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Audit of Equipment (Fleet) Services Management and Operations

Clark County Auditor's Office
Report #13-02

Clark County
Road
Maintenance

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Audit Services

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EXECUTIVE SUMMARY

This report builds on performance audits completed by the Auditor's Office in 2004 and 2012 focused on the light vehicle fleet. It includes a closer look at key processes and fleet management efforts since 2004, focusing on best practices, utilization, and effectiveness.

As of 2011, Clark County operates 395 light vehicles of various types and uses. The county's guidance for managing and operating the fleet is based on state law and a draft internal fleet management policy. As identified in the previous audit, this policy was developed in 2005 and updated by an advisory board in 2008 but has been largely unused as a management tool.

The Fleet Manager between 2004 and 2010 was largely unsuccessful in influencing organizations to limit vehicle types purchased or to focus on more fuel efficient, smaller vehicles that would more efficiently meet mission requirements. With the hiring of a new Fleet Manager in 2011, positive change was noted in many areas.

Conclusions

- Recent progress has been made to improve management practices within the fleet. There are an increased number of best practices in use, especially those related to day-to-day operations.
- The fleet remains underutilized. Some steps are being taken to implement updated practices and policies focused on improving utilization.
- There is not clear senior sponsorship for county-level utilization or sustainability goals that are intended to apply to the entire fleet and improve overall efficiency. Functional oversight from senior management in the form of strategic guidance and tools to help control fleet composition and size could be effective in accelerating change.

"For the fleet to change their current operating procedures requires a clear strategic direction and demonstrated senior management interest.

Lacking such involvement, it is not likely the Fleet Manager will be successful in making the fundamental changes needed to significantly improve fleet operations."

Summary

While there are over sixteen recommendations within this report, three key actions are essential to support the change needed to make significant improvement.

- The Public Works Director and Fleet Manager need to identify the strategic direction that the Board of County Commissioners envisions for the county fleet operations, identifying specific goals, targets and direction from the board.
- The Public Works Director and Fleet Manager need to clarify the level to which the Board wishes to directly assist change by putting into place tools to shape the fleet over a specified time period.
- The Fleet Manager should update and circulate the Fleet Management Policy to integrate both the Board direction and tools they support to begin reshaping the fleet composition.

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I. Introduction

Planning, providing and maintaining a light vehicle fleet for internal use is a function provided by many local governments. Moving employees to support the services provided in a cost effective and reliable manner is the primary purpose of a municipal fleet. With fleet size, vehicle types and utilization as the focus, many governments are finding ways to increase efficiency and provide improved service at a lower cost.

This report builds on performance audits completed by the Auditor's Office in 2004 and 2012. It includes a closer look at key processes and fleet management efforts since 2004, focusing on best practices, utilization, and effectiveness.

Objectives, Scope, and Methodology

This audit focused on three major areas:

- (1) Recommendations and best practices adopted since 2004;
- (2) How fully the fleet is utilized; and
- (3) The fleet's efficiency and cost effectiveness.

The audit looked primarily at fleet management and fleet cost data between 2003 and 2011. The initial audit work in 2004 used 2003 data; for simplicity this will be consistently referred to as 2004 work. Also for the purpose of this audit, light fleet vehicles are defined as standard two wheel drive sedans, vans, two and four wheel drive Sport Utility Vehicles (SUVs) and light trucks under a gross vehicle weight of 8,500 pounds that are owned or operated and maintained by Clark County.

We performed research into best practices and industry standards related to fleet management. We reviewed policy and procedures, discussed process with Fleet Services, and examined data related to vehicle operations and maintenance to assess process against guidance (state and local) and best practice.

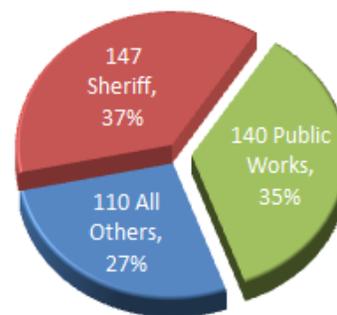
We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives.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

Audit work was performed between October 2012 and May 2013. See appendix A for additional details on the objectives, scope, and methodology for this audit.

Background

The Equipment Services Department's (also known as Fleet Services) mission is "To provide and maintain vehicles and equipment for maximum operational efficiency and safe working condition, in a cost effective manner that meets the service needs of user departments at a cost equal to below [sic] other providers and insure the availability of vehicles and equipment to user departments." Fleet Services is a function within Clark County's Public Works department.

Clark County has one of the larger municipal light vehicle fleets in the state, with 395 vehicles of various types and uses. At 147 vehicles (127 take home), the Sheriff's Office represents slightly more than a third (37.2 percent) of the users. A nearly equal number (140 or 35.4 percent) are used by Public Works. All other county functions account for 108 vehicles or 27.3 percent of the fleet.



The fleet is managed from a consolidated motor pool in Vancouver, Washington. Most maintenance is done at the consolidated facility, although minor maintenance is occasionally conducted at remote transportation sites.

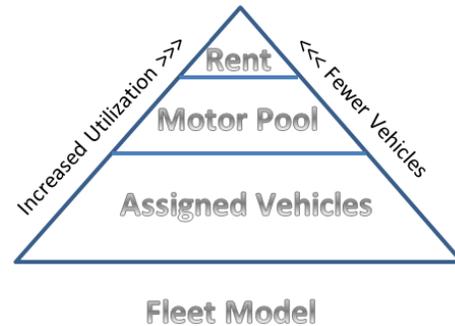
The county accounts for the purchase of fleet vehicles in the Equipment Rental and Revolving Fund (ER&R) as required by Washington State law. The purpose of the ER&R fund is to maintain and provide for the orderly acquisition, replacement and maintenance of vehicles for all county funds. To fund ER&R users are required to pay the full capital cost for a new vehicle when it is initially delivered. Users then make annual payments into the fund for the projected replacement cost of the vehicle at the end of its useful life, usually eight to fifteen years.

