	2010	2011	2012
Net revenue – Customer agency payments for the cost of vehicles and GSA administrative fees	1,535,771	1,757,569	1,465,594	1,373,863	1,334,901
Total cost of goods and services sold – acquisition cost to GSA of purchasing vehicles purchased by agencies and GSA's leasing program	1,519,365	1,738,215	1,451,581	1,360,496	1,321,228
Gross margin – total revenue minus total cost of goods and services	16,406	19,354	14,013	13,368	13,673
Expenses					
Business unit expense - costs associated with direct management and operations of the vehicle purchasing program	4,055	3,919	3,983	4,390	4,114
Overhead expenses – overhead costs allocated to the purchasing program, such as costs of acquisition services, GSA corporate management, and office rent	4,275	4,946	4,764	4,863	5,118
Total operating expenses	8,330	8,865	8,747	9,253	9,232
Reserves – portion of GSA's revolving acquisition fund reserved for strategic business investments	\$0	\$0	\$231	\$0	\$59
Net operating results – difference between revenue and costs ^a	\$8,076	\$10,489	\$5,034	\$4,115	\$4,382

Source: GSA data.

Note: Since these data were not material to the findings of this report, we have not assessed their reliability. Totals may not add due to rounding.

^aWhen expenses are lower than the net revenue, extra funds are put back in to GSA's revolving fund to account for fluctuations in cash flow and to fund capital projects approved by the Administrator.

Appendix III: Objectives, Scope, and Methodology

The objectives of this report were to determine (1) whether and how GSA's leasing rates, terms, and services support or encourage agency efforts to reduce fleet costs and (2) the views of selected experts regarding the cost savings potential of telematics for fleets and the possible implications for GSA's leasing program. In addition, information on the services, structure, and costs associated with GSA's vehicle leasing and purchasing programs is provided in appendixes I and II, respectively.

To determine whether and how GSA's vehicle-leasing rates, terms, and services support or encourage agency efforts to reduce fleet costs, we reviewed applicable federal laws; federal management regulations; GSA's fleet guidance, policy, and strategic goals; and other pertinent GSA documentation; and interviewed GSA officials. We also convened two panels of federal fleet managers who managed federal fleets with over 7,000 vehicles leased from GSA in fiscal year 2011, the most recent data available at the time of our fleet manager selection, to obtain their views on this question.¹ One panel consisted of one or more managers from five civilian agencies (the Departments of Agriculture, Energy, Homeland Security, the Interior, and Veterans Affairs) and the other consisted of one or more managers from five military agencies (the U.S. Marine Corps, the Army Corps of Engineers, and the Departments of the Air Force, Army, and Navy).² While their views should not be used to generalize about the views of all federal fleet managers, they do provide the perspective of managers of most of the federal leased fleet, as they manage over 80 percent of the vehicles leased from GSA in fiscal year 2011. To answer this research objective, we asked each panel an identical set of questions about the ways in which GSA's rates, terms, and services encourage or support the reduction of fleet costs. We analyzed panel responses to our questions, and in reporting the responses, we focused on those related to reducing fleet costs to the government as a whole rather than to a specific agency. Views attributed to the panels reflect key messages or themes derived from these discussions, but we did not attempt to quantify exactly how many federal fleet managers agreed with each statement or issue

¹Those agency fleets with over 7,000-leased vehicles represented over 80 percent of the federal fleet leased from GSA in fiscal year 2011. Additional agency fleets would have marginally increased the total number of vehicles under our review.

²We did not count responses so the number of managers representing each agency did not affect our findings.

under discussion because this was not the goal of the panel and we did not poll or survey individuals. We then followed up with GSA to get its views on perspectives and suggestions provided by agency fleet managers. In assessing GSA's efforts to reduce agency fleet costs through its rates, terms, and services, we reviewed GSA's fleet policy, guidance, and strategic goals to determine the extent to which agency suggestions for improvement might be part of the current GSA vehicle-leasing framework. Additionally, we conducted interviews with officials from GSA's vehicle-leasing program and Chief Financial Office and requested documentation of their expenditures, program policies, leasing rate structure, and agency-incurred leasing expenses, such as charges to agencies for damaged leased vehicles, in order to better understand how GSA's vehicle-leasing program operates. We also analyzed GSA's leasing rate structure in relation to the principle of economic efficiency, which has often been used to assess the design of government fees.³ In a May 2008 report, we noted that efficiency exists when the fee ensures that the government is providing the amount of the service that is economically desirable and that efficient fees increase awareness of the costs of government services, creating incentives to reduce costs where appropriate.

