Broward Sheriff’s Office Fleet Program Cost Containment Practices

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Executive Summary

This report examines the cost containment practices of BSO’s Fleet Management Program; specifically, we answer the following three questions:

1. Has BSO implemented fleet industry best practices for controlling costs?
2. What specific fleet-related cost savings did BSO realize during the past five years?
3. Are there additional actions BSO can take to further reduce fleet costs?

1. Has BSO implemented best practices to control fleet costs?
Of 25 major fleet cost control best practices, BSO implemented 7 (28%), partially implemented 11 (44%), and had not implemented 7 (28%), as of October 2013. Appendix B on pages 45-51 summarizes our assessment and describes the status of BSO’s implementation for each of the 25 best practices.

Our review concluded that

- Although BSO reduced fleet size by 8.6% since FY 2006, its current inventory count is 165 higher than the historical equipment-to-FTE ratio, due primarily to BSO’s failure to implement rightsizing best practices (see pages 9-12);
- In FY 2010, BSO instituted a new policy that modified the sworn personnel workday from 8-hours to 12-hours, helping to reduce total annual fleet vehicle travel by 3 million miles, resulting in less fuel consumption thereby reducing operating costs by $802,443 in FY 2011 (see pages 12-14);
- Because BSO has not fully implemented most best practices related to improving fuel efficiency, fleet fuel efficiency has gotten worse since FY 2006, which we estimate added $478,247 to total fuel expenditures in FY 2012 (pages 14-17);
- Implementing two best practices helped BSO control per gallon fuel prices, resulting in an average lower-than-retail price differential of 7.5% from FY 2006-2012 (pages 17-20);
- BSO has not implemented most best practices related to reducing vehicle lifecycle costs, resulting in a 43.3% lower per vehicle residual value from FY 2010-2013 (pages 20-22);
- Implementing or partially implementing four best practices helped BSO reduce vehicle repair and maintenance costs by $1,117,734 (16.7%) from FY 2006-2012, contributing to BSO’s effectiveness in meeting its 95% fleet availability goal since FY 2007 (pages 22-24);
- From FY 2008-2012, the BSO Fleet Services Operations Division reduced 4 FTE positions, resulting in a $161,003 (12.8%) reduction in personnel costs, but fully implementing best practices related to consolidating operations, reducing fleet size, and outsourcing major functions may help BSO achieve further cost reductions (pages 25-27); and
- In FY 2013, BSO’s increased use of a best practice volume purchasing method known as “piggyback” contracting, helped to reduce capital expenditures for vehicle acquisition by $35,106, which we describe more fully on pages 27-29 of this report.
2. What fleet-related cost savings\textsuperscript{1} did BSO achieve in the past five years?

We worked with BSO managers to fairly and accurately assess their cost savings claims. For our five-year review period (fiscal years 2008-2012), we validated total cost savings or avoidance of $3.9 million as a direct result of seven BSO initiatives. These initiatives, which are discussed in detail on pages 29-39, resulted in reduced expenditures for vehicle repair and maintenance (R/M) services and fuel,\textsuperscript{2} including

- **Fleet size reduction.** By eliminating 217 fleet vehicles from FY 2009 to FY 2010, BSO reduced R/M costs by $369,907, and by eliminating 275 vehicles for our five-year review period, BSO reduced fuel costs by $763,831;
- **Fuel purchasing techniques.** Implementing two best practices—cooperative volume purchasing and price-shopping—enabled BSO to lower FY 2012 fuel costs by $608,042;
- **New R/M contract terms.** Effective FY 2010, BSO amended its R/M vendor contract, which essentially reduced hourly labor and parts mark-up rates, resulting in a net cost savings of $100,083 in FY 2010, as well as recurring cost avoidance benefits;
- **Ford paint credit.** In FY 2010, BSO negotiated a credit with Ford Motor Company to obtain paint services without paying for them, resulting in a cost avoidance of $404,991 for fiscal years 2010 through 2012; and
- **Fuel reimbursement.** In FY 2009, BSO adopted a policy requiring certain employees with assigned vehicles who live outside Broward County to reimburse BSO for fuel usage, resulting in an average annual amount of $362,330 from FY 2009-2012.

3. Are there additional actions BSO can take to further reduce fleet costs?

We estimate BSO can achieve cost savings in FY 2014 of $5.1 million by eliminating and not replacing 165 nonessential vehicles and if BSO were eliminate and not replace 267 unjustified fleet vehicles it could save $8.3 million in the current fiscal year. We note there would also be recurring operational cost savings for fuel and repair and maintenance work in subsequent fiscal years if BSO operated with fewer fleet vehicles.

Our analysis, discussed on pages 39-43, disclosed a significant number of fleet vehicles for which no written justification of their need existed, as required by industry best practices. We believe BSO can readily eliminate without replacing 165 vehicles and possibly eliminate without replacing 267 vehicles without adverse consequences.

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\textsuperscript{1} In the context of this report, cost savings refers to any cost reduction achieved through specific means such as paying lower prices for goods and services or avoiding a future cost increase, which is generally referred to in the management literature as a “cost avoidance”

\textsuperscript{2} We also verified a capital cost avoidance of $168,468 in FY 2013, which is outside our review period, most of which came from implementing industry best practices related to purchasing vehicles through “piggyback” contracting and developing vehicle specifications to improve residual value
Methodology

To obtain relevant information to answer these questions, we

- Reviewed pertinent performance measurement, general management, and private and public fleet management literature,
- Reviewed applicable BSO records and documents, including policy and procedures,
- Analyzed available performance data for BSO fleet operations,
- Analyzed information provided by BSO managers relative to specific management processes and controls,
- Analyzed other available data and reports from FASTER, BSO’s automated fleet management system, and
- Interviewed BSO managers and staff

Background

The Broward Sheriff’s Office (BSO) provides law enforcement and fire rescue services for unincorporated Broward County and contracted entities. Among BSO’s responsibilities are

- Law enforcement activities such as uniform patrol and community policing, crime investigations, emergency call response, traffic and drug law enforcement, and issuing parking citations; and
- Fire rescue activities including responding to life-threatening medical emergencies, fire prevention and investigation, enforcement of adopted fire and life safety codes, fire safety inspections, and public education and community awareness.

In addition, BSO is responsible for operating the County Jail, Crime Lab, Marine Rescue, and Hazardous Materials program.

To ensure efficient and effective delivery of law enforcement and fire rescue services, BSO’s Fleet Management Program maintains a fleet of vehicles and equipment. Historically, fleet management organizations exist to ensure user needs are met; for example, to perform their duties police need high-speed cruiser vehicles and firefighters need specialized apparatus such as “hook-and-ladder” equipment.

As of July 1, 2013, BSO’s inventory included 3,286 vehicles and equipment. These include

- 2,981 law enforcement vehicles and equipment, including 1,316 patrol cars, and
- 305 fire rescue vehicles and equipment, including 34 fire engines and 40 emergency rescue vehicles

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3 As of September 2013, BSO contracted with Ft Lauderdale-Hollywood International airport, Port Everglades, County Courthouse, and 13 municipalities: Cooper City, Dania Beach, Deerfield Beach, Lauderdale-by-the-Sea, Lauderdale Lakes, North Lauderdale, Oakland Park, Parkland, Pompano Beach, Southwest Ranches, Tamarac, Weston, and West Park

4 Vehicles include automobiles such as midsize and full-size sedans, vans and trucks; equipment consists of trailers, buses, motorcycles, fire engines, rescue/ambulance units, boats and other specialized units
Appendix A on page 44 summarizes vehicle and equipment assignments by contracted entity and BSO department, as of July 1, 2013.

Program Services

Owning and operating a fleet involves many activities, from developing specifications to purchasing then customizing vehicles as appropriate to meet needs; ensuring their proper operation by performing repairs and routine maintenance work; and optimizing their residual value by prepping them and choosing the appropriate sales method and venue. According to fleet management literature, an effective fleet management program provides assets that are suitable, available, reliable, safe, economical and eco-friendly (fuel efficient).

BSO’s Fleet Management Program comprises the following major functions associated with maintaining fleet vehicles and equipment: replacement and disposal; utilization management; repair and maintenance; fuel; and risk management.

Vehicle Replacement and Disposal Services. BSO needs to purchase vehicles and equipment and dispose of them when their useful life is over. A major goal is making decisions that will yield the most economical results, such as purchasing vehicles as cheaply as possible and maximizing their residual value. To ensure timely replacement and disposal, BSO uses replacement criteria such as age, mileage, serviceability, and maintenance expense history.

Acquiring vehicles. Purchasing involves surveying user needs, developing specifications, conducting lifecycle cost analysis, and planning for capital purchases. The primary goal of this function is to ensure user “needs” but not “wants” are met, which should result in making economical purchases.

Disposing vehicles. When a vehicle’s useful life is over, it is time to get rid of it. Disposing a used vehicle involves selling it, either through public bids or auctions (public or employee), or trade-ins. BSO also uses a practice, known in the fleet industry as “cannibalization,” which involves salvaging useable parts for use in existing vehicles. Major activities include maintaining accurate repair, maintenance and warranty records and adequately preparing the disposed vehicle to maximize its residual value.

Vehicle Utilization Management Services. Ensuring proper vehicle usage involves tracking compliance with applicable policy, procedures and rules, and monitoring mileage to prevent underutilization. BSO needs to justify fleet size and composition, consisting of a written statement tying the vehicle’s purpose to the agency’s mission. Activities include assigning vehicles, managing and administering the motor pool, tracking take-home vehicles, and maintaining an automated management information system, known as FASTER.

Vehicle Repair and Maintenance Services. To ensure fleet vehicles are safe and reliable, BSO needs to provide regular, systematic and periodic servicing; its primary goal is to have vehicles that are in good operating condition and to detect and reduce unexpected breakdowns. Major activities include scheduling, monitoring and performing work, conducting inspections, performing quality control, validating billing accuracy, and maintaining reliable service records.
Fuel Management Services. A primary goal of this function is to effectively monitor and control fuel usage or consumption and maintain adequate inventory to meet needs. An effective public fleet management program provides fuel at the lowest cost, in a timely manner, and at a convenient location. The public fleet manager is accountable for ensuring users comply with established policy, procedures and rules, and controlling costs. The manager does real-time tracking of fuel transactions and maintains automated data to help prevent theft and unauthorized fuel use.

Risk Management Services. Reducing risk is a key element in controlling costs. In addition to accident claims management, activities include determining operator eligibility, providing training, enforcing rules such as seatbelt use and prohibiting cell phone use, and taking appropriate disciplinary action against noncompliant drivers.

Organizational Structure

Several BSO organizational units and contracted private vendors are responsible for providing Program services. Three primary BSO divisions are accountable for service delivery: Fleet Services Operations; Purchasing; and Risk Management.

Fleet Services Operations Division. Most of the fleet management program’s activities come under the purview of this division, comprising two sections: Administration, and Service and Repairs.

The Administration Section provides overall management, direction and support for activities such as: surveying user agencies to develop written specifications; working with the Purchasing Division to develop bid documents; coordinating with a private contracted auctioneer to dispose of vehicles; and managing fuel inventory through 12 on-site fueling stations.

The Service and Repairs Section oversees the preventive maintenance (PM) and repair work performed by a primary contracted private vendor, First Vehicle, Inc., and other subcontracted shops. Major activities are: reviewing and approving work orders; verifying billed labor hours and parts; and authorizing payments to vendors.

Purchasing Division. This division is charged with handling BSO’s procurement function, including purchasing vehicles and equipment following public procurement rules and regulations. According to BSO’s website, this division “fosters open competition between vendors and service providers, resulting in quality products delivered in a timely manner at competitive prices.” Division activities include soliciting, evaluating and awarding bids, and making decisions that meet user needs in terms of quality and quantity.

Risk Management Division. This division, with the Office of the General Counsel, handles BSO’s risk management function; activities include assessing self-insurance liability costs, performing accident investigations, and conducting safety training.

Private Vendors. BSO also contracts with several private vendors for repair and maintenance (R/M) services. As of September 2013, BSO’s primary R/M services vendor was First Vehicle,
In FY 2012, this vendor performed 8,400 preventive maintenance (PM) jobs. This vendor subcontracts with other mechanic and body repair shops to perform additional jobs.

**Program Resources**

For FY 2014, BSO’s Fleet Services Operations Division has a total operating budget of $14.4 million, $1.2 million in salaries and benefits for 12 FTE positions, and a capital budget of $3.6 million. With these capital funds, BSO managers plan to purchase 80 vehicles and equipment. Exhibit 1 below depicts the major budget components for FY 2014.