Fleet Management Theory

A light fleet can be managed professionally in a number of different ways, but small to medium size local governments tend to "buy and hold" vehicles due to their uncertain budget processes and the variety of services needed. They buy vehicles and maintain them until the end of their programmed useful life.

While this can be cost effective if the vehicle is held long enough and maintenance costs are reasonable, it is relatively inflexible when near term change is needed. This purchase strategy is most effective when combined with a **three-tier fleet management approach** to meeting transportation needs.

1. At the base level, **assigned vehicles** are used for long term ownership to provide a core of specialized vehicles and high use non-specialized vehicles that meet known minimum capabilities. They are kept long enough to recover the cost of ownership while maintaining high availability. This is often the largest category of investment and consists of “tool trucks”, plumber vans, police vehicles, or others that have been modified from common use.
2. When the workload requires additional capacity, **motor pool** vehicles are scheduled. The motor pool is a small mixture of highly utilized vehicles of various sizes and capabilities.
3. **The third tier includes external sources of vehicles** for short term specialty needs, long mileage day trips, and seasonal leases. This includes both rental and employee reimbursement for use of their private vehicle.



Generally, Clark County’s vehicles fit into this model – there are 380 assigned vehicles, 237 of which are permanently assigned for day use. Of the daily use vehicles, 28 of them are “**rollover**” or fully depreciated end of life vehicles that are retained for extended periods of time after they have been replaced and identified for disposal.

The county’s motor pool has eleven vehicles that include seven hybrids, one medium sedan, two vans and one four wheel drive vehicle. The county’s Public Health Department is the principle user of the rental option.

Unless otherwise stated, “the fleet” represents all vehicles Fleet Management is responsible to maintain and operate, including all assigned vehicles and the motor pool. When discussion is focused on a portion of the fleet, it will be identified as the “assigned fleet” “take-home vehicle fleet” or “motor pool fleet” as appropriate.

Fleet Service’s Role

Fleet Services operates much like a leasing agency. They purchase and deliver vehicles, maintain and provide parking at the Operations Center facility, provide fuel under a contract, and provide advice on replacements. When needed, Fleet Services provides temporary replacement vehicles and arranges other transportation modes as requested. However, unlike a leasing agency, Fleet Services does not have the decision-making authority over purchases to ensure the most cost effective vehicle *configuration* (equipment installed) or that the best vehicle *composition* (most effective vehicles for the requirement) are being obtained.

Fleet Services also serves as a rental agency with the motor pool vehicles, where they do have the decision making authority. They modify the quantity and type of vehicles available in the motor pool to make sure customer needs for ready transportation are balanced against the cost of maintaining extra vehicles. Ideally, the fleet size and composition adjusts over time as demand changes.

The Fleet is geographically dispersed

Most of the fleet being served is not at the consolidated motor pool service location, but rather is dispersed for various reasons. This dispersal increases the coordination needed to keep vehicles operational and is one reason the Fleet Manager requires vehicles to be serviced at least once per year regardless of mileage to remain safe. Vehicle dispersal can be at one of several locations:

- “Satellite” motor pools exist to serve specific buildings or areas, such as the Public Service Center.
- Others are parked overnight and weekends at remote locations such as fire stations and Sheriff’s precincts. These vehicles are picked up by the assigned employees and driven to a remote place of duty or a field location.
- About one-third of the vehicles (132 of them) are take home vehicles assigned to the Sheriff’s Office and Fire Marshal’s Office, for 24-hour official use by the employee, who is either a law enforcement officer or a public safety officer. These vehicles are parked at the employee’s place of residence when not in official use.

Fleet Operations Issues Identified in 2004

The 2004 performance audit identified multiple issues with fleet operations including:

- Unreliable and inaccurate data in the existing fleet management system
- Too many vehicles retained after they were retired and replaced
- Performance measures and reports to aid management not in use
- Too many four wheel drive vehicles in the fleet
- Low utilization of both assigned and motor pool vehicles

Fleet audit work began in 2012 using 2011 as the most current full year of data. All conclusions are based on the 2011 dataset and analysis of practices between 2004 and 2011 unless otherwise noted. Progress since 2011 has been included in separate notes to reflect current operations.

This report will discuss the work in three sections:

- Areas where improvements are evident since 2011
- Areas where progress is not as obvious with significant opportunities
- Strategic direction and senior management opportunities

II. Improvements are visible, 2012-2013

It is important to identify what Fleet Services has accomplished since the 2004 fleet management audit. Initially, the data issues were addressed. With the arrival of a new Fleet Manager in 2011, there have been noticeable changes in how Fleet operates, and one of the most important changes being made is a pending update to the Fleet Policy that integrates many of the changes identified in audits and internal management efforts.

Operations & Maintenance Improvements

Fleet has better data, and is using it more effectively

FASTER, the new fleet management system put into place in 2006, provided a reliable source of descriptive and performance fleet data. The Fleet Manager generates performance reports and shares them periodically with customer organizations. This 2004 recommendation has been addressed and continual improvements are being made.

Progress Update 2013: *Since the audit began, a number of changes have been undertaken by Fleet Services to improve the utility of FASTER.*

- *The warranty tracking module was activated and populated with current vehicle warranty information. This will improve the county's ability to use vehicle warranties effectively.*
- *Parts warranties are now tracked to recover premature failure warranties on expensive parts and major assemblies.*
- *Beginning with the 2006 model year, capital contribution tracking of the fleet and their remaining payments (recovery balance) into the ER&R fund is now being entered and tracked within FASTER, providing better tracking of both vehicle value and payment requirements.*

Fuel and mileage

Fuel accountability has improved; the automated fuel dispensing and management system is integrated with FASTER which has improved efficiency and reduced errors. Controls are in place with electronic fuel keys that are assigned to a single vehicle. Monthly and quarterly reports provide information on variances, which are available for management to review.