To obtain information regarding telematics' cost savings potential, we spoke with 19 experts—including consultants, representatives of associations, and fleet managers from corporations, government entities, and universities. Experts were selected based on their knowledge about fleet management or telematics. First, we reviewed the publications and conference history of associations and consultants that had recently participated in GAO work on fleet management or transportation technology to determine if they possessed expert knowledge of telematics. These entities included Accenture, Mercury Associates, the Intelligent Transportation Society of America, the National Association of Fleet Administrators, and the Automotive Fleet and Leasing Association. We determined that all five possessed expertise in this area. We then solicited nominations from these entities for individuals with expertise in fleet management and knowledge of telematics, and compared these

³See GAO, *Federal User Fees: A Design Guide*, [GAO-08-386SP](#) (Washington, D.C.: May 29, 2008). GAO identified this principle by reviewing economic and policy literature on federal and nonfederal user fees, including prior GAO work, and used case examples to illustrate different types of fee design elements and the impacts they may have.

nominations against publications and relevant literature.⁴ We did not select experts in cases where we, in consultation with our methodologist, believed the nomination may have been biased by a conflict of interest, such as a contract, between the nominating party and the nominee, which was likely to involve telematics. This process eliminated one nomination. We also reconsidered nominations when a company or organization, rather than a specific individual expert, was identified. We eliminated three nominations where we were uncertain that an individual expert could be reliably identified. After these eliminations, a total of 19 experts remained, whose views we obtained during group and individual interviews. Because of the interactive nature of the group interviews, we collected common themes rather than tabulating individual responses. The views represented are not generalizeable to those of all experts on fleet management or telematics; however, we were able to secure the participation of a diverse, highly qualified group of experts and believe their views provide a balanced and informed perspective on the topics discussed. We reviewed literature on the cost savings associated with telematics. We searched journals, research papers, and fleet management publications from 2007 through 2013.⁵

Of the 19 experts we consulted, 15 were current fleet managers. While not all of the fleet managers used telematics, they had knowledge of the topic. We sent a questionnaire to these 15 fleet managers regarding the specific savings, if any, they had achieved through telematics as well as information such as the size of their fleets and the percentage of their fleet that uses telematics. We received 10 responses. Two corporate fleet managers indicated that this information was proprietary; however, this information was not material to our findings, conclusions, or recommendations.

⁴While we identified the Automotive Fleet and Leasing Association (AFLA) as a knowledgeable organization, the experts from that organization spoke in their capacities as fleet managers for private companies; therefore, we did not interview any individuals speaking on behalf of AFLA itself.

⁵Despite a search of multiple databases, including Transportation Research International Documentation (TRID), SciSearch and National Technical Information Service (NTIS), much of the relevant literature was anecdotal in nature. We did not find indications that the views provided by our experts substantially differed from the views or experiences described in the literature.

To understand the possible implications for GSA's leasing program of the cost-savings potential of telematics, we also obtained the views of the federal fleet managers who participated in the two panels previously described. We inquired about their views on the cost-savings potential of telematics' use by federal agencies and GSA's efforts related to encouraging telematics use in leased vehicles. We also interviewed GSA officials, requested and reviewed the information that GSA provides to federal customers on telematics, reviewed GSA's publicly available information on telematics' offerings, examined GSA's policies and guidance regarding telematics, and assessed GSA telematics efforts in relation to GAO's internal control standards, which include relevant, reliable, and timely communications,⁶ and GSA's *2014-2018 Strategic Plan*.

To identify the services provided by, and the structure and expenses associated with, GSA's vehicle leasing and purchasing programs, we interviewed GSA officials and reviewed data and documents regarding GSA services, expenses, and revenue. Because this information was not material to the findings of this report, we have not assessed the reliability of GSA's cost and revenue data.

We conducted this performance audit from July 2013 to May 2014 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

⁶GAO, *Standards for Internal Control in the Federal Government*, [GAO/AIMD-00-21.3.1](#) (Washington, D.C.: November 1999).