**Exhibit 1**

**BSO Fleet Program Budget for FY 2014**

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personnel Services</td>
<td>$1,166,698</td>
</tr>
<tr>
<td>Operating Expenses</td>
<td>$14,362,210</td>
</tr>
<tr>
<td>Capital Outlay</td>
<td>$3,640,500</td>
</tr>
</tbody>
</table>

*Source: FY 2014 Adopted Operating Budget and Cost allocation Worksheet*

Actual FY 2012 operating expenditures for BSO’s Fleet Services Operations Division totaled $14,965,763, with 12 authorized FTE positions. The major expense categories for FY 2012 were fuel ($8,262,977), repair and maintenance work ($6,322,170), and other expenses such as facility maintenance, motorcycle leasing, and title/registration fees ($380,616). Exhibit 2 on the next page depicts BSO Fleet Program’s major actual expenditures for FY 2012.
In FY 2012, BSO’s Fleet Services Operations Division was funded through the General Fund and contract entities. Exhibit 3 below shows the amounts of these revenue sources.

**Exhibit 3**  
**BSO Fleet Program Funding Sources for FY 2012**

*Source: FY 2014 Adopted Operating Budget and FY 2012 Cost Allocation Worksheet*
Questions and Answers

This report examines cost containment practices of BSO’s Fleet Management Program; specifically, we provide information to answer the following questions:

1. Has BSO implemented fleet industry best practices for controlling costs?
2. What specific fleet-related cost savings has BSO realized in the past five years?
3. Are there additional actions BSO can take to further reduce fleet costs?

Fleet Industry Best Practices

Our review of fleet industry literature identified 25 specific cost control best practices within the following eight categories:

- Reducing overall fleet size
- Reducing vehicle miles traveled
- Improving vehicle fuel efficiency
- Reducing vehicle fuel costs
- Lowering vehicle lifecycle costs
- Reducing vehicle maintenance costs
- Lowering program overhead costs
- Acquiring vehicles as economically as possible

To determine the extent to which the Program meets these 25 specific best practices, we
a) requested BSO managers submit a statement and supporting documentation indicating whether they believe the Program achieves each best practice,
b) analyzed BSO management’s written response and documentation,
c) tested the reliability of BSO’s documentation using available performance data,
d) requested and evaluated additional information provided by BSO managers to obtain a better understanding of BSO’s assertions and documentation, and
e) collaborated with BSO managers to reach conclusions regarding each best practice

BSO has implemented 7 (28%) of 25 Best Practices; more fully implementing the others will help BSO to better control fleet costs

Our assessment of BSO’s efforts to meet these 25 best practices resulted in a rating for each one, consisting of three classifications: (1) implemented, (2) not implemented, and (3) partially implemented. We concluded BSO implemented 7 (28%), partially implemented 11 (44%) and did not implement 7 (28%). Appendix B on pages 45-51 summarizes our assessment.

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5 We reviewed best practices related to controlling costs for both private and public sector fleet organizations, with particular focus on identifying cost containment best practices pertinent to local law enforcement agencies
Reducing Fleet Size Over Time

According to fleet management literature, one of the easiest ways to reduce fleet costs is to eliminate unnecessary and underutilized fleet vehicles. Doing this requires good information about the need for specific assets as the basis for making vehicle reduction decisions. Fleet studies show that “a thorough analysis of vehicle and equipment utilization can yield fleet size reductions of as much as 20 percent.”

Analyzing Equipment-to-FTE Counts to Effectively Manage Fleet Size

A commonly used measure to control fleet size is the relationship between the number of vehicles and equipment in a fleet’s inventory and the number of full-time employees in the organization that fleet serves. This fleet-to-employee relationship is typically calculated as a ratio (or percentage) of fleet equipment-to-full-time equivalent (FTE) positions. This measure is frequently used to trend the organization’s fleet size over time and to benchmark or compare its ratio against similar organizations.

To analyze BSO’s fleet equipment-to-FTE ratio for fiscal years 2006-2013, we
- Calculated fleet inventory based on work order history reports from BSO’s automated fleet management system, FASTER, and
- Tracked full-time employment based on funded FTE positions as stated in BSO’s adopted budgets

BSO’s Fleet Size Declined by 279 (8.6%) since Fiscal Year 2007

As shown in Exhibit 4 below, BSO’s fleet vehicle and equipment inventory decreased by 279 (8.6%) from its highest level of 3,230 in FY 2007 to its September 2013 count of 2,951.

Exhibit 4
BSO Fleet Inventory by Fiscal Year

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Fleet Inventory</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY06</td>
<td>3,059</td>
</tr>
<tr>
<td>FY07</td>
<td>3,230</td>
</tr>
<tr>
<td>FY08</td>
<td>3,170</td>
</tr>
<tr>
<td>FY09</td>
<td>3,174</td>
</tr>
<tr>
<td>FY10</td>
<td>2,957</td>
</tr>
<tr>
<td>FY11</td>
<td>2,886</td>
</tr>
<tr>
<td>FY12</td>
<td>2,895</td>
</tr>
<tr>
<td>FY13</td>
<td>2,951</td>
</tr>
</tbody>
</table>

Source: FASTER System Report #3305: Work Order Billing Charges Summary

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7 Our analysis excludes vehicles/equipment and FTE counts for Special Purpose Fire Rescue/EMS
During Same Period, BSO’s FTE Count Declined by 740 (13.1%)

As shown in Exhibit 5 below, BSO’s funded FTE positions\textsuperscript{8} decreased at a slightly higher rate of 13.1%; from its highest level of 5,653 in FY 2007 to its current fiscal year count of 4,913.

**Exhibit 5**
BSO Funded FTE Positions by Fiscal Year

Since FY 2007, BSO Reduced FTE by 740 Positions

**BSO’s Fleet Equipment-to-FTE Ratio Increased in Past Two Years**

Exhibit 6 below depicts BSO’s fleet equipment-to-FTE ratio since FY 2006. For the six-year period from FY 2006-2011, this ratio held fairly steady, averaging 56.7% annually. However, beginning in FY 2012, and continuing in FY 2013, this ratio spiked upward to 59.9% and 60.1%, respectively.

**Exhibit 6**
Equipment-to-FTE Ratio by Fiscal Year

\textsuperscript{8} Our analysis includes vehicles/equipment and FTE positions assigned to Child Protective Services
Currently BSO has 165 More Equipment than Historically

Exhibit 7 below compares BSO’s actual fiscal year inventory to what it would be at its six-year historical ratio average of 56.7%. As shown, the current FY 2013 inventory count of 2,951 is 165 higher than it would be at the historical average of 56.7%. This increase is indicative of “fleet creep,” which industry literature defines as an organization’s tendency to stockpile or hoard used vehicles rather than disposing them in accordance with an established replacement schedule.9

Exhibit 7

Inventory Count at Average Historical Ratio of 56.7%

Eliminating 165 Vehicles can Save BSO $1 Million in Operating Costs

If BSO operated at the historical equipment-to-FTE ratio of 56.7%, meaning that it eliminated 165 vehicles from its current inventory, we project potential operational cost savings of $943,140.10 If BSO were to operate at its FY 2006 ratio of 54.6%, we estimate savings of $1.5 million are feasible by eliminating 267 vehicles.

BSO has not implemented best practices to control fleet size

As shown in Appendix B on pages 45-51, BSO has not fully implemented any of the following four industry best practices to reduce fleet size:

- Conducting a rightsizing study every five years or less,
- Maintaining written justification of the need for each fleet vehicle,
- Using motor pools, rentals, leased and personal vehicles as optimally as possible, and
- Using “assignment rotation” methods to maximize each vehicle’s value

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9 Government Fleet magazine, "11 Approaches to Right-Sizing Your Fleet," November 2009

10 Based on BSO’s FY 2014 Adopted Budget amount of $5,716 per vehicle for fuel, maintenance, and auto liability insurance costs
In July 2013, BSO managers initiated efforts to analyze existing fleet size and composition in order to identify unneeded equipment that could be eliminated. As of October 2013, however, no actual equipment reduction had been made as a direct result of these efforts.

Reducing Vehicle Miles Traveled

According to industry literature:

- Reducing total fleet miles driven reduces overall fleet costs due to decreased fuel consumption and fewer maintenance services, and
- Reducing home-to-work travel is one of the easiest ways to reduce total fleet mileage

Among the strategies for reducing total fleet miles driven are making fewer trips, either by consolidating routes or eliminating trips, or through schedule changes. For example, some organizations prohibit take-home use of company-owned vehicles while others adopt policies curtailing their use; the objective being to reduce total fleet mileage in an effort to more effectively control overall fleet costs.

**BSO Reduced Total Fleet Mileage by 15.9% from FY 2008 to FY 2012**

Exhibit 8 below illustrates annual total miles traveled for BSO’s fleet since FY 2006. As shown, total fleet mileage declined by 5.4 million miles (15.9%), from its highest level of 33.9 million in FY 2008 to its FY 2012 level of 28.5 million.

Exhibit 8 also shows the greatest reduction occurred between fiscal years 2009 and 2011. Total fleet mileage declined by

- 2.3 million miles (6.9%) from FY 2009 to FY 2010, and
- By another 3 million miles (9.7%) from FY 2010 to FY 2011

**Exhibit 8**

**Total BSO Fleet Miles Driven (in millions) by Fiscal Year**

Source: FASTER System Report #3150S

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Two Primary Reasons for Overall Fleet Mileage Reduction

Our analysis identified two primary factors causing this total fleet mileage reduction:

Fleet size reduction

- Between FY 2009 and FY 2010, the number of fleet equipment decreased by 217, from 3,174 to 2,957, a reduction of 6.8%. This reduction almost exactly corresponds to the total fleet mileage reduction of 6.9% for the same period. Because the average mileage driven per vehicle in both fiscal years was essentially the same (10,461 versus 10,443), this means that nearly all of the decline in total fleet mileage occurring from FY 2009 to FY 2010 can be attributed to the reduction of 217 equipment.

- Between FY 2010 and FY 2011, the number of fleet equipment decreased by 71, from 2,957 in FY 2010 to 2,886 in FY 2011, a reduction of 2.4%. This reduction of 71 fleet equipment accounts for one-fourth of the total fleet mileage reduction of 9.7% during this same period. Our analysis found that the remaining reduction in total fleet mileage between fiscal years 2010 and 2011 can be attributed to BSO’s work schedule policy change that was fully implemented in FY 2011.

Change from 8-hour to 12-hour work schedule

- Beginning in FY 2010, BSO instituted a new policy that changed the normal work schedule for DLE sworn personnel from an 8-hour workday to a 12-hour workday. This policy change essentially reduced the pay period for 1,460 DLE employees from 10 days to seven days, essentially a 30% annual reduction in take-home travel. We estimate this policy change reduced home-to-work travel annually by 228,000 trips.12

- We could not calculate the actual mileage reduction resulting from this policy change because BSO does not track data for the home-to-work travel distance of these 1,460 DLE employees. However, our analysis estimates an average one-way per vehicle commute of 9.9 miles, which is reasonable to expect given Broward County’s fairly widespread geography. Consequently, we conclude this policy change plausibly contributed to most of the total vehicle mileage reduction of 3 million miles between fiscal years 2010 and 2011.

BSO Implemented Best Practice to Reduce Vehicle Miles Traveled

As described above, and shown in Appendix B on page 45, BSO has taken appropriate actions to implement the best practice of reducing home-to-work travel. BSO’s actions to reduce fleet size and home-to-work travel significantly reduced total fleet mileage, which invariably helped to control overall fleet management costs. For example, the decline of 3 million total miles between FY 2010 and FY 2011 resulted in 252,045 fewer gallons of fuel consumption, which translates to $802,443 cost savings.13

However, as shown in Exhibit 9 on the next page, the average mileage per equipment increased by 1.9%, from 9,658 in FY 2011 to 9,844 in FY 2012. This increase corresponds exactly with the

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12 Because BSO policy allows employees to drive their assigned vehicles to/from home, our analysis included a calculation of take-home trips as part of total fleet mileage driven.

13 These savings were offset by higher fuel prices per gallon and worse fleet fuel economy in FY 2011.
1.9% increase in number of fleet equipment during this same period (from 2,895 to 2,951); illustrating the importance of managing fleet size to control costs.

**Exhibit 9**  
**Average Annual Miles Driven per BSO Fleet Equipment**

![Average Annual Miles Driven per BSO Fleet Equipment Graph]

Source: Office of the County Auditor analysis of FASTER System Report Nos. 3150S, 3305 and 3307

**Improving Vehicle Fuel Efficiency**

According to fleet industry literature, because fuel is the single highest operating expense of vehicle ownership it makes sense for fleet managers to control fuel costs. Industry literature identifies best practices that fleet managers can adopt to control fuel costs, including:

- Purchasing more fuel efficient vehicles,
- Reducing “unnecessary idling”\(^\text{14}\) as much as is feasible,
- Providing proper training to ensure drivers have good driving habits, and
- Establishing an effective scheduled vehicle maintenance program

Our review found that BSO has only partially implemented these four best practices, contributing to worse vehicle fuel efficiency over time, thus higher fuel costs.

**BSO’s Fleet Fuel Efficiency has Gotten Worse since FY 2006**

A key performance measure that is typically used in the fleet industry to evaluate fuel efficiency is the number of miles a vehicle operates on each gallon of gas, commonly referred to as “miles per gallon,” or MPG.