Unlike efficiency improvements in the fuel dispensing system, **fuel efficiency** of the fleet vehicles did not improve between 2004 and 2011 and actually got worse. While a number of mid-sized vehicles were purchased by the Sheriff's Office, most vehicles were replaced throughout the fleet with the same size or larger vehicle during this time. A review of vehicles purchased beginning the next cycle after the audit was complete demonstrated that actual vehicle fuel efficiency dropped from 12.8 miles per gallon (MPG) to 11.8 MPG. At the same time, the hybrid vehicles in the fleet were demonstrating fuel efficiency of over 42 MPG.

Comparison of vehicles purchased before and after the 2004 audit

Count	Group	Miles	MPG
185	Vehicles pre 2004	1,338,132	12.4
203	Vehicles 2004-11	2,213,488	11.8
9	Hybrids	74,551	42.7

Hybrid data is based on lifetime mileage of all hybrids regardless of group.

Fleet Services is now focusing on multiple ways to improve efficiency

Fleet management has improved operations in multiple ways since 2011. Some of the improvements include:

- Hired a professional fleet manager in late 2010 with a history of success.
- Reduced fleet size by 25 vehicles compared to 2004.
- Retired nearly all rollover vehicles, only 28 remain.
- Purchased additional higher efficiency vehicles.
- Installed new Global Positioning Satellite (GPS) hardware and software to track maintenance, driving time, idle time and to help with safety, routing, and maintenance.
- Increased maintenance intervals from 4,000 miles to 5,000 miles or annually.

Vehicles Are Improving

Vehicles from all major manufacturers have increased in quality since 2004. In some cases warranties to emphasize improved reliability have risen to greater than 100,000 miles for major components. The use of increasingly sophisticated on board computer monitoring and diagnostic systems have shown traditional maintenance intervals are more conservative than needed for the same reliability outcome. Recommended maintenance intervals have gone from 4,000 miles to as many as 15,000 miles.

At the same time, the efficiency of every category of vehicle being produced has improved, some dramatically. It is not difficult to find high efficiency vehicles with U.S. Environmental Protection Agency (EPA) ratings of over 30 MPG in nearly every category including subcompact, compact, and mid-size sedans as well as small and mid-size SUVs. Light trucks with better than 20 MPG are common. (See www.fueleconomy.gov)

Vehicles with better reliability can be seen within the fleet when comparing vehicles purchased before 2004 with those purchased after 2004. New vehicles show a 33 percent decrease in maintenance cost per mile while maintaining essentially the same maintenance schedules from 2004-2011.

Comparison of vehicles purchased before and after the 2004 audit

Count	Group	Miles	Maintenance cost per mi
185	Vehicles pre 2004	1,338,132	\$0.27
203	Vehicles 2004-11	2,213,488	\$0.18

The same data shows the mix of larger vehicles purchased after 2004 resulted in a lower overall fleet fuel efficiency.

III. Under-utilization of the fleet, 2004-2011

While progress has been made in the last two years to improve the fleet, there remain issues with fleet utilization that have not been addressed effectively.

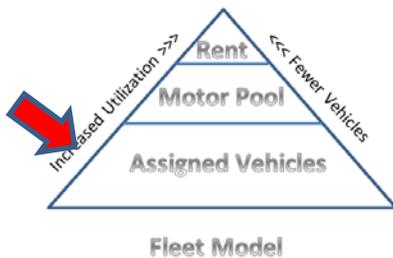
Annual Minimum Mileage Standards and Guidelines

A best practice for utilization goals is to establish a minimum number of miles per year that an assigned vehicle must travel to justify permanent assignment. If annual mileage falls below that minimum, it is reevaluated to determine if a different deployment would be more effective.

The annual minimum mileage standard varies with the jurisdiction. Some examples are below:

<i>Annual Miles per Vehicle</i>	<i>Example Organizations</i>
0 to 4,999 (Common Practice)	Many organizations do not professionally manage their fleets to benchmarked standards
5,000-9,999 (Leading Practice) RECOMMENDED	King County, WA; Multnomah County, OR; Sacramento, CA; Peoria, Ill; Draft 2013 Clark County, WA standard
10,000+ (Best Practice)	Texas, Illinois as well as other states Federal standard

Vehicle Utilization Is Unchanged From 2004



Assigned vehicles represent the base tier of good fleet management; they are the largest group of vehicles. This tier is a mix of ready to use, mission specific vehicles that are often modified to custom uses or experience exceptionally high utilization. They are kept under the immediate control of county employees. Organizations applying best practices might expect 65 to 75 percent of their assigned fleet to meet their utilization standards.

Thirty seven percent (146 vehicles) of the county’s light fleet does not drive at least 6,000 miles per year.

Fleets often have special use vehicles that may not meet mileage standards but provide other essential functions. To sample these special uses, we chose ten percent of the fleet with lowest mileage utilization and examined how they were being used.