Appendix IV: Fleet Characteristics That Experts Reported Could Influence Telematics' Cost-Saving Potential

Current driver and asset performance	The most problematic fleets will have the greatest potential for cost savings, because they can substantially improve. For example, fleets that frequently idle may have more opportunities to save on fuel costs.
Size of the fleet	Some telematic solutions involve fixed costs, such as the cost of a data download station. Such technology may not be cost effective for some smaller fleets.
Number of miles driven	If a vehicle has low usage, ongoing telematics use may not produce a good return on investment. However, telematics may serve to determine whether the vehicle can be eliminated, which may produce cost savings.
Type of vehicle	Telematics may have a higher return on investment in certain vehicle types, such as vehicles with poor fuel efficiency or specialized vehicles with higher operational costs.
Length of time vehicles are in service	Vehicles that are turned over quickly may not be able to recover upfront capital expenses or ongoing costs during the time the vehicle is in service.
Location of the vehicles (e.g., urban, rural, etc.)	Some telematics require cellular service or a satellite connection to acquire and transmit data. Rural areas may not have such services, and urban areas can sometimes suffer from "urban canyons," in which tall buildings impair signals. Lack of reliable data can affect the soundness of cost-saving decisions.
Physical dispersion of the fleet (i.e., fleet density)	Some technology, such as a data download station, may not be viable for fleets without a central location to which all vehicles covered by the telematic program report. In such cases, the available technology choices will be more limited, a factor that may affect cost.

Source: GAO analysis of interviews with experts.

Appendix V: Comments from the U.S. General Services Administration



The Administrator

April 23, 2014

The Honorable Gene L. Dodaro
Comptroller General of the United States
U.S. Government Accountability Office
Washington, DC 20548

Dear Mr. Dodaro:

The U.S. General Services Administration (GSA) appreciates the opportunity to review and comment on the draft report, *Federal Vehicle Fleets: GSA Has Opportunities to Further Encourage Cost Savings for Leased Vehicles* (GAO-14-443). The U.S. Government Accountability Office (GAO) recommends that the Administrator of General Services:

- examine and document the trade-offs of changing GSA's lease-rate structure so that each agency pays for the fuel that it actually uses; and,
- request information from agencies' on their experiences with telematics in their fleets, such as studies or estimates of cost savings achieved, and share this information with agencies through GSA's website or other methods.

GSA provides Federal customers end-to-end fleet leasing services including vehicle acquisition and disposal, maintenance control and accident management, fuel, loss prevention services, and a robust fleet management system that provides detailed and accurate data – all of which are offered in a low all-inclusive rate. The annual Federal Fleet Report, which includes fleet cost information submitted by Federal agencies, shows that leasing from GSA, on average, costs less per mile than agencies that manage and own vehicles themselves. Additionally, centralizing Federal fleet management operations to GSA provides standardization, economies of scale, and the tools necessary for the effective and efficient management of the Federal fleet. By leveraging a shared-service model, GSA Fleet eliminates redundant operations and programs in the Federal Government and provides a unified way of conducting business.

GSA agrees with the findings and recommendations and will take appropriate action to implement them accordingly. If you have any additional questions or concerns, please do not hesitate to contact me at (202) 501-0800, or Ms. Lisa Austin, Associate Administrator, Office of Congressional and Intergovernmental Affairs, at (202) 501-0563.

Sincerely,

A handwritten signature in blue ink, appearing to read "Dan Tangherlini".

Dan Tangherlini
Administrator

cc: Lori Rectanus, Acting Director, Physical Infrastructure, GAO

U.S. General Services Administration
1800 F Street, NW
Washington, DC 20405
Telephone: (202) 501-0800
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Appendix VI: GAO Contact and Staff Acknowledgments

GAO Contact

Lori Rectanus, (202) 512-2834 or rectanusl@gao.gov

Staff Acknowledgments

In addition to the contact above, Judy Guilliams-Tapia (Assistant Director), Russell Burnett, Colin Fallon, Katherine Hamer, Kieran McCarthy, Josh Ormond, Alison Snyder, Jack Wang, and Crystal Wesco made key contributions to this report.

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