Our analysis of BSO fleet’s overall MPG shows a fairly consistent decline over time, which goes contrary to the goal of improving fuel efficiency over time. For example, as shown in Exhibit 10 on the next page, BSO’s overall fleet MPG declined by 0.8 MPG (6.2%), going from 13 MPG in FY 2006 to 12.2 MPG in FY 2012.

\(^{14}\) “Idling” refers to running a motor vehicle's engine while it is stationary or not moving
BSO’s Diminished Performance is Costly

Although a reduction of 0.8 MPG does not seem significant, its impact in overall fuel expenditures can be fairly substantial. To determine the effects this decline had on BSO’s overall fuel expenditures, we compared BSO’s actual fuel expenditures in FY 2012 to what they would have been if BSO had maintained overall fleet MPG at its FY 2006 performance level.

We estimate BSO would have saved $478,247 in FY 2012 in overall fuel expenditures if it had maintained its FY 2006 performance level of 13 MPG. Our calculation involved multiplying the total number of gallons needed to make up the difference between 12.2 MPG and 13 MPG by the average price per gallon of fuel paid by BSO in FY 2012. Based on available BSO data, we used the following information in our calculation:

- 143,787 additional total gallons of fuel required in FY 2012, and
- $3.33 average price per gallon of fuel paid by BSO in FY 2012

Average MPG Declined for both Marked and Unmarked Vehicles

We also analyzed MPG performance for two vehicle classes: marked and unmarked. As of April 2013, BSO’s fleet consisted of 1,821 marked vehicles and 1,226 unmarked vehicles. Because marked vehicles are used in law enforcement activities such as high-speed pursuits and engine idling that may require higher fuel consumption, we wanted to test the MPG performance for both marked and unmarked vehicles to note any differences.

We found the average MPG has fairly steadily declined for both vehicle classes since FY 2006 (see Exhibit 11 on the next page). As shown, the average MPG for unmarked vehicles declined by 10.6%, from 17.5 to 16.2 MPG; while the average MPG for marked vehicles declined by 7.4%, from 11.3 to 10.1 MPG.
BSO can Improve Fuel Efficiency for Most Current Fleet Vehicles

To ascertain the feasibility of BSO improving fuel efficiency, we analyzed the EPA estimated fuel economy ratings of BSO’s most commonly purchased vehicles. As of July 2013, 1,503 (50.9%) of BSO’s fleet consisted of the following vehicles: Ford Crown Victoria and Interceptor sedans, Dodge Charger sedans, Chevrolet Tahoe SUVs, and Chevrolet Impala and Caprice sedans.

We found that BSO’s average FY 2012 MPG for these vehicles of 10.1 was much lower than the EPA minimum levels for City-miles traveled, ranging from a low of 13 MPG for the Dodge Charger to a high of 16 MPG for both the Chevrolet Impala and Ford Interceptor. This means that BSO’s FY 2012 MPG performance is at least 28.7% and as much as 58.4% worse than the EPA minimum ratings; indicating room for improvement (see Exhibit 12 below).
Fully Implementing Best Practices may Help BSO Improve Fleet Fuel Efficiency

Despite adding more fuel efficient cars to its fleet in recent years, such as Smarte vehicles for patrols at the Fort Lauderdale-Hollywood International Airport, BSO’s fleet fuel efficiency has declined since FY 2006. Our analysis concludes BSO can and should improve fuel efficiency to control fuel costs.

As shown in Appendix B on pages 45-51, BSO has only partially implemented three best practices intended to improve fleet fuel efficiency. For example, although BSO adopted an “anti-idling” policy in FY 2008, it had not sufficiently monitored and enforced its implementation. Fully implementing these best practices would improve overall fleet fuel efficiency, which would reduce fuel expenditures.

Reducing Fuel Costs\textsuperscript{15} Over Time

Industry literature indicates that fuel is the single largest operating cost associated with a public fleet organization. For example, in FY 2012, BSO’s total fuel expenditures of $7.8 million represented 52.1% of BSO’s overall fleet operating costs of $15 million.

From FY 2006 to FY 2012, BSO’s total fuel expenditures increased by $1.7 million (27.2%); going from $6.1 million in FY 2006 to $7.8 million. However, as shown in Exhibit 13 below, fuel costs fluctuated considerably in the intervening years. For example, fuel costs went up by 35.8% in FY 2008 then came down by 35.5% the following year.

Exhibit 13
BSO’s Total Annual Fuel Expenditures by Fiscal Year

<table>
<thead>
<tr>
<th>Year</th>
<th>Fuel Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>$6,124,630</td>
</tr>
<tr>
<td>2007</td>
<td>$6,327,832</td>
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<td>2008</td>
<td>$8,594,985</td>
</tr>
<tr>
<td>2009</td>
<td>$5,546,350</td>
</tr>
<tr>
<td>2010</td>
<td>$6,242,224</td>
</tr>
<tr>
<td>2011</td>
<td>$7,568,176</td>
</tr>
<tr>
<td>2012</td>
<td>$7,792,506</td>
</tr>
</tbody>
</table>

Source: FASTER System Report #3150S

Total fuel expenditures are derived by two factors: the amount of fuel consumed and the price paid for each gallon of fuel. Thus, to control fuel costs, BSO needs to control fuel consumption and obtain the best per gallon fuel prices.\textsuperscript{16} Our analysis of these factors over this seven-year

\textsuperscript{15} Our analysis is based on fuel consumption and excludes fuel usage by Fire Rescue equipment
period shows BSO’s total fuel consumption declined by 151,337 gallons (6.1%), but the price per gallon paid increased by $0.87 (35.4%).

**BSO’s Actions helped to Control Fuel Consumption**

As discussed previously, two specific BSO actions contributed to controlling fuel consumption: (1) reducing fleet size, and (2) reducing vehicle miles driven. Essentially, our analysis shows that fewer fleet vehicles means less overall vehicle miles driven, which translates into lower fuel usage. As shown in Exhibit 14 below, BSO’s annual fuel consumption increased from FY 2006 to FY 2009 but decreased at a greater rate since then, resulting in an overall annual fuel usage decline of 6.1% from FY 2006 to FY 2012. The decline since FY 2009 corresponds to the reduction in overall fleet miles driven for that same period (see pages 12-14).

**Exhibit 14**

**BSO Fleet Gallons of Fuel Usage by Fiscal Year**

![Exhibit 14: BSO Fleet Gallons of Fuel Usage by Fiscal Year](source: FASTER System Report #3150S)

**Higher per Gallon Fuel Prices Accounts for Escalating Fuel Costs**

To determine the effects that per gallon prices had on rising fuel costs, we calculated the average annual price BSO paid per gallon of fuel from FY 2006 to FY 2012. We found that the per gallon prices fluctuated widely from year to year, but except for a dip in FY 2009, per gallon prices rose by $0.87 (35.4%) between FY 2006 and FY 2012 (see Exhibit 15 on the next page). Thus, this relatively large increase is the cause of rising fuel expenditures.
Exhibit 15
BSO’s Average Cost per Gallon of Fuel by Fiscal Year

Implementing Best Practices helped BSO Control per Gallon Prices

BSO implemented two best practices that helped it obtain lower per gallon prices:

- **Bulk or volume purchasing.** According to fleet industry literature, purchasing fuel in large quantities tends to lower its unit cost, or price per gallon. Public fleet organizations typically join a purchasing “cooperative”\(^{17}\) to get discounted fuel prices. Since 2009, BSO has been a member of Southeast Florida Government Purchasing Cooperative Group, which combines the buying power of 28 member-entities to obtain lower fuel prices.

- **Price-shopping methodology.** Another cost control measure cited in the fleet industry literature is “price-shopping,” which typically involves fleet managers comparing prices among competing vendors and purchasing the lowest price fuel. BSO fleet managers provided us with evidence indicating they have employed price-shopping techniques since 2008.

These practices helped BSO generally obtain lower per gallon prices than retail market pricing during our seven-year review period. As shown in Exhibit 16, these practices resulted in an average lower price differential of 7.5% for this seven-year period. Except for FY 2008, when pricing was essentially the same, BSO obtained lower pricing than Florida retail pricing in every other fiscal year. For further discussion of the extent to which this per gallon price savings impacted total annual BSO fuel expenditures refer to pages 33-35 of this report.

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\(^{17}\) A purchasing cooperative is a type of arrangement between buyers to aggregate their individual demands to obtain lower prices
Exhibit 16
Comparison of Average per Gallon Pricing between BSO and Florida Retail Market by Fiscal Year


Lowering Vehicle Lifecycle Costs Over Time

According to industry literature, when a car is new, capital costs are high and operating costs are low; but as a car ages, capital costs diminish as repair and maintenance costs increase. From an economic standpoint, it makes sense to replace cars when their operating costs begin to outweigh their capital costs. Lifecycle cost analysis, as shown in Exhibit 17, illustrates the time period when it becomes more costly to keep operating a car than to replace it.

Exhibit 17
Typical Life Cycle Cost Model

Source: Fleet Industry Literature
BSO has not Implemented Best Practices to Reduce Vehicle Lifecycle Costs over Time

As shown in Appendix B on pages 45-51, BSO has not implemented any of the following industry best practices associated with reducing lifecycle costs over time:

- Using lifecycle cost analysis to determine optimum vehicle replacement intervals,
- Including depreciation in its lifecycle cost analysis,
- Establishing a written replacement policy, and
- Maximizing vehicle residual value

BSO has not performed any Lifecycle Cost Analysis

A comprehensive lifecycle cost analysis can help a fleet manager develop a more accurate accounting of costs in owning and operating the fleet. With this information, the fleet manager can make more cost-effective decisions on which vehicles are the most economical to own and operate and the best time to dispose or replace a vehicle.

Lifecycle cost analysis is the measurement of all costs incurred as a result of owning and operating a vehicle.18 Basic lifecycle costs include purchase price, repairs and maintenance costs, fuel costs, and administrative costs (such as title, licensing and insurance) less the estimated selling price of the asset upon disposal.19 Other costs, which can be helpful but difficult to quantify, include downtime costs and cost of obsolescence.20 Lifecycle costing does not have to be complex, but it does require a reliable database of fixed and variable costs of vehicles, a reporting mechanism to express the data in cost per mile form, and business acumen to interpret the information and establish a sound policy.21

Our analysis of BSO’s FASTER fleet management system found that it tracks sufficient data to analyze total lifecycle costs for each vehicle, including depreciation. However, as of October 2013, BSO had not conducted any lifecycle cost analysis. BSO managers did not provide us with sufficient evidence showing they routinely and systematically use lifecycle cost data to support decisions to acquire, replace or dispose of vehicles.

BSO’s Vehicle Replacement Program does not consider Lifecycle Costs

As of September 2013, BSO did not have a written vehicle replacement policy and procedures. In July 2013, BSO managers drafted a 5-year strategic plan containing a vehicle replacement schedule that will “eventually get to a goal of” replacing marked vehicles at 5-year/100,000 mile intervals and unmarked vehicles at 7-year/120,000 mile intervals. These criteria closely reflects current law enforcement agency data indicating the average replacement age for marked and unmarked vehicles is 5.3 and 7.5 years, respectively.22

BSO managers did not provide us with sufficient evidence showing these replacement standards are based on any lifecycle cost analysis. Instead, BSO managers stated that vehicle

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18 “A Look at Lifecycle Costs for Law Enforcement Vehicles,” produced by Vincentric, LLC, February 2010
19 Automotive Fleet magazine, “Vehicle Lifecycle Costs Analysis,” 2003
20 Fleet Financials magazine, “Establishing a Cost Effective Fleet Replacement Program,” January/February 2003
22 Government Fleet magazine, “Vehicle and Equipment Inventory,” September 2012
replacement is typically based on three factors: (1) limited funding availability due to budgetary constraints, (2) consideration of each vehicle’s condition in addition to its age and mileage, and (3) other non-financial, qualitative factors such as safety and employee morale.

Although the fleet industry literature recognizes these factors as inevitable influencers of any fleet’s vehicle replacement program, a cost-effective replacement program requires a more comprehensive approach. BSO managers told us they were exploring the feasibility of conducting some lifecycle cost analysis in the near future.

**Declining Vehicle Recovery Amounts could be Increasing Overall Lifecycle Costs**

According to fleet industry literature, protecting each vehicle’s resale value should be a crucial part of an effective fleet management strategy for reducing lifecycle costs over time. Industry literature recommends numerous techniques to maximize each vehicle’s resale value, including choosing vehicle models and colors that are popular with consumers, carefully maintaining each vehicle’s condition, broadening sales outlets, and selling at the right time.

To determine BSO fleet’s overall residual value, we analyzed the historical average recovery amounts per vehicle. We found BSO’s average recovery amounts generally increased between FY 2006 and FY 2010, but steadily decreased since then. For example, the recovery rate declined by $1,082 (43.3%) from $2,498 in FY 2010 to $1,416 in FY 2013 (see Exhibit 18).