<i>Owner</i>	<i>Vehicles in lowest 10%</i>	<i>Owner's Fleet Size</i>	<i>Percent of their fleet in bottom 10%</i>
Assessor	8	13	62 percent
General Services	8	31	26 percent
Public Works	15	140	11 percent
Sheriff	5	147	3 percent

There are varying reasons why vehicles did not generate significant mileage. Some of the key reasons are:

- a. The **Assessor's Office** employees often drive to a neighborhood, park the car, and do multiple property analysis while primarily in the vehicle. In addition, they go to a neighborhood and move from parcel to parcel so most driving is stop and go at very low speeds. This use is not year-round, but both seasonal and on a schedule. The Assessor's Office may benefit from seasonal rental contracts.
- b. **General Services** and a portion of the **Public Works** vehicles consist of light trucks that are used as "mobile tool boxes" that move relatively short distances between facilities or jobs, carrying supplies and specialty tools. Some of these vehicles could benefit from extended vehicle lifetimes or alternatively could be replaced with much lighter, smaller vehicles such as Ford Transit Connect vans.
- c. In addition to their "mobile tool boxes," **Public Works** owns nineteen low use rollover vehicles that have been retained after they were replaced as end of life to expand fleet flexibility. Twelve of these are four wheel drive vehicles, and all of them are well past their programmed disposal date.
- d. **The Sheriff's Office** has five light vehicles in the bottom ten percent, most of which are specialty vehicles that are only used when emergencies require them. Examples include back-up patrol and K-9 vehicles, search & rescue, and specialty vans. These low-use vehicles may benefit from having their estimated lifetimes extended.

The Fleet Manager does not have the authority to control the fleet configuration or vehicles within other organizations or under separately elected officials; he only provides advice and recommendations. Additionally, there are no service contracts in place that would define standards, expectations and limitations of both customers and service personnel.

Utilization of take home vehicles is low

There are two take home vehicle utilization measures to be met:

- a. **The percent of use that is dedicated to the commute to and from the workplace.** The best practice standard is 30 percent or less of the total mileage is commute use. At 35 percent the Sheriff's Office essentially matches this best practice; the Fire Marshal's Office meets the goal as well.

- b. **The total annual mileage, minus commuting, is 6,000 miles per year.** The Sheriff's Office meets this standard with 66 percent of its total fleet, and the Fire Marshal's Office meets this goal with all of its fleet.

The Sheriff's Office overall fleet utilization is higher than the rest of the county's assigned fleet. However, between forty two and forty four vehicles in the Sheriff's Office fleet do not meet at least one of the two standards. Thirty-five percent of their fleet or 42 vehicles do not meet the minimum mileage requirement.

The Sheriff's Office fleet has a variety of missions with vehicle use very different between them. The largest group use is Patrol. The deputies essentially live out of their vehicle as a mobile office for their entire 12 hour shift. Other groups and positions have varying degrees of "in vehicle" time and differing shifts, but none are required to consistently operate out of the vehicle as completely as Patrol deputies. With over ninety percent utilization in both categories, Patrol has the highest utilization within the Sheriff's Office,

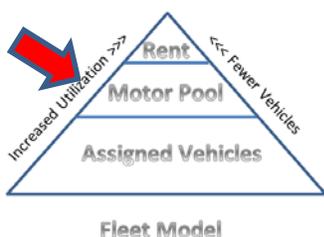
There are similarities between the Sheriff's Office and the Fire Marshal's Office and their utilization of emergency response take home vehicles. The vehicles that respond to emergency call-outs and spend most of their time in the "field" in both organizations have high utilization.

The remaining Fire Marshal's vehicles are day-use, assigned vehicles. The Fire Marshal Office has five take home vehicles assigned to investigators based on the potential they could be called out for fire investigations at any time while off duty. One official is "on call" at all times, and is the primary person to be called back to work if needed. It is not uncommon to have multiple fires requiring a response, or to have more than one investigator at a single incident.

The Fire Marshal Office call outs are not as a "first responder" emergency response. However, the earlier investigators are present at a fire scene the better their chances of establishing the cause, preserving evidence at the scene and interviewing witnesses before they leave the area.

It is common to have a justification process or utilization test applied to requests for non-law enforcement take home vehicles. There is not currently a utilization test applied to the Fire Marshal Office vehicles in Clark County to determine if all assigned take home vehicles are appropriate.

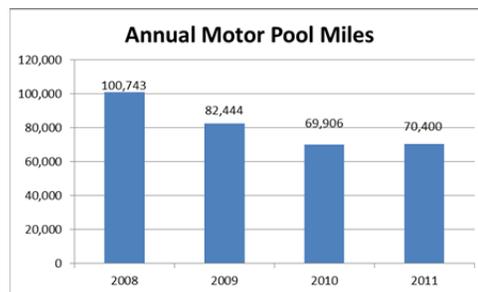
Utilization of Motor Pool Is Lower Than In 2004, and It Is Decreasing



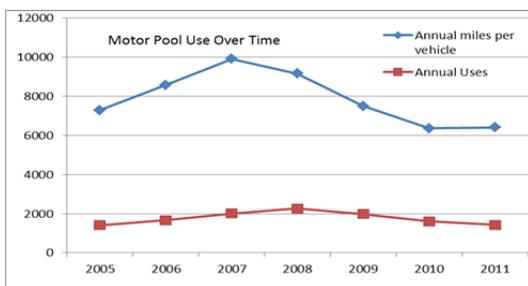
Seven of the eleven or sixty four percent of the motor pool vehicles met their minimum mileage goal. In the second tier of our model, the motor pool provides a core of highly utilized, common use vehicles for internal "rental." This represents a flexible internal group of vehicles that are known to be available and are conveniently located.

Because they are common vehicles and generally unmodified, it is easier to “flex” the size of the motor pool as trends in use change. Organizations applying best practices might expect 70 to 85 percent of their motor pool fleet to meet their utilization standards.

As a rental fleet, utilization is measured in two main ways: annual mileage and number of rentals or annual uses per year. The best practice is that 80 percent of the available days of rental are used each year. The Fleet Manager has an informal target of 70 percent utilization.