We identified two plausible explanations for this decline:

- BSO’s disposed vehicles are generally older and have greater mileage at the time of their disposal, thus decreasing their residual value, and
- Beginning in 2010, BSO initiated a program to remove usable parts from vehicles about to be replaced to avoid the costs of buying new parts for existing vehicles. While this practice may reduce repair and maintenance costs, it essentially reduces residual value. As of September 2013, BSO managers had not quantified the effects of this practice on its vehicle residual value, thus its impact on total lifecycle costs.

**Exhibit 18**

**Average Recovery Amount of Disposed Fleet Equipment**

<table>
<thead>
<tr>
<th>Year</th>
<th>Recovery Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>$1,467</td>
</tr>
<tr>
<td>2007</td>
<td>$1,828</td>
</tr>
<tr>
<td>2008</td>
<td>$1,739</td>
</tr>
<tr>
<td>2009</td>
<td>$1,948</td>
</tr>
<tr>
<td>2010</td>
<td>$2,498</td>
</tr>
<tr>
<td>2011</td>
<td>$2,094</td>
</tr>
<tr>
<td>2012</td>
<td>$1,758</td>
</tr>
<tr>
<td>2013</td>
<td>$1,416</td>
</tr>
</tbody>
</table>

Source: Office of the County Auditor analysis of BSO vehicle disposal data

Lower Residual Value Indicates Higher Vehicle Lifecycle Costs

43.3% Less Residual Value
Reducing Vehicle Repair and Maintenance Costs

A major cost component of vehicle ownership is repair and maintenance (R/M) services. These services involve repair work to vehicles damaged in accidents and preventive maintenance (PM) work such as oil changes, tire rotation and replacement, and brake jobs. Consequently, costs for these services can vary widely over time depending on factors such as changes in fleet size, number and severity of accidents, volatility of pricing for parts and labor, adequacy of driver care and operation of vehicles, and effectiveness of PM programs.

Repair & Maintenance Costs Declined by 16.7% since FY 2006

As shown in Exhibit 19 below, BSO’s annual R/M expenditures have fairly steadily declined over the past six fiscal years. For example, R/M expenditures declined by $1,117,734 (16.7%), from $7,159,763 million in FY 2006 to $6,042,029 in FY 2012. The biggest single year decline occurred in FY 2010, which had a decrease of $785,008 (12.1%) from the prior fiscal year’s total costs of $6,485,262.

As discussed in more detail on pages 30-33 of this report, there are three primary reasons for the FY 2010 decrease:

- BSO reduced its fleet inventory by 217 vehicles from the prior fiscal year;
- Vendor used 16,900 fewer parts to perform R/M services, possibly due to 2010 initiative to re-use parts from disposed vehicles rather than purchase new parts; and
- BSO negotiated a new contract with its R/M vendor (First Vehicle Services, Inc.) that reduced hourly labor and parts mark-up rates.

Exhibit 19
Actual Repair & Maintenance Expenditures by Fiscal Year

BSO can Further Reduce R/M Expenditures

Fleet industry literature cites four best practices to reduce R/M costs:

- Ensure PM services are done routinely and timely,
• Ensure there are written procedures that clearly define driver expectations relative to vehicle care and operation,
• Ensure labor and parts mark-up are at the lowest possible rates, and
• Maintain a timely and reliable Management Information System

Our review found that BSO has implemented two of these best practices: (1) ensuring clearly written procedures dealing with proper vehicle care and operation, and (2) ensuring lowest hourly labor and parts mark-up rates (see Appendix B on page 49). However, as of October 2013, BSO had only partially implemented the other two best practices:
• Although BSO has established a reasonable structure to ensure PMs are done routinely and timely, it has not sufficiently evaluated the effectiveness and operating efficiency of its PM program; and
• While BSO’s fleet management information system is considered “best of breed” in the industry, BSO managers acknowledged they have not fully used its capabilities but plan to do so in the near future.

BSO has Consistently Exceeded Goal for One Key Performance Indicator
A key indicator of a PM program’s effectiveness is the percentage of time that a vehicle is available for use, commonly referred to as fleet availability. Many fleet organizations have a typical fleet availability goal of 95%, meaning that in a given year a vehicle is in the shop for repair and/or PM work no more than 5% of the time. Our analysis of performance data indicates BSO has exceeded this goal in each of the past six fiscal years (see Exhibit 20 below).

Exhibit 20
Percentage of Time BSO Fleet Equipment is Available for Use

Source: FASTER System Report #3332
Lowering Program Overhead Costs Over Time

Overhead refers to the indirect administrative costs of operating a fleet program. Unlike direct costs, overhead costs cannot be assigned to a particular project, facility, function or product. Indirect administrative costs typically associated with a public fleet management program include staff salaries and benefits, as well as expenses related to technology, insurance, rent, and utilities.

Our analysis of BSO Fleet Management Program’s overhead costs since FY 2006 indicates BSO has done reasonably well to control overhead costs. For example, BSO reduced Fleet Program staff by one-fourth, from 16 full-time positions (FTE) in FY 2008 to 12 FTE in FY 2012, resulting in a cost reduction of $161,003 (12.8%).

However, we believe opportunities exist to lower overhead costs even more because BSO only partially implemented three key best practices related to lowering overhead costs. For example, as addressed previously, although BSO reduced the number of fleet equipment by 279 (8.6%), it currently has 165 more equipment in its inventory than its historical average and 267 more equipment per FTE than its FY 2006 level. If BSO were to eliminate those vehicles, we estimated potential operational cost savings of $1.4 million and $2.3 million, respectively (see pages 9-12).

Reducing 4 FTE resulted in $161,003 lower personnel costs

As shown in Exhibit 21 below, BSO reduced Fleet Services Operations Division FTE positions from 16 to 12. This staffing reduction resulted in lower Fleet Division personnel costs. For example, Division personnel costs totaled $1,260,905 in FY 2008 and $1,099,902 in FY 2012, a reduction of $161,103 (12.8%), as shown in Exhibit 22 on the next page.

Exhibit 21
BSO Fleet Division FTE Positions by Fiscal Year

![BSO Fleet Division FTE Positions by Fiscal Year](image)

Source: BSO Adopted Operating Budgets
Reducing FTE also improved staff productivity and operating efficiency

A commonly used indicator of fleet staff productivity is the ratio of fleet FTE to number of equipment. For example, a ratio of 1:200 indicates that one FTE staff is responsible for overseeing 200 fleet vehicles.

We calculated this ratio for fiscal years 2005 to 2012 and found the ratio increased over time, indicating improved staff productivity. While the ratio for FY 2008 was 1:198, it was 1:241 for FY 2012; indicating noticeably better performance.

Our review of public fleet management literature did not identify a national workload standard for public fleet personnel. However, according to some journal articles, private sector fleets with 200 or more vehicles generally require full-time supervision; which is generally comparable to BSO’s historical and current ratio.

BSO has partially implemented best practices to lower overhead costs; fully implementing them may attain further cost reductions

Our review concluded BSO has only partially implemented three key best practices related to lowering Program overhead costs, as follows:

- **Consolidating operations.** According to industry literature, consolidating vehicle repair and maintenance operations can improve operating efficiency and consolidating support and administrative functions such as finance, accounting, and purchasing can reduce personnel costs and control overall fleet costs. As of October 2013, BSO had consolidated most functions related to its fleet operations. However, during our review, BSO managers stated there was discussion of separating the repair and maintenance of Fire Rescue vehicles and equipment. Before doing so, we believe BSO managers should analyze the cost ramifications and assess its potential benefits and drawbacks.
- **Reducing fleet size.** As stated previously, BSO has reduced fleet size over time but not as much as reductions in the total number of BSO full-time employees. As a result, there are 165 more equipment per FTE than historically and 267 more equipment per FTE than there were in FY 2006, indicating “fleet creep,” which fleet literature defines as a fleet organization’s tendency to hoard or stockpile older vehicles rather than disposing them in accordance with an established replacement schedule. Eliminating 165 vehicles from its inventory would save $943,140 in operating costs; and may also enable BSO to reduce another fleet FTE staff, realizing even greater savings.

- **Outsourcing major functions.** According to fleet literature, outsourcing reduces fleet management costs generally through enhanced operating efficiencies. Since FY 2003, BSO has outsourced repair and maintenance (R/M) services to a private vendor, First Vehicles, Inc. Our analysis disclosed R/M expenditures declined $1,117,734 (16.7%), from $7.2 million in FY 2006 to $6 million in FY 2012; indicating BSO has been generally effective in controlling R/M costs. However, as of October 2013, BSO managers had not sufficiently evaluated the cost-effectiveness of its R/M services provider. BSO managers had also not assessed whether there are any other major functions that should be outsourced to improve effectiveness and operating efficiency. For example, as of October 2013, BSO managers had not analyzed the cost savings potential of outsourcing fuel management activities, which are currently performed by BSO personnel.

### Acquiring Vehicles at Lowest Possible Cost

Exhibit 23 below depicts the number and total actual annual expenditures for BSO fleet vehicle acquisitions since FY 2006. As shown,

- The number of vehicles acquired has varied considerably, ranging from a low of 112 in FY 2011 to a high of 379 in FY 2006,
- Total annual expenditures have also varied greatly, from a low of $2.6 million in FY 2006 to a high of $8.2 million in FY 2007, and
- For this eight-year period, BSO acquired an average of 253 vehicles annually with an average annual cost totaling $5.7 million

<table>
<thead>
<tr>
<th>Year</th>
<th>Marked Vehicles</th>
<th>Unmarked Vehicles</th>
<th>Annual Cost to Buy Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>$7.8M</td>
<td>174</td>
<td>$7M</td>
</tr>
<tr>
<td>2007</td>
<td>$8.2M</td>
<td>214</td>
<td>$8.2M</td>
</tr>
<tr>
<td>2008</td>
<td>$7M</td>
<td>225</td>
<td>$7M</td>
</tr>
<tr>
<td>2009</td>
<td>$5.8M</td>
<td>182</td>
<td>$5.8M</td>
</tr>
<tr>
<td>2010</td>
<td>$3.3M</td>
<td>64</td>
<td>$3.3M</td>
</tr>
<tr>
<td>2011</td>
<td>$2.6M</td>
<td>70</td>
<td>$2.6M</td>
</tr>
<tr>
<td>2012</td>
<td>$5.4M</td>
<td>98</td>
<td>$5.4M</td>
</tr>
</tbody>
</table>

Exhibit 23  
Number and Cost of BSO Vehicle Purchases by Fiscal Year

Source: BSO’s Fixed Asset Register of Vehicle Additions
BSO’s Increased Use of Piggyback Method in 2013 is Best Practice

According to fleet industry literature, a vehicle’s purchase price is the single largest cost component of fleet operations, easily exceeding expenditures for repairs, maintenance, fuel and all other cost components. To acquire vehicles at the lowest cost possible, industry literature recommends taking advantage of volume purchasing opportunities. Recent fleet studies show that volume purchasing can reduce costs by as much as 20% below retail market prices.

A volume purchasing method that is commonly used by law enforcement agencies is known as a “piggyback,”23 which occurs when multiple agencies with similar needs combine their purchases to attain a volume discount from participating retailers. This method not only offers the greatest volume discount but also reduces each fleet agency’s administrative costs.

Existing BSO procurement policy authorizes the use of several purchasing methods,24 including public solicitations or bids, designation of sole source/brand when the desired equipment is exclusive or specialized, and piggybacking on other government contracts. Procedures specify applicable dollar thresholds for each procurement method.

Although BSO policy and procedures allow for piggyback purchases, this method was used sparingly prior to FY 2013. Beginning in January 2013, however, BSO has used this method more frequently. For example, of the 20425 total vehicles purchased in FY 2012, 187 (91.7%) were acquired through a competitive solicitation or bid process and only 17 (8.3%) were acquired through a Florida Sheriffs Association piggyback contract. Conversely, in FY 2013, 178 (81.7%) of the 218 total vehicles purchased were either through the State of Florida or Florida Sheriffs Association piggyback contracts; the remaining 40 vehicles (18.3%) were purchased through competitive bids (see Exhibit 24 on the next page).

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24 BSO Purchasing Division’s Standard Operating Procedures explicitly permits purchases of goods and services without re-solicitation when they are part of existing contracts with the State of Florida, the U.S. General Services Administration (GSA), the Florida Sheriffs’ Association, governmental Cooperative Groups which have been competitively bid, or other competitive bids/awards by other governmental entities in the State of Florida

25 204 is derived from FY 2012 purchase orders, deviating slightly from 213 recorded in the Fixed Asset Register due to timing of delivery, which takes up to 12 weeks before it can be recorded in the asset inventory
Historical BSO Fleet Cost Savings

According to fleet industry literature, the cost of owning and operating a fleet can be described using several different terms: capital vs. operating costs; fixed vs. variable costs; direct vs. indirect costs; avoidable vs. unavoidable costs; current vs. future costs; and fiscal vs. economic costs. Effective cost containment practices typically include many if not all of these factors.

A major objective of our review is to identify actual cost savings achieved by BSO’s Fleet Management Program. Basically, there are two primary ways for a fleet organization to achieve cost savings: cost deferral, typically associated with capital costs related to purchases of new vehicles, information system, or maintenance facility; and cost elimination, which is generally associated with providing a lower level of service to fleet users or improving service delivery efficiency and economy.

In June 2013, we asked BSO managers to provide us with a written response and sufficient supporting documentation to answer the following question:

“In the past five years, has BSO taken any actions, implemented any initiatives, or adopted any measures that were specifically intended to reduce Fleet Management Program costs?”

In response to our request, BSO managers listed seven specific actions they believed resulted in cost savings for fiscal years 2010 through 2013. However, this response contained incomplete information and insufficient documentation for us to reach the same conclusions. Thus, to provide a fair and accurate assessment of BSO’s cost savings claims, we worked with BSO staff to quantify and document actual cost savings.26

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26 In the context of this report, cost savings refers to any cost reduction achieved through specific means such as paying lower prices for goods and services or avoiding a future cost increase, which is generally referred to in the management literature as a “cost avoidance”
**BSO Actions have Produced Cost Savings and Cost Avoidance in Past Five Years**

We concluded BSO’s efforts have resulted in cost savings and cost avoidance within three major expense categories: repairs and maintenance services; fuel management; and capital outlays. Our analysis of BSO’s actions and corresponding savings or avoidance is presented below by expenditure category.

**Repair and Maintenance Expenditures**

We analyzed actual annual expenditures for repair and maintenance (R/M) services of BSO vehicles over the past five fiscal years. Our analysis, as illustrated in Exhibit 25 below, indicates that

- Annual R/M expenditures increased from the previous fiscal year, for all years except for FY 2010, when costs decreased by $785,008 (12.1%), from $6.5 million in FY 2009 to $5.7 million in FY 2010,
- In FY 2012, actual R/M expenditures increased by $328,297 (5.7%), from $5.7 million in FY 2011 to $6 million in FY 2012, and
- For this five-year period, actual R/M expenditures averaged $6 million annually

**Exhibit 25**

**BSO’s Actual R/M Expenditures by Fiscal Year**

<table>
<thead>
<tr>
<th>Year</th>
<th>R/M Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>$6,288,892</td>
</tr>
<tr>
<td>2009</td>
<td>$6,485,262</td>
</tr>
<tr>
<td>2010</td>
<td>$5,700,254</td>
</tr>
<tr>
<td>2011</td>
<td>$5,713,732</td>
</tr>
<tr>
<td>2012</td>
<td>$6,042,029</td>
</tr>
</tbody>
</table>

*Source: Office of the County Auditor analysis of BSO expenditure data*
BSO’s Actual R/M Costs Generally Parallels Industry Trends for this Period

To determine whether BSO’s actual R/M costs were in line with the rest of the fleet industry, we analyzed a compilation of national fleet statistics\(^27\) of annual R/M costs for this five-year period. Based on our analysis of these published statistics, we found that

- From FY 2008 to FY 2009, R/M costs increased due primarily to more frequent repairs to aging fleets resulting from “widespread deferment” of vehicle replacement,
- For the period of FY 2009-2011, R/M costs remained relatively stable, and
- Industry projections anticipated “3-plus” percent increase in R/M costs for FY 2012

This trend closely matches BSO’s actual fleet R/M expenditures for this five-year period, with the exception of the decline from FY 2009 to FY 2010. Our analysis of R/M expenditures for FY 2010 disclosed that most of the $785,008 cost reduction resulted from actions BSO took.

BSO actions produced $704,273 cost savings in FY 2010

We identified three specific actions BSO took in FY 2010 that accounted for cost savings of $704,273, which is 89.7% of the total cost reduction of $785,008 in FY 2010; these are

- **Eliminating 217 vehicles from its fleet.** As discussed previously, BSO reduced its fleet inventory from 3,174 vehicles in FY 2009 to 2,957 vehicles in FY 2010. We estimate this reduction of 217 vehicles translates to R/M cost savings of $369,907. Our calculation is based on the FY 2009 average R/M cost of $1,705 per vehicle.
- **Purchasing fewer new parts.** Our analysis of R/M service records indicates that BSO’s R/M vendor (First Vehicle Services, Inc.) used 30,600 less parts\(^28\) to perform its services in FY 2010 than in FY 2009. We estimate the 217-vehicle reduction accounted for 13,700 (44.8%) fewer parts, which means the vendor used 16,900 fewer parts for the remaining fleet. At an average cost of $13.87 per part, we estimate a cost savings of $234,283 in FY 2010 from this reduction of 16,900 parts. This parts reduction coincides with a 2010 BSO initiative to re-use mechanical and body parts from vehicles that were to be disposed. While it is plausible that this initiative caused this parts reduction, BSO managers did not provide sufficient evidence to enable us to make a direct link between the two.
- **Negotiating new R/M contract terms.** Effective FY 2010, BSO amended its contract with First Vehicle Services, Inc. (FVS), essentially reducing its hourly labor rate from $54 to $39, and its parts mark-up rate from 40% to 20%, while setting a new fixed annual administrative fee of $851,460. We estimate this reduction in labor and parts mark-up rates resulted in a net cost savings of $100,083 in FY 2010. Our analysis of R/M expenditures in subsequent years concluded this contract amendment provided continuing cost avoidance benefits in fiscal years 2011 and 2012.

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\(^{27}\) Annual R/M cost data published in Automotive Fleet magazine for the period of 2008-2012

\(^{28}\) R/M services often require auto parts such as tires, headlights, and transmissions
Exhibit 26 below illustrates the extent to which each of these three actions contributed to the $785,008 reduction in annual R/M expenditures from FY 2009 to FY 2010.

**Exhibit 26**

**Analysis of R/M Cost Reduction in FY 2010**

<table>
<thead>
<tr>
<th>Cost Reduction category</th>
<th>Cost Savings (in $)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchased Fewer Parts</td>
<td>$234,283</td>
</tr>
<tr>
<td>Reduced Fleet Inventory</td>
<td>$369,907</td>
</tr>
<tr>
<td>Lower contract rates</td>
<td>$100,083</td>
</tr>
<tr>
<td>Other</td>
<td>$80,734</td>
</tr>
<tr>
<td><strong>Total BSO Actions Produced Cost Savings</strong></td>
<td><strong>$704,273</strong></td>
</tr>
</tbody>
</table>

*Source: Office of the County Auditor analysis of BSO FY 2010 R/M expenditure data*

**Another BSO Initiative Produced Nominal Cost Savings but Other Benefits in FY 2013**

During FY 2012, BSO switched from using traditional standard motor oil to fully synthetic, a move we estimate produced a cost savings of $828 in the first eight months of FY 2013. Switching to synthetic oil extended oil change intervals from every three months to every six months, which decreases labor and filter costs by half. However, the cost of synthetic oil is $3.43 per quart higher than standard oil. The net result is a nominal cost savings, but our review found other important benefits are derived from this initiative.

BSO managers told us that despite minimal cost savings, this initiative provides other major benefits. Our review of fleet industry literature corroborates their assertions; these benefits include

- **Increased vehicle availability.** Because vehicles spend less time in the shop, they can spend more time in-service, on the road,\(^{29}\)
- **Improved fuel efficiency.** According to Automotive Fleet, “technological advancements in engine design require these advance types of oil to reduce parasitic draw and increase fuel economy,”\(^ {30}\) and
- **Less oil waste.** A September 2013 BSO analysis projects a decrease of oil usage by approximately 6,000 quarts in FY 2013, which is beneficial to the environment.

\(^{29}\) Automotive Fleet magazine, “Longer Oil Drain Intervals Decrease PM expenses,” November 2011

\(^{30}\) Automotive Fleet magazine, “Fleet Operating Costs Edge up in 2012,” October 2012
Another BSO Initiative Achieved a Cost Avoidance of $457,080 since FY 2010

In FY 2010, BSO negotiated a credit with Ford Motor Company that enabled BSO to obtain paint services without paying for them. This paint credit stemmed from a 2010 recall of white 2006-2008 Ford Crown Victoria models. Instead of repainting older, soon-to-be-replaced vehicles, BSO used the credit to repaint fleet vehicles damaged in accidents, ranging from small jobs such as repainting bumpers to full-vehicle paint jobs. Our review of BSO correspondence with Ford and paint invoices validated a cost avoidance of $457,080 for the period of May 2010 to May 2013.

Exhibit 27 below shows the verified dollar value for this paint credit compared to actual accident repair expenditures by fiscal year.

**Exhibit 27**

**Value of Paint Credit** and Accident Repair Costs by Fiscal Year

Source: Office of the County Auditor Analysis of BSO repair invoices

Fuel Expenditures

We worked with BSO staff to identify any cost savings related to fuel encompassing our review period of fiscal years 2008-2012. Our analysis, as shown in Exhibit 28 on the next page, indicates that annual fuel expenditures

- Declined by $3.1 million (35.5%), from $8.6 million in FY 2008 to $5.5 million in FY 2009,
- Increased by $2 million (36.5%), for the two-year period from $5.5 million in FY 2009 to $7.6 million in FY 2011, and
- Remained relatively stable from FY 2011 to FY 2012, increasing by only $224,330 (3%)

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31Total cost avoidance of $457,080 includes amounts shown plus $52,088 achieved for the period of October 2012 through May 2013; actual FY 2013 expenditures were unavailable at the time of our report’s completion
Exhibit 28
BSO’s Fuel Expenditures by Fiscal Year

As discussed previously, on page 33, annual fuel expenditures are based on price per gallon of fuel and consumption or total yearly gallon usage of fuel. Thus, total annual fuel expenditures fluctuate up or down depending on price paid per gallon and yearly consumption.

This point is best illustrated relative to the 35.5% decline in annual fuel expenditures in FY 2009. While fuel consumption increased by 1% (from 2.6 million to 2.7 million gallons), the price BSO paid per gallon decreased by 36%, from $3.25 to $2.08 per gallon, as shown on page 20.

**BSO Actions Resulted in Lower Fuel Costs**

As addressed on pages 9-14 and 17-20, BSO implemented four best practices that helped it control both fuel consumption and price per gallon during our five-year review period:

1) Reduced fleet size by 8.7%, from 3,170 in FY 2008 to 2,895 in FY 2012;
2) Reduced total vehicle miles driven by 16%, from 33.9 million miles in FY 2008 to 28.5 million miles in FY 2012;
3) Purchased fuel through a cooperative, paying an average of 7.8% lower per gallon prices than retail market pricing; and
4) Employed price-shopping techniques that obtained even lower than retail market per gallon pricing.

These four specific actions enabled BSO to lower annual fuel expenditures than if it had not implemented these best practices. We estimate BSO’s FY 2012 total fuel expenditures would have been $1,012,377 higher had it not implemented the first two best practices mentioned above. We also estimate BSO had a cost avoidance of $608,042 by implementing the latter two best practices.

Our review also validated specific cost reductions from the following BSO initiative:

---

32 Our analysis verified BSO’s purchase of 2.2 million gallons at an average $0.06 per gallons savings for the 17-month period of February 2012 through June 2013, resulting in a cost avoidance of $124,795
• **Fuel reimbursement policy helps offset fuel costs.** In FY 2009, BSO adopted a policy that requires every collective bargaining unit member\(^{33}\) who is assigned a BSO-owned vehicle and commutes outside Broward County limits to reimburse BSO for fuel usage. As specified in the Sheriff’s policy manual, reimbursement amounts range from $40-$55 per biweekly pay period, depending on the applicable zone parameter of the member’s home address. These reimbursements are deducted through each member’s payroll and placed in a fuel reimbursement account. Our review of BSO accounting records validated total reimbursement amounts for the past five fiscal years (see Exhibit 29 below). This practice, which according to fleet literature is “re-emerging in the industry,”\(^{34}\) has enabled BSO to reduce total annual fuel costs by these amounts. In October 2013, BSO managers told us efforts were underway to extend this policy to other collective bargaining units, including supervisory professional employees.

**Exhibit 29**

**Fuel Reimbursement Amount Collected by Fiscal Year**

![Graph showing fuel reimbursement amounts collected by fiscal year. The graph illustrates a steady increase from $289,180 in 2009 to $413,775 in 2010, $380,325 in 2011, and $366,040 in 2012.]

*Source: BSO accounting records*

**Capital Expenditures**

Maintaining a public fleet requires large expenditures of public funds, both capital and operating; capital outlays are needed to purchase vehicles and operating monies are needed to maintain them. Generally, in any given year the cost of purchasing a vehicle is greater than the cost associated with maintaining it. For example, in FY 2012, the average purchase price of a BSO fleet vehicle was $24,500, which is more than four times greater than the average annual cost of $5,697 for repair, maintenance, fuel and all other operating costs.

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\(^{33}\) As of September 5, 2013, this policy applies only to members of the Law Enforcement Deputies/Sergeants bargaining unit

\(^{34}\) Automotive Fleet magazine, “High Fuel Costs Take Fleet into Uncharted Water,” May 2008

35
As discussed previously, on pages 27-29, for the period of FY 2006-2012, BSO purchased an average of 253 vehicles annually with an average annual capital outlay totaling $5.7 million. The number of vehicles purchased each year varied considerably, depending on availability of capital funding and replacement requirements. For example, in FY 2011 BSO purchased 112 vehicles compared to 379 vehicles in FY 2006.