Demand for motor pool rental services have trended down since 2007, and the number of miles used has decreased to a seven year low. Yet individually, many of the vehicles are getting good utilization. Individually, all eight of the motor pool sedans have averaged between 7,000 and 10,000 miles per year for the past four years. During the same time, the three non-sedan vehicles in the motor pool averaged 3,500 to 4,500 miles per year.



A third measure of utilization for motor pool fleets is the percent of possible rental days actually used, or “vehicle day utilizations.” Best practice is above 80 percent utilizations.” Best practice is above 80 percent utilization. The motor pool averaged 50 percent utilization in 2011, essentially the same as in 2005.

Operating cost per mile varies

We wanted to determine if there were significant operating and maintenance cost per mile differences between pooled, assigned day use, and assigned take home vehicles for similar vehicles over time.

Comparisons were made with a variety of vehicle types with the same basic configuration across multiple organizations. Vehicles compared were from a variety of deployment methods, and used ten years of maintenance and operations data.

Type	Historical cost per mile		
	Maintenance	Fuel	Combined
Mid-size Hybrids	\$0.14	\$0.05	\$0.19
Large Sedans	\$0.15	\$0.17	\$0.32
Two wheel drive SUV	\$0.19	\$0.28	\$0.47

Operating costs are higher than needed

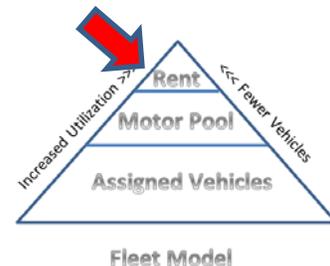
- Maintenance and operation costs for assigned vehicles vary widely.
 - Heavy idling and constant driving at low speeds drives increased maintenance and operating costs for Sheriff Patrol vehicles.
- Hybrid vehicles, all but one of which are assigned to the motor pool, cost less over their life compared to the non-hybrid light vehicle fleet based on long term data. This includes the initial purchase cost through the state contract.
- Assigned vehicles (non-take home) cost less per work-mile than take home vehicles due to the extra commuting mileage.
- Because the fleet consists primarily of large sedans, there is no significant difference between the large sedan historical operating cost and the average sedan operating cost.

Rollover vehicles impact maintenance staffing

Staffing in the maintenance division follows a leading practice staffing model and is driven primarily by the number of vehicles. The presence of extra rollover vehicles requires staffing to a higher level.

Utilization of other transportation options is inconsistent

The final tier of the fleet model is external rental vehicles. Since we only use them when needed, they do not have overhead costs related to under-utilization, and can be very inexpensive compared to ownership. They are also “100 percent” utilized since staff only rents as needed. “Rental” applies to not only conventional agency rental, but also to reimbursing an employee for the use of their own vehicle when appropriate.



We found that county staff do not regularly use alternative transportation options such as external rental or vehicle reimbursement even when they are more efficient.

A comparison of external rental sedans (Enterprise) versus motor pool and private vehicle reimbursement show rentals are more cost effective for day trips over about eighty minutes in length.

Comparison of one-day trip costs by transportation option:

Trip Length in Miles>	Cost /mi	miles				
		20	50	80	100	250
Enterprise (mid sedan) rental	varies	\$34.72	\$38.92	\$43.12	\$45.92	\$66.92
Motor Pool sedan (mid hybrid)	\$0.56	\$11.20	\$28.00	\$44.80	\$56.00	\$140.00
Private vehicle reimbursement	\$0.565	\$11.30	\$28.25	\$45.20	\$56.50	\$141.25

Observations:

- As long as there is sufficient existing motor pool capacity, employee reimbursement and motor pool costs are about equal and are the most cost effective answer up to about 50 miles of total day trip distance.
- At 80 miles (45 minutes each direction for a round trip) all three methods are about the same cost.
- For any distance over 80 miles, a rental vehicle is the most cost effective answer. In some organizations, there may be other internal control reasons for choosing rental vehicles for shorter trips.

Rental vehicles are available through the Washington State contract with Enterprise for daily use, and there are discounts for longer term rentals. In 2011 there were a total of 206 rental days for 31,898 miles at a cost of \$0.24 per mile. Based on 2011 usage Enterprise rentals cost less than the current motor pool vehicles and less than most assigned vehicles to operate.

IV. Strategic Direction of the Fleet is Unclear

The Fleet Manager has direct control over the motor pool, significant influence over Public Works vehicles, and decreasing levels of influence over vehicles belonging to other organizations in the county. This demonstrated lack of authority has been one reason there has been no change in the assigned fleet composition in nearly ten years.

With vehicles under multiple organizations, the advisory role of Fleet Manager is effective during times of plentiful resources, but less so when times are more difficult.

Fleet Composition Did Not Improve

In examining the 2011 data, the composition of the fleet did not change appreciably since 2004. Composition in this case refers to the diversification of the fleet into smaller, higher efficiency vehicles. Before 2004, all hybrids purchased except one were added to the motor pool only. Between 2004, and 2010 there were no purchases of hybrids, compact or sub-compact vehicles. The county only bought large sedans, SUVs and trucks for the assigned vehicle fleet until 2011 when two 4x4 hybrids were purchased. This resulted in maintaining the same percent of four wheel drive vehicles in the fleet for over eight years.

The Fleet should be smaller

Changes in the work environment for Clark County should have led to noticeable reductions in the fleet size between 2004 and 2011.

1. The 2004 fleet management audit recommended disposing of under-utilized vehicles, including 171 rollover vehicles.
2. In 2003-2004, many county services were consolidated into the newly constructed Public Services Building. The location on the new Clark County "campus" with many direct service providers at a single location should have increased the opportunities to operate without vehicles or at least to pool some requirements.
3. Since 2004 the county has improved citizens' ability to conduct business online, over the telephone, or through the mail. Some services provided to the public now can be done without employees going to the field or customers visiting county business locations.
4. ZipCar® and other immediate transportation options for irregular, short term use have been introduced to the area.
5. Favorable contract rates are available for rental from Enterprise on the state contract.
6. A significant mileage reimbursement rate is available to employees. In 2011 it was set at \$0.555 per mile; in 2013 it is \$0.565 per mile for employees to use their own vehicle.