**Average Vehicle Purchase Price increased 16.6% from FY 2008-2012**

For our five-year review period (fiscal years 2008-2012), the average purchase price per vehicle went up 16.6%, from $21,008 in FY 2008 to $24,500 in FY 2012. As shown in Exhibit 30, most of this increase occurred since FY 2010; the average purchase price per vehicle increased by 14.4% between FY 2010 and FY 2012.

**Exhibit 30**

**BSO Average Purchase Price per Vehicle by Fiscal Year**

![Average Purchase Price per Vehicle by Fiscal Year](image)

*Source: BSO Fixed Asset Register*

**Two Primary Factors Caused this Purchase Price Increase**

Our analysis disclosed that this cost increase was primarily attributable to two primary factors: (1) inflation, and (2) purchasing more expensive vehicle models.

- **9.4% inflation between FY 2008-2012.** During our five-year review period, the CPI for new automobiles increased by 9.4%. Because BSO did not purchase comparable vehicle make and models in FY 2008 and FY 2012, we could not verify actual inflation rates. However, based on the reported national CPI, we estimate inflation accounted for $1,975 (57%) of the total average per vehicle price differential of $3,492 between fiscal years 2008 and 2012.

- **Switching to costlier models.** As shown in Exhibit 31, BSO purchased fewer but more expensive vehicles in FY 2012 compared to FY 2008. For example, BSO purchased 141 vehicles in FY 2012 costing more than $24,000 each, compared to 33 such purchases in FY 2008. We also noted a difference in pricing for the single most commonly bought vehicles; as an example, in FY 2008 BSO bought 109 Ford Crown Victoria models at an

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average per unit price of $21,872 compared to 80 Chevrolet Tahoe and Caprice models at an average per unit price of $26,835, a price increase of $4,963. These purchases represented approximately one-third of purchases in their respective years.

Exhibit 31
Actual Cost per Vehicle, FY 2008 and FY 2012

Source: BSO Fixed Asset Register

BSO did not identify any Capital Cost Savings for FY 2008-2012

In June 2013, we requested BSO managers to provide us with a written response and evidence indicating specific cost savings initiatives undertaken during our review period. In response to our request, BSO managers did not identify any cost savings regarding capital expenditures for our review period of FY 2008-2012.

Instead, BSO managers submitted documentation showing capital cost reductions in FY 2013 related to the following three initiatives:

1. Expanding the use of piggyback contracts, as specified by industry best practices,
2. Modifying color specifications for marked vehicles, and
3. Negotiating additional discounts from a Florida Sheriff’s Association contract

These Actions resulted in Cost Avoidance of $168,648 in FY 2013

Our analysis of BSO’s documentation validated a cost avoidance of $168,648 from these three initiatives.

- Using piggyback contracts. As discussed on pages 27-29, in February 2013, BSO began to more frequently use piggyback contracting; a best practice intended to take advantage of volume purchasing opportunities. Two piggyback contracts available to Florida local law enforcement agencies are the State of Florida and Florida Sheriffs Association (FSA). Studies show that piggyback contracts can save local law enforcement agencies up to 20% in capital outlays. Our analysis validated that BSO spent $35,106 less by purchasing 26 vehicles between February and September 2013.
through the State of Florida’s contract than comparable vehicles available through the FSA. In FY 2013, BSO also purchased 152 vehicles through the FSA’s contract, theoretically paying less than competitive bids; but BSO did not quantify these savings as of October 2013.

- **Modifying color specifications.** Prior to March 2013, BSO generally purchased vehicles with a customized paint job to comply with State of Florida standards requiring marked vehicles to be two-tone (forest green and white). Between March and September 2013, BSO purchased 81 solid white vehicles then added decals to meet this standard. BSO managers provided sufficient documentation showing they paid $1,502 less per vehicle due to this specification change, for a total cost reduction of $121,662. In addition, changing from two-tone to solid white may increase these vehicles’ residual value. Industry literature stipulates that public fleet organizations, especially local law enforcement agencies, should avoid paint color specifications that reduce residual value. Because BSO is prohibited from selling two-tone patrol vehicles, it would have to spend money to paint these vehicles, thus increasing overall costs of ownership.

- **Negotiating additional discounts.** BSO negotiated the 2013 FSA contract pricing to obtain further price discounts for newer model vehicles. For example, between March and September 2013, our review of purchase orders verified that BSO received a $165 per vehicle price discount in purchasing 72 model year 2014 vehicles; for a total cost avoidance of $11,880.

**Despite these Actions, Average Purchase Price increased another 3.5% in FY 2013**

Our analysis of FY 2013 capital expenditures indicates the average purchase price went up by 3.5%, from $24,500 in FY 2012 to $25,360 in FY 2013, which is considerably higher than the CPI increase of 0.6% for this same period. This increase is also much higher than the previous four-year historical average annual CPI increase of 2.4%.

The primary reason for this higher-than-inflation increase is that BSO purchased a higher number of more costly vehicles in FY 2013. BSO bought 82 more expensive vehicles in FY 2013 than previously, which averaged $2,139 (8.4%) over the average FY 2013 per vehicle purchase price of $25,360. As an example, BSO purchased 56 more Chevrolet Caprice models in 2013 than in 2012, costing $27,453 each.

**Potential for further Capital Cost reductions in FY 2014**

In FY 2014, BSO managers plan to purchase 80 new marked vehicles. BSO managers told us they do not plan to replace unmarked vehicles, but hope to use recovered monies from their disposals to purchase additional marked vehicles. They indicated the current inventory of marked vehicles is old and they need to replace more than 80 existing marked vehicles.

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36 Section 30.46, *Florida Statutes*
37 *Ibid*
38 BSO Purchasing Department spreadsheet listing FY2013 vehicle purchases
As addressed previously, BSO did not commonly use piggyback contracting to purchase vehicles prior to February 2013. For the 26 (11.9%) of 218 vehicle purchases made in FY 2013 using the State contract, BSO paid an average purchase price of $1,350 less than FSA contract pricing. If BSO were to obtain similar cost savings to purchase 80 new marked vehicles in FY 2014, we estimate it can achieve potential total cost savings of $108,000.

Potential Fleet Cost Reduction Opportunities

Another major objective of our review is to answer the question:

“Are there additional actions BSO can take to further reduce fleet costs?”

To answer this question, we

• Reviewed fleet industry literature to identify alternative practices that BSO could adopt to reduce fleet capital and operating expenditures;
• Examined studies and other information describing alternative practices used by other local law enforcement agencies to control fleet expenditures;
• Analyzed BSO expenditure, performance and other available data related to its current fleet inventory; and
• Worked with BSO managers and staff to obtain a fair and accurate assessment of current practices and to determine the feasibility of implementing alternative practices

We concluded that BSO can potentially achieve estimated cost savings of $5,127,000 by eliminating 165 nonessential vehicles from its current inventory. As of October 2013, BSO had not established the need for these vehicles.

BSO has not implemented Two Major Best Practices to Control Fleet Size

To effectively control fleet size, a key best practice calls for the fleet manager to keep written documentation justifying the need for each fleet vehicle. Specifically, this documentation should include a statement specifying precisely how each vehicle supports the agency’s mission.

As addressed earlier in this report, BSO has only partially implemented this best practice as of September 2013. BSO provided written justification of the need for 1,286 vehicles assigned to law enforcement officers, representing 48.7% of 2,639 total fleet vehicles as of September 2013.

As of September 2013, BSO managers did not provide written justification of the need for the remaining 1,353 (51.3%) of fleet vehicles. According to industry literature, most non-law enforcement passenger vehicles are not critical to a law enforcement agency’s mission; thus these vehicles should not constitute a big share of the entire fleet. Exhibit 32 on the next page shows the breakdown of BSO’s total fleet vehicles of 2,639 in September 2013 whose need was justified or not.

39 This number excludes 32 vehicles assigned to civil deputies because they are non-sworn personnel
Exhibit 32
BSO did not justify the need for half of 2,639 fleet vehicles as of September 2013

Another key best practice to effectively control fleet size is to conduct a rightsizing study every five years or less. A rightsizing study is a “snapshot” of a fleet’s size and composition necessary to make one-time adjustments, typically reductions, in the number and type of vehicles in the fleet. According to recent studies, a thorough analysis of vehicle utilization can reduce fleet size by as much as 20 percent. As of October 2013, BSO had not conducted any rightsizing analysis.

BSO managers stated they had recently initiated rightsizing efforts. However, they had not provided us with any specific evidence showing actual fleet size reductions had been made as a direct result of these efforts as of October 2013.

This is disconcerting in light of our analysis indicating the probability of “fleet creep,” which industry literature defines as a fleet organization’s tendency to stockpile or hoard used vehicles rather than disposing them in accordance with established replacement schedules. Our analysis, as discussed on page 9 of this report, shows BSO’s inventory

- Spiked upward during the past two fiscal years (2012 and 2013);
- Contains 2,951 vehicles, which is 165 more vehicles per FTE in September 2013 than its six-year historical average of 2,786 (fiscal years 2006 and 2011); and
- Has 267 more vehicles per FTE in September 2013 than it did in September 2006, indicating the existence of fleet creep and a need for reduction
BSO can save $5.1 million in FY 2014 by eliminating and not replacing 165 vehicles

Our analysis indicates significant potential cost savings are possible by eliminating and not replacing unjustified, unnecessary fleet vehicles. If BSO were to dispose 165 fleet vehicles\(^{40}\) in FY 2014, and not replace them, we estimate it could save $5.1 million:

- $4.2 million in capital outlays based on the average purchase price per vehicle of $25,360 in FY 2013,\(^{41}\) and
- $943,140 in operating expenditures based on BSO’s FY 2014 budgeted average operating cost per vehicle of $5,716

If BSO were to operate at its FY 2006 ratio of 54.6%, we estimate potential total cost savings of $8.3 million is possible if BSO eliminated and not replaced 267 vehicles (see Table below).

<table>
<thead>
<tr>
<th></th>
<th>By Eliminating and Not Replacing 165 Vehicles</th>
<th>By Eliminating and Not Replacing 267 Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital Outlays</td>
<td>$4,184,000</td>
<td>$6,771,000</td>
</tr>
<tr>
<td>Operating Expenditures</td>
<td>$943,000</td>
<td>$1,526,000</td>
</tr>
<tr>
<td><strong>TOTAL COST SAVINGS</strong></td>
<td><strong>$5,127,000</strong></td>
<td><strong>$8,297,000</strong></td>
</tr>
</tbody>
</table>

*Source: Office of the County Auditor estimate based on BSO data*

Eliminating without Replacing 165 Vehicles is Reasonable

To determine the feasibility of disposing and not replacing 165 vehicles, we analyzed certain factors that are typically used by fleet managers in making replacement decisions, such as age, mileage and utilization. We found that eliminating without replacing 165 vehicles is feasible given the following factors:

- **BSO has not sufficiently justified most vehicles.** A key fleet industry best practice is that fleet managers should keep written justification showing how each fleet vehicle specifically supports the agency’s mission. As of September 2013, BSO’s fleet manager submitted written documentation of the need for 1,286 vehicles, or 48.7% of its inventory; meaning there was no documentation for 1,353 vehicles (51.3%). Fleet literature also states that “most non-law enforcement passenger vehicles are not critical to a law enforcement agency’s mission.” In July 2013, a Fleet User Group Committee

\(^{40}\) BSO would presumably recover some monies by selling these 165 vehicles, we estimate potential recovery amount of $1,416 per vehicle, totaling $233,640 in FY 2014

\(^{41}\) This is a conservative estimate because presumably new car purchase prices will be higher this year than they were last year
was formed to review vehicle usage in order to “right-size” the fleet; however, as of October 2013 no actual reductions had been made as a direct result of these efforts.

- **“Fleet creep” has occurred in recent years.** Fleet literature states that periodic and systematic analysis of fleet size and composition is essential to avoid “fleet creep,” which refers to a fleet organization’s tendency to hoard or stockpile older vehicles rather than disposing of them according to an established replacement schedule. According to industry literature, keeping more vehicles than is absolutely necessary to meet the agency’s mission is unnecessarily costly. As addressed earlier, our analysis found the existence of fleet creep. As an example, in the past two fiscal years BSO purchased a net of 154 more vehicles than it disposed; buying 431 vehicles and disposing of 277 vehicles in fiscal years 2012 and 2013.

- **No written vehicle replacement policy.** Another key best practice is ensuring an effective written replacement policy is adopted and implemented, which should include procedures to help agency managers effectively allocate capital funds for optimal vehicle replacement. As of October 2013, BSO did not have a written replacement policy. Instead, BSO managers use informal replacement standards of 5-year or 100,000 miles for marked vehicles and 7-year or 120,000 miles for unmarked vehicles.

- **Many vehicles exceed State of Florida standards.** We analyzed BSO’s current inventory against the age and mileage standards adopted by the State of Florida. As of October 2013, the State of Florida’s fleet replacement standards are 8-year or 80,000 miles for pursuit vehicles and 12-year or 120,000 miles for standard vehicles. We found that of the 574 current “unjustified” marked vehicles, 442 (77%) exceeded the State’s standard for either age or mileage; and 111 (14.2%) of 779 current unmarked vehicles exceeded the State’s standard for age or mileage.

- **BSO can eliminate 165 vehicles without adverse consequences.** We conclude these factors are compelling enough for BSO to eliminate without replacing 165 vehicles; and that doing so would not appear to adversely impact operations.

**There are Practical Options to Reduce Existing Fleet Inventory by 165 Vehicles**

We examined alternative fleet management practices that will enable BSO to reduce its current inventory; and we identified the following two practical approaches:

- **Limiting number of assigned vehicles.** As discussed previously, fleet industry best practices indicate that most non-law enforcement passenger vehicles are not critical to the agency’s mission, thus should make up a relatively small portion of the entire fleet. Our analysis disclosed BSO’s fleet as of July 2013 consisted of 1,325 non-law enforcement passenger vehicles; of which 182 (13.7%) were assigned to full-time, unsworn BSO employees. We conservatively estimate there are 86 FTE employees who are currently assigned a BSO-owned vehicle but more than likely not in mission-critical positions. For example, these 86 employees include the Director of Internal Audit, Employee Development Specialist, and Purchasing Director. A cheaper alternative to assigning these employees a BSO-owned vehicle would be a monthly...
allowance or mileage reimbursement.\textsuperscript{44} We estimate these alternatives would cost BSO $467,960 and $263,836, respectively.\textsuperscript{45}

- **Restructuring motor pool to better meet needs.** Another key best practice encourages the use of a motor pool as a more cost-effective alternative to individually assigning fleet vehicles. Vehicle utilization is a major indicator of a motor pool’s effectiveness. Fleet industry literature specifies that motor pool vehicles should be utilized optimally to ensure peak effectiveness and operating efficiency. The State of Florida’s motor pool has a utilization standard of 10,000 annual miles; motor pool vehicles that are driven fewer miles are flagged for replacement. As of October 2013, BSO did not track or evaluate the utilization of motor pool vehicles. Our analysis of motor pool vehicle utilization data for FY 2012 indicates that 828 (77.3\%) of 1,071 motor pool vehicles had an annual utilization rate below the State of Florida’s standard. We conclude BSO managers should evaluate the need for the current size and composition of its motor pool.

\textsuperscript{44} A car allowance is an amount paid to an employee for the business use of the employee’s car; mileage reimbursement is when an employee is paid for business miles driven, in accordance with IRS rules.

\textsuperscript{45} Our estimate is based on a monthly allowance of $453.45 (which is the amount Deputies/Sergeants receive in accordance with collective bargaining agreement dated October 1, 2012-September 30, 2015) and a mileage reimbursement of $0.445 per mile (which is the mileage allowance given to State of Florida employees in accordance with Section 112.061, Florida Statutes)
## Assignment of BSO Fleet Vehicles, as of July 1, 2013

<table>
<thead>
<tr>
<th>CONTRACTED ENTITY</th>
<th>Fire Rescue</th>
<th>Law Enforcement</th>
<th>Total</th>
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</thead>
<tbody>
<tr>
<td><strong>CONTRACTED ENTITY</strong></td>
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<td></td>
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<tr>
<td>District 1 – West Park</td>
<td>8</td>
<td>53</td>
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<tr>
<td>District 2 – Dania Beach</td>
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<td>109</td>
<td>131</td>
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<tr>
<td>District 3 – Airport</td>
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<td>91</td>
<td>137</td>
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<tr>
<td>District 4 – Lauderdale Lakes</td>
<td>11</td>
<td>57</td>
<td>68</td>
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<tr>
<td>District 6 – Courthouse Security</td>
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<td>23</td>
<td>23</td>
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<tr>
<td>District 6 – Courthouse Deputies</td>
<td>--</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>District 7 – Tamarac</td>
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<td>125</td>
<td>125</td>
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<tr>
<td>District 8 – Weston</td>
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<td>113</td>
<td>139</td>
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<tr>
<td>District 9 – Southwest Ranches</td>
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<td>20</td>
<td>20</td>
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<tr>
<td>District 10 – Deerfield Beach</td>
<td>46</td>
<td>186</td>
<td>232</td>
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<td>District 11 – Pompano Beach</td>
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<td>279</td>
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<td>District 12 – Oakland Park</td>
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<td>District 13 – Lauderdale by the Sea</td>
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<td>District 15 – North Lauderdale</td>
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<td>District 16 – Cooper City</td>
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<td>85</td>
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<td>District 17 – Parkland</td>
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<td>49</td>
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<tr>
<td>Area 14 – Port Everglades</td>
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<td>65</td>
<td>97</td>
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<tr>
<td>Broward College</td>
<td>--</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td><strong>Contracted Entity Subtotals</strong></td>
<td><strong>204 (66.7%)</strong></td>
<td><strong>1,498 (50.3%)</strong></td>
<td><strong>1,702 (51.8%)</strong></td>
</tr>
<tr>
<td><strong>BSO DIVISION</strong></td>
<td></td>
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</tr>
<tr>
<td>Administration</td>
<td>--</td>
<td>475</td>
<td>475</td>
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<tr>
<td>Regional Services</td>
<td>96</td>
<td>947</td>
<td>1,043</td>
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<tr>
<td>Unincorporated</td>
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<td>67</td>
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<tr>
<td><strong>BSO Division Subtotals</strong></td>
<td><strong>102 (33.4%)</strong></td>
<td><strong>1,483 (49.7%)</strong></td>
<td><strong>1,585 (48.2%)</strong></td>
</tr>
<tr>
<td><strong>Grand Totals</strong></td>
<td><strong>306</strong></td>
<td><strong>2,981</strong></td>
<td><strong>3,287</strong></td>
</tr>
</tbody>
</table>

**Source:** FASTER Report #3114
## Appendix B

Analysis of BSO’s Implementation of Fleet Industry Best Practices

<table>
<thead>
<tr>
<th>Best Practice Strategy</th>
<th>Auditor’s Assessment of BSO’s Efforts</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>REDUCING FLEET SIZE OVER TIME</strong></td>
<td></td>
</tr>
<tr>
<td>Conduct a rightsizing study every five years or less</td>
<td>NOT IMPLEMENTED</td>
</tr>
<tr>
<td>Fleet industry literature indicates</td>
<td>As of September 2013, BSO had not conducted any rightsizing analysis.</td>
</tr>
<tr>
<td>• A rightsizing study is a “snapshot” to make necessary one-time adjustments to a fleet’s size and composition, and</td>
<td>BSO managers stated they had recently initiated fleet rightsizing efforts; however, as of September 2013, they had not provided us with any specific evidence showing actual reductions in fleet vehicles that had been made as a direct result of these efforts.</td>
</tr>
<tr>
<td>• A thorough analysis of vehicle utilization can reduce fleet size by as much as 20 percent.</td>
<td></td>
</tr>
<tr>
<td>Maintain written justification of the need for each fleet vehicle</td>
<td>PARTIALLY IMPLEMENTED</td>
</tr>
<tr>
<td>According to fleet industry literature</td>
<td>BSO has written justification of the need for 1,286 patrol cars, representing 48.7% of total fleet vehicles as of September 2013.</td>
</tr>
<tr>
<td>• Fleet managers should keep written justification showing how each vehicle supports the agency’s mission, and</td>
<td>However, as of September 2013, BSO managers had not provided us with sufficient evidence to justify the need for the remaining vehicles in its fleet.</td>
</tr>
<tr>
<td>• Most non-law enforcement passenger vehicles are not critical to a law enforcement agency’s mission.</td>
<td></td>
</tr>
<tr>
<td>Use motor pools, rentals, leased and personal vehicles to the optimum extent possible</td>
<td>NOT IMPLEMENTED</td>
</tr>
<tr>
<td>Fleet industry literature encourages using these methods to control costs because they can be more cost-effective than individually assigning vehicles.</td>
<td>Our review identified potential cost savings opportunities by reducing the number of motor pool vehicles and increasing the use of personal vehicles in lieu of BSO-owned vehicles (see page 43).</td>
</tr>
<tr>
<td>Although BSO has recently begun efforts to reduce fleet size, including motor pool vehicles, no actual reductions had been made as of September 2013.</td>
<td></td>
</tr>
<tr>
<td>Use “assignment rotation” method to maximize each vehicle’s value</td>
<td>NOT IMPLEMENTED</td>
</tr>
<tr>
<td>Fleet industry literature recommends individuals with high mileage vehicles to exchange them with individuals with low mileage vehicles to get the maximum value from each vehicle’s useful life.</td>
<td>As of September 2013, BSO did not have a written “assignment rotation” policy.</td>
</tr>
<tr>
<td></td>
<td>However, BSO managers stated that a major purpose of a newly created Fleet User Group Committee is to discuss and implement ways to enhance the fleet and improve vehicle utilization.</td>
</tr>
<tr>
<td><strong>REDUCING VEHICLE MILES TRAVELED OVER TIME</strong></td>
<td></td>
</tr>
<tr>
<td>Reduce home-to-work travel</td>
<td>IMPLEMENTED</td>
</tr>
<tr>
<td>Fleet industry literature shows</td>
<td>In FY 2010 BSO instituted a new 12-hour shift for DLE sworn personnel that essentially reduced the number of work days for each pay period from 10 to 7.</td>
</tr>
<tr>
<td>• Reducing total vehicle miles driven is a one of the best ways to control overall fleet costs, and</td>
<td>We estimate this policy change reduced home-to-work travel</td>
</tr>
<tr>
<td>• Reducing home-to-work travel is one of the</td>
<td></td>
</tr>
</tbody>
</table>
easiest ways to achieve the goal of reducing overall fleet costs.

by 228,000 trips annually for 1,460 DLE employees.

We note, however, that while overall fleet vehicle miles driven decreased by 7.5% from FY 2010 to FY 2011 (as shown in Exhibit 9 on page 14), it increased by 1.9% from FY 2011 to FY 2012, indicating a need for BSO to examine possible reasons and to identify ways to effectively manage it in the future.

<table>
<thead>
<tr>
<th>IMPROVING FLEET FUEL EFFICIENCY OVER TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Use more fuel efficient cars</strong></td>
</tr>
<tr>
<td>Industry literature indicates public fleet organizations are increasingly using more fuel efficient vehicles because they</td>
</tr>
<tr>
<td>• Use less fuel, which is the single highest expense of vehicle ownership,</td>
</tr>
<tr>
<td>• May be cheaper to purchase, and</td>
</tr>
<tr>
<td>• Are more eco-friendly than higher MPG cars.</td>
</tr>
<tr>
<td><strong>PARTIALLY IMPLEMENTED</strong></td>
</tr>
<tr>
<td>In recent years, BSO added more fuel efficient cars to its fleet. However, as of September 2013, BSO had not measured the specific impact the addition of these cars have had in improving overall fleet fuel efficiency. Furthermore, BSO has not analyzed the potential to add more of these cars to its existing fleet.</td>
</tr>
</tbody>
</table>

| **Reduce “idling” as much as is feasible** |
| According to industry literature |
| • All fleet organizations experience a certain level of wasteful activities, |
| • Fuel waste appears to be a fairly common factor affecting most fleets, |
| • One of the most wasteful of all fleet activities related to fuel usage is “unnecessary idling” and |
| • An effective “anti-idling” policy can reduce overall fleet fuel costs by as much as 3%. |
| **PARTIALLY IMPLEMENTED** |
| In March 2008, BSO implemented an “anti-idling” policy that requires “engines on all BSO vehicles, except canine units, to be turned off when unoccupied for extended periods of time.” In September 2013, BSO managers provided evidence of examining the “anti-idling” policies of other jurisdictions in an effort to modify BSO’s existing policy, as appropriate. However, as of September 2013, BSO had not provided us with sufficient evidence showing (a) enforcement of this policy, and (b) analysis of the impact this policy has had in improving overall fleet fuel efficiency since March 2008. |

| **Ensure drivers receive proper training** |
| According to industry literature |
| • Poor driving habits contribute to inefficiencies, which result in higher operating costs. For example, driving on under-inflated tires is not only dangerous but wastes fuel dollars as well, |
| • Studies show that keeping tires properly inflated increases fuel efficiency by 3 percent, and |
| • To ensure proper driving habits, drivers should receive appropriate and periodic training. |
| **IMPLEMENTED** |
| Currently BSO’s training curriculum for new recruits includes proper driving techniques. Also, existing BSO Policy Manual establishes proper vehicle operation policy and procedures and requires new hires to read it and sign a form indicating their intent to comply with it. |

| **Ensure proper vehicle maintenance** |
| Industry literature indicates |
| • An effective scheduled maintenance program will hold down overall maintenance costs, |
| • Proper preventive maintenance (PM) is crucial to avoiding costly major repairs, and |
| • Properly tracking PM and repairs are crucial to maintaining an efficient and effective fleet |
| **PARTIALLY IMPLEMENTED** |
| BSO managers demonstrated evidence of implementing a system to monitor compliance with established, standard PM intervals for all fleet vehicles. However, they did not provide us with sufficient evidence showing this system’s effectiveness, such as performance data for these measures: (a) PM schedule adherence rate, (b) Work order turnaround rate, and (c) Average PM and repair backlog. |
### REDUCING FUEL COSTS OVER TIME