Missed Opportunities

Between 2004 and 2011, there have been a number of missed opportunities for change with Clark County's fleet. Some examples include:

- Improvements in vehicle reliability were not integrated into maintenance practices. Manufacturers in some cases more than doubled the interval between required maintenance and improved warranties on vehicles, major assemblies and parts. The county's maintenance interval stayed at 4,000 miles. Note that this is a common issue in the Pacific Northwest. Many local municipal fleets have not moved beyond the common practice of fixed length maintenance intervals, most of which are between 3,000 and 5,000 miles.
- Small vehicles with improved ergonomics or performance were not rented for testing, and no compact or subcompact vehicles were added to the assigned vehicle fleet.
- Hybrid technology was not expanded within the fleet. There was no departmental interest by users to pay the extra "up front" capital cost, although our maintenance and operations history has shown that this cost was recovered within the vehicle lifetime. Hybrids have proven to be more cost effective than conventional vehicles over the extended vehicle lifetime.
- Rental vehicle use was mostly limited to a single organization, the Public Health department. Although the Fleet Manager developed a rental cost comparison calculator, it was not widely distributed or available to users.
- Employee mileage reimbursement use was not encouraged by the county. In its current form, there is no simple way to quantify accurately how many employees are using employee mileage reimbursement, how many reimbursable miles they are driving, or what the specific dates of use are.

The Oversight Board Was Ineffective

In 2004, the Public Works Director established an organization to provide help controlling the fleet size and composition. The Fleet Management Review Board (FMRB), developed draft policy but was not given authority to provide oversight.

We evaluated the actions of the FMRB since 2004 and found it had effectively developed draft policies within the confines of its charter but had not been empowered to provide active management or decision authority as an oversight board. Consequently, it was ineffective as a regulating body and ceased to function between 2010 and 2011. In the board's absence, the Fleet Manager and Public Works director developed effective review and approval procedures.

Strategic Direction Is Needed

Strategic direction in the form of defined goals, targets and timeframes for those elements of fleet management that will address the missed opportunities, low utilization and fleet composition would move the fleet to greater efficiencies. Setting targets for fuel efficiency – rates of 30 MPG – in a stated timeframe – e.g., by 2018 – is one example of strategic direction.

Some of the goals needed to develop an improved Fleet Policy have been identified in other documents, while other goals and targets have yet to be established. A summary of the locations of key fleet related guidance are in the following chart.

Strategic direction can be provided in the form of board-approved policies, where policies and procedures contain well defined and documented processes. These processes should include procedures to deal with exceptions as well as address the needed changes to the standards.

Another way to achieve a stated strategic direction would be to have moratoriums established around vehicle size or types (with appropriate sunsets). This could be accomplished through the budget process, wherein the Board of County Commissioners (BOCC) would approve vehicle expenditures that align with their guidance and reiterate the goals set.

Analysis of management goals identified in various policy documents

Management goals that address:	Sustainability Report	Draft Fleet Policy	Strategic Plan 2013	Remarks (reference to plan or policy)
Overall fleet efficiency goals	√			Overall reduction in fuel usage
Miles per gallon goals				Not mentioned
Fleet size goals				Not mentioned
Reduce two wheel drive vehicles	√	√		
Rental use state contract		√		
Mileage reimbursement option				Not mentioned
Minimum utilization mileage		√		
Alternative to minimum mileage		√		
Vehicle useful life		√		
Determining end of life		√		
BOCC support for Policy			√	BOCC support by Dec 2013 (OT#25)
Benchmark against peers			√	Benchmark (ongoing effort) (OE "H")
Long term sustainability goals			√	Establish idle reduction standards in 20133 (OT#9)
Improve data for customers			√	Dashboard (OT#10) PM Alert system (OT#24) by Dec 2013

Note: "OT" and "OE" refer to strategic project tracking numbers

a. 2011 Clark County Sustainability Report on the county web site:

<http://www.clark.wa.gov/environment/sustainability/policies.html>

b. 2013-2014 Public Works Strategic Plan is on the county web site:

http://www.clark.wa.gov/publicworks/about/strategic_plan.html

V. Recommendations

For the fleet to change their current operating procedures requires a clear strategic direction and demonstrated senior management interest.

Lacking such involvement, it is not likely the Fleet Manager will be successful in making the fundamental changes needed to significantly improve fleet operations.

Provide Strategic Direction

Establish County-level Goals and Report Progress

We recommend the Public Works Director develop county-wide fleet performance goals based on Board guidance. Draft goals should be presented to the BOCC in work session ensure they are the right measures of success. Final goals should be tracked and reported on the county's web page and in an annual work session. Suggested goals could include:

- **Fleet Fuel Efficiency:**
 - This can further be tracked by organization or vehicle type.
 - Overall fleet fuel average MPG compared to past
 - Fleet MPG by major organization compared to past
 - Average EPA fuel efficiency of vehicles purchased during the year

- **Fleet Effectiveness:**
 - Fleet size and change by year
 - Number and percent of vehicles meeting the 6,000 mile goal
 - Number and percent change in
 - Subcompact and compact vehicles
 - Vehicles with minimum EPA 25 MPG
 - Four wheel drive vehicles
 - Rollover or retained vehicles owned

- **Sustainability:**
 - Number and percent of vehicles that are hybrid or use alternative fuel
 - Overall gasoline consumption reduced from previous year

Improve Oversight and Controls

In lieu of the ineffective Fleet Management Review Board, **we recommend** the county continue to use the moderately effective ad hoc Fleet Manager to Public Works Director review process established in 2010 to provide fleet purchase decision oversight.