<table>
<thead>
<tr>
<th>Use bulk or volume buying power</th>
<th>IMPLEMENTED</th>
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<tbody>
<tr>
<td>According to industry literature</td>
<td>BSO demonstrated evidence of using a bulk fuel purchasing cooperative to buy fuel as economically as possible (see pages 19-20 and 33-40 of this report).</td>
</tr>
<tr>
<td>• Fuel is by far the largest variable cost associated with owning and operating a public fleet, and</td>
<td></td>
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<tr>
<td>• Purchasing fuel in larger quantities tends to reduce its unit cost, or per gallon price.</td>
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<tr>
<th>Use fuel “price-shopping” methods</th>
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<tbody>
<tr>
<td>Industry literature cites opportunities to obtain better unit pricing through “price-shopping” techniques.</td>
<td>BSO demonstrated evidence of using a “price-shopping” methodology to buy fuel at lower than cooperative pricing when possible (see pages 19-20 and 33-40).</td>
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<tr>
<th>Use low-speed electric vehicles</th>
<th>PARTIALLY IMPLEMENTED</th>
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<tbody>
<tr>
<td>Industry literature illustrates the ecological and economic benefits of operating alternative energy transportation equipment such as solar electric hybrid low-speed vehicles.</td>
<td>As of September 2013, BSO’s fleet contained 14 low-speed electric vehicles, representing 0.5% of its total fleet. However, BSO managers did not provide us with sufficient evidence indicating whether there is a potential for more of these types of vehicles to replace existing fleet vehicles. An expressed goal of the newly created Fleet User Group Committee is to reduce the use of full-size patrol vehicles when possible by increasing the use of these types of vehicles.</td>
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### LOWERING VEHICLE LIFECYCLE COSTS OVER TIME

<table>
<thead>
<tr>
<th>Use lifecycle cost analysis to determine optimum vehicle replacement intervals</th>
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<tbody>
<tr>
<td>According to industry literature</td>
<td>BSO had not conducted any lifecycle cost analyses.</td>
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<td>• When a car is new, capital costs are high and operating costs are low; but as a car ages, capital costs diminish as repair and maintenance costs increase,</td>
<td>In July 2013, BSO managers drafted a 5-year strategic plan containing a vehicle replacement schedule that will “eventually get to a goal of” replacing marked vehicles at 5-year/100,000 mile intervals and unmarked vehicles at 7-year/120,000 mile intervals.</td>
</tr>
<tr>
<td>• From an economic standpoint, it makes sense to replace cars when their operating costs begin to outweigh their capital costs,</td>
<td>However, BSO managers did not provide sufficient evidence showing these replacement standards were based on any lifecycle cost analysis.</td>
</tr>
<tr>
<td>• Lifecycle cost analysis quantifies the point at which it is more costly to keep operating a car than to replace it, and</td>
<td></td>
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<td>• If replacement is deferred, the agency can expect to see operating costs go up.</td>
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<tr>
<th>Ensure depreciation is included in the lifecycle cost analysis</th>
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<tr>
<td>According to industry literature</td>
<td>BSO had not calculated depreciation, which is a critical component of lifecycle costing, for any of its existing fleet vehicles.</td>
</tr>
<tr>
<td>• Lifecycle cost, commonly referred to as “cradle-to-grave” costs, is the total cost of ownership over an asset’s life,</td>
<td>However, BSO managers stated that the automated fleet management system (FASTER) has the capacity to track</td>
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</table>
Depreciation, an accounting term used to measure the decline in an asset’s value spread over its economic life, must be part of any lifecycle cost analysis, Several methods exist to calculate depreciation, but the most common and easiest is the straight-line method, and Not all public entities consider depreciation in their lifecycle costing, but they should.

Ensure an effective written replacement policy is adopted and implemented  
Industry literature indicates
- An effective fleet policy should include written vehicle replacement procedures,
- These procedures should include all the factors involved in lifecycle costing, and
- Effective procedures enable a fleet manager to proactively notify agency management to allocate funds in its capital budget for optimal vehicle replacement.

Ensure maximum vehicle residual value  
Industry literature indicates
- Fleet vehicles are depreciating assets, so it may be difficult to optimize residual value,
- Protecting each vehicle’s resale value should be a crucial part of an effective fleet management strategy, and
- Numerous techniques should be used to maximize each vehicle’s resale value, including choosing vehicle models and colors that are popular with consumers, carefully maintaining each vehicle’s condition, broadening sales outlets, and selling at the right time.

Ensure end-users are involved in developing written specifications  
According to industry literature
- Vehicle acquisition procedures should address public procurement rules and regulations, cost-efficient practices, and conducting a needs assessment to determine minimum equipment requirements,
- Written specifications should clearly define functional requirements, and
- Input from individuals who will use the vehicle for its intended purposes is critical for fleet managers to develop good specifications.

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<td>BSO demonstrated evidence of involving end-users in developing written specifications. For example, in FY 2012, BSO’s main methods to solicit end-user participation in developing specifications for new vehicles are the following: (a) conducting ride-a-longs and test drives, and (b) using a survey questionnaire form.</td>
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<td>As shown in Exhibit 18 on page 22 of this report, the average recovery amount per disposed vehicle has generally declined since FY 2010. A plausible explanation for this decline is the “cannibalization” of used vehicles in recent years. As addressed on pages 31-32, BSO installs functional parts from used vehicles that are to be replaced into newer vehicles to avoid the cost of buying new parts. While this practice may reduce repair and maintenance costs, it tends to diminish a vehicle’s resale value due to these disposed vehicles having missing parts. As of September 2013, BSO managers had not quantified the effects of this practice—which was begun in FY 2010—on its overall vehicle residual value.</td>
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<tr>
<td>As of September 2013, BSO did not have written vehicle replacement policy and procedures.</td>
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## REDUCING VEHICLE MAINTENANCE COSTS OVER TIME

### Ensure PMs are performed routinely and in a timely manner
As previously discussed, an effective scheduled preventive maintenance (PM) program helps to hold costs down to the extent possible. According to industry literature
- Cars that do not receive proper PMs tend to have more unscheduled repairs, higher lifetime ownership costs, and reduced resale value, and
- Performing routine and timely PMs reduces downtime and many related administrative problems.

**PARTIALLY IMPLEMENTED**
As discussed above, BSO provided evidence of establishing a viable structure to ensure PMs are done routinely and timely. This process includes (a) reminder stickers placed in vehicles after each PM, (b) automatic electronic monthly reminder, and (c) district managers notifying drivers of scheduled PMs.

A key indicator of PM timeliness is fleet availability. As noted on page 24 of this report, our analysis of BSO’s fleet availability shows it has met or exceeded its target of 95% for this measure in each of the past six fiscal years, indicating effectiveness. However, we conclude BSO has not sufficiently evaluated the effectiveness and operating efficiency of its PM program.

### Ensure written procedures clearly define driver expectations relative to vehicle care and operation
According to industry literature
- Drivers play a key role in ensuring their assigned vehicle operates at peak conditions, and
- To ensure drivers know how to assess their assigned vehicle’s condition, they need clear instructions on recognizing safety concerns such as brakes, tires, and steering, and specific directions on when their vehicles need repairs and/or maintenance.

**IMPLEMENTED**
BSO demonstrated evidence of creating a structure to effectively communicate instructions to drivers in order to ensure fleet vehicles operate at peak conditions, particularly through its training curriculum and Sheriff’s Policy Manual.

### Ensure labor and parts mark-up are at lowest possible rates
According to industry literature
- Total repair and maintenance costs have escalated steadily in recent years,
- Two major factors affecting future growth are increases in hourly labor rates and parts, and
- Curbing labor and parts mark-up rates are crucial to controlling rising repair and maintenance costs.

**IMPLEMENTED**
As discussed on pages 31-32 of this report, BSO’s contract amendment with First Vehicles, Inc., resulted in lower net annual costs for repair and maintenance services in each of the past three fiscal years.

### Maintain a timely and reliable Management Information System
Industry literature indicates
- Timely, complete and accurate vehicle maintenance records are a key tool to make effective fleet management decisions.

**PARTIALLY IMPLEMENTED**
BSO uses a management information system (FASTER) that is “best of breed” in the fleet industry.

However, BSO managers stated they have not used certain FASTER modules to evaluate performance and facilitate decision-making processes. For example, as previously addressed, they have not used information tracked in FASTER to analyze lifecycle costing including depreciation.

In September 2013, BSO managers told us they plan to better utilize system-generated reports and use them to evaluate...
performance and facilitate decision-making.

### LOWERING PROGRAM OVERHEAD COSTS OVER TIME

**Consolidate operations as optimally as possible**

According to industry literature
- Consolidating vehicle maintenance operations can improve operating efficiency, and
- Consolidating administrative functions and support services such as finance, accounting, purchasing, etc., can reduce personnel costs and help achieve economies of scale to control overall fleet costs.

**PARTIALLY IMPLEMENTED**

BSO Fleet Management operations, including repair and maintenance services, are mostly consolidated.

However, BSO managers stated that repair and maintenance of Fire Rescue vehicles and equipment, which was merged with DLE over 10 years ago, may be separated again in the future due to existing limitations of current garage facilities. Before doing this, BSO managers should analyze the cost ramifications as well as its potential benefits and drawbacks.

**Reduce fleet size over time**

According to industry literature
- Periodic and systematic analysis of fleet size and composition is essential to avoid “fleet creep,” which refers to a fleet organization’s tendency to hoard or stockpile older vehicles rather than disposing of them according to an established replacement schedule, and
- Keeping more fleet vehicles than is absolutely needed to meet the agency’s mission is unnecessarily costly.

**PARTIALLY IMPLEMENTED**

As shown in Exhibit 4 on page 9, the DLE fleet was reduced by 344 vehicles between FY 2007 (its peak year at 3,230 total vehicles) and FY 2011 (its lowest level with a total of 2,886 vehicles).

Since FY 2011, however, the DLE fleet added 65 vehicles, even though FTE positions decreased by 135 during the same period; indicating “fleet creep” may be occurring.

As discussed previously, a newly created Fleet User Group Committee has been charged with reviewing vehicle usage and identifying opportunities to further reduce fleet size.

**Outsource major functions as optimally as possible**

According to industry literature
- Outsourcing reduces fleet management costs by
  - Eliminating institutional impediments to efficient operations,
  - Taking advantage of specialization to achieve economies of scale,
  - Relying on outside expertise to enhance productivity, and
  - Mitigating the impact of price volatility, which is especially pertinent to fuel purchases.

**PARTIALLY IMPLEMENTED**

Since 2003, BSO has outsourced repair and maintenance (R/M) services to a private vendor, First Vehicles, Inc. As shown in Exhibit 19 on page 23, actual total R/M expenditures declined by 16.7% since FY 2006, primarily due to (a) having fewer vehicles to maintain, and (b) amended labor and parts markup rates (see page 31).

As discussed on pages 39-43 of this report, our preliminary analysis indicates there are potential cost reduction opportunities through outsourcing the fuel management function. As of September 2013, BSO managers had not analyzed the cost savings potential of outsourcing fuel management activities. They stated their belief that keeping an in-house capability was necessary to ensure fuel was available in the event of a hurricane or other emergency.

### ACQUIRING VEHICLES AT LOWEST COST POSSIBLE

**Purchase fleet vehicles at the lowest possible price**

Industry literature indicates
- A vehicle’s purchase price is the single largest cost component of fleet operations, easily exceeding expenditures for repairs, maintenance, and

**PARTIALLY IMPLEMENTED**

Prior to FY 2013, BSO only sparingly used piggyback contracts. For example, in FY 2012, only 17 (8.3%) of 204 total vehicle purchases were bought through a Florida Sheriff’s Association...
fuel, and all other costs,

- Taking advantage of volume purchasing can save as much as 20% off retail market prices,
- A volume purchasing method that is commonly used by public entities is known as a “piggyback,” and
- Piggybacking generally achieves the greatest volume discount and can help reduce the using agency’s administrative costs.

However, as addressed on page 35-39 of this report, BSO can potentially achieve further cost savings of $108,000 in FY 2014 by optimizing its use of the State of Florida piggyback contract. Our comparative analysis of State of Florida and Florida Sheriff Association contracts for comparable vehicles indicated an average purchase price of $1,350 lower for the State of Florida contract than the Florida Sheriff Association contract. Between March and September 2013, BSO purchased 26 (11.9%) of the 228 total vehicles from the State contract. We conclude BSO should optimize the use of both piggyback contracts available to it.

Source: Office of the County Auditor analysis