Work With the Board to Update Fleet Management Policy

We recommend the draft Fleet Policy be completed before the end of 2013 and include goals, measures of success and guidance related to fuel economy,

vehicle uses and size, and overall sustainability. Replacement criteria and purchase limitations as defined in the previous audit should also be included.

The Fleet Policy should be presented to and discussed with the BOCC for their support, integrating the goals and targets identified in the Clark County Sustainability Plan as well as the 2013 Public Works Strategic Plan. The fleet policy update should also address purchasing decision recommendations from the 2012 fleet audit.

We recommend that the Fleet Manager continue to work with senior management to update the Fleet Policy using tools at their disposal to support the efforts.

- BOCC directed actions could support staff efforts to achieve fleet goals. Examples might include specified limitations on vehicle purchases or ownership for a set period of time to help tailor the fleet composition. Some examples might include:
 - No purchase of full size sedans or SUVs - only purchase compact or subcompact for four years, and/or
 - Only purchase vehicles with EPA rated 25 MPG or higher
 - No purchase of four wheel drive unless rated EPA 30 MPG or higher
 - Replacement of full size four wheel drive trucks and SUVs allowed with compact two wheel drive vehicles
 - No purchase of general use trucks over 3/4 ton capacity
 - Vehicle rentals for single passenger use limited to compact or subcompact
 - No limit on short term rental of 4 wheel drive vehicles
- BOCC support for efficiency, effectiveness and sustainability goals as noted

Progress Update 2013:

- *In 2013 Public Works published an updated “Strategic Plan” of action items with some goal dates. Fleet Services is working on a draft Fleet Policy that addresses the areas identified.*
- *The new draft Fleet Policy includes a minimum use standard of 6,000 miles and provides an alternate standard for low mileage vehicles based on days utilized per year. Tracking of actual use will primarily be by GPS. Policy is scheduled for completion and discussion with the BOCC in fall, 2013.*

Diversify Fleet Options

Improve Assigned Fleet Vehicle Mix

We recommend the Fleet Manager purchase smaller, more efficient two wheel drive vehicles where they can fulfill the mission. Standards should be established around number of passengers, daily distance, total miles driven, fuel requirements and other relevant factors.

Alternative vehicle types such as compact panel vans, subcompact vehicles and similar departures from common government vehicles should be explored. Logs and GPS should be used to confirm long-term requirements for four wheel drive vehicles. This is a reinforcement of recommendations from the 2012 audit of vehicle purchasing, operations and disposal.

We recommend that information gathered over the past decade about lifetime cost of operation for county-owned hybrids versus conventional vehicles be shared and emphasized with internal customers. The lack of enthusiasm for mid-size hybrid sedans may be partially due to a lack of comparative information.

Progress Update 2013: *The Fleet Manager has met with some success beginning in 2011 in his efforts to reduce fleet vehicle size and introduce more high fuel efficiency vehicles.*

- In 2011 Public Works Engineering replaced two, four wheel drive SUVs with hybrid two wheel drive SUVs and two large SUVs with club cab trucks
- In 2012, three mid-size Impalas were ordered to replace full size sedans and a V6 powered Caprice was ordered to replace a Crown Victoria
- All trucks purchased since 2012 have Compressed Natural Gas option installed

We recommend the Fleet Manager expand the use of diverse transportation options.

- Match purchase and rental vehicle size and type to type of driving expected
- Use rentals for long distance day trips where they are most cost effective
- Use extended rentals to meet seasonal requirement
- Encourage employee reimbursement where it is cost effective

Reduce Fleet Size

Reduce Assigned Fleet

We recommend that the Fleet Manager, working with other county vehicle users, improve assigned vehicle utilization by retiring chronically underused vehicles. Replacement vehicles should follow the standard adopted by Washington State that requires new or replacement light vehicles purchased to exceed the EPA standard of 30 MPG, either as hybrids or high fuel efficiency vehicles.

Progress Update 2013:

- *Fleet utilization standards are expected to be updated and brought before the Board by the end of 2013 as part of a comprehensive update to Fleet Policy.*
- *The Assessor's Office is testing the use of seasonal rental vehicles through Enterprise. First trial of rental was completed in April, 2013 and the program is expected to expand before the end of 2013.*

Assess Take Home Fleet

Assigned vehicles outside of patrol have more difficulty meeting utilization standards; between 42 and 44 vehicles outside of patrol do not meet minimum mileage, percent commute, or both standards.

We suggest the Sheriff's Office consider possible day use assigned or pooled vehicles which under the following three circumstances could result in better utilization and lower costs without compromising mission effectiveness:

- For positions with over 40 percent of their annual mileage for commuting; or
- For positions that consistently use their vehicles for less than 4,000 annual non-commuting miles; or
- For positions with exceptionally low likelihood and no recent history of being required to provide an off-duty emergency response as part of their regular duties.

Progress Update 2013: *Discussion with Sheriff's Office officials indicates that such analysis and evaluation is being planned.*

We recommend Clark County determine if a utilization standard for non-emergency take home vehicles should be applied to Fire Marshal vehicles. If so, the best local practice we found was by King County, Washington. King County defines minimum call back justification at 12 calls per quarter per individual (after duty) or 48 calls per year to maintain authorization for a take home vehicle. This is a best practice.

Reduce Motor Pool Size

We commend the Fleet Manager for making the motor pool a model sustainable fleet, using 64 percent hybrid vehicles.

We recommend that the motor pool be reduced by two or three low-usage non-sedan vehicles and continue to model a highly sustainable rental model with high fuel efficiency and improved utilization.

Progress Update 2013: *Fleet Services recently sold the two vans, which will act to increase the overall efficiency of the motor pool.*

Eliminate All Rollover Vehicles

We commend the Public Works Director and Fleet Manager for their efforts to reduce the number of rollover vehicles over time.

We recommend that the Fleet Manager continue to reduce the number of rollover vehicles in the fleet, and that going forward all should be disposed of within six months of being retired.

Progress Update 2013: *Before the end of 2013, the Fleet Manager plans to dispose of all rollover vehicles that are more than six months past retirement.*

Management Opportunities

Encourage Alternative Transportation Options

We recommend Fleet Manager and the Public Works Director work with other organizations within the county to encourage expansion of the employee mileage

reimbursement program. Current employment contracts and job descriptions do not require employees to make their vehicles available, and existing management reports can't track the program progress, limiting this as an option,

When employee reimbursement is not an option, **we recommend** the county emphasize using the Enterprise rental contracts for trips that require more than 80 miles per day. **We also recommend** the Fleet Manager put a copy of a trip comparison calculator on the county's intranet page to help users understand how the relative cost of each transportation mode varies with the distance and time.

Adjust Maintenance Procedures

We recommend Fleet Services consider **extending mileage based maintenance intervals** to those recommended by the manufacturers for light use vehicles; in most cases this is at least 7,500 miles. This interval would reduce maintenance services and related cost as much as 25 percent as compared to the pre-2011 maintenance levels.

We recommend that the Fleet Manager meet with customers and develop mutually acceptable **service contracts** that identify service levels, performance expectations and cost as well as maintenance and billing procedures. Contracts would help customers focus on what they need vehicles to do, not on specific replacement dates, maintenance schedules or accessory services.

Progress Update 2013:

- *Further extending the interval will be considered, once it is clear what the effects of expanding the interval to 5,000 miles has on operations and required services on the vehicles. The Fleet Manager began a trial in Animal Control to test a 7,200 mile interval.*
- *Some vehicles from the fleet have been fitted with GPS units that will automatically report maintenance alerts and performance data live. The program is expanding as more is learned about the systems in use. New software now provide 24 hour "idle time" statistics for Public Works vehicles and will be used to set new carbon emissions goals and track progress toward them.*
- *The Fleet Manager is actively engaged in workforce planning as new capacity is realized from the changes. Initially, fleet maintenance will take in more of his outside account vehicles such as Washington State, Hazel Dell Sewer and others. Second, when the staffing plan shows that the maintenance shop has additional capacity beyond requirements then he will eliminate FTEs as needed.*

We recommend ER&R schedules for light vehicles be aligned with the estimated vehicle lifetimes identified in policy. There is currently as much as a four year difference between the estimated lifetime and the time over which the vehicle is capitalized. Sheriff's Office vehicles that are not used for Patrol should be considered for inclusion in this alignment as mission use allows.

Progress Update 2013: ER&R alignment with vehicle life began in 2012 with the Animal Control vehicles and being expanded with all new purchase vehicles.

Communicating Performance Data

We recommend the Fleet Manager expand his communications of performance data by putting links to performance reports and performance related data on the county's Fleet web page for easier customer access. (Data might include monthly mileage, maintenance costs and work done, programmed or planned maintenance, and days of utilization.)

Progress Update 2013: Customer performance dashboards are identified as a project within the Public Works Strategic plan to be completed before the end of 2013. The first dashboard is expected to be operational in May, 2013.

Other Improvements

- Since 2004, **The Public Works Director** has followed a best practice by limiting take home vehicles to Sheriff Office and Fire Marshal Offices; the use of take home vehicles by all other organizations ended after the 2004 audit.
- The **Sheriff's Office** demonstrated best practices with an assigned transportation coordinator who actively monitors the monthly mileage of their vehicles and adjusts assignments when needed.
- The **Sheriff's Office** demonstrated leading practices in their efforts to maintain standardized vehicles and configurations. This enhances both the ease of operation when vehicles need to be temporarily reassigned and simplifies maintenance.
- Both the **Sheriff's Office and Fire Marshall** nearly achieve a utilization best practice to limit the percent of their *total vehicle mileage that is commuting related* to 30 percent or less. Based on the model's five percent error rate, they both either meet or are very close to this standard at the organization level.
- The **Assessor's Office** is pursuing a best practice by focusing on using leased or rental vehicles for seasonal use requirements and testing the use of hybrid vehicles versus conventional vehicles with idle controls for their staff.
- The **Fleet Manager** is actively coordinating new GPS technologies into the fleet with three separate applications being used in multiple departments. The uses for the applications range from routing efficiency to employee safety and live vehicle maintenance monitoring. Facility Maintenance vehicle GPS devices are fully operational and more Public Works vehicles are being retrofitted so their idle time and maintenance needs can be managed.

Overall Conclusions

Recent progress has been made to improve management practices within the fleet. There are an increased number of best practices in use, especially those related to day-to-day operations.

The fleet remains underutilized. Some steps are being taken to implement updated practices and policies focused on improving utilization.

There is not clear senior sponsorship for county-level utilization or sustainability goals that are intended to apply to the entire fleet and improve overall efficiency. Functional oversight from senior management in the form of strategic guidance and tools to help control fleet composition and size could be effective in accelerating change.

Summary

While there are over sixteen recommendations within this report, three key actions are essential to support the change needed to make significant improvement.

- The Public Works Director and Fleet Manager need to identify the strategic direction that the Board of County Commissioners envisions for the county fleet operations, identifying specific goals, targets and direction from the board.
- The Public Works Director and Fleet Manager need to clarify the level to which the Board wishes to directly assist change by putting into place tools to shape the fleet over a specified time period to improve fleet efficiency.
- The Fleet Manager should update and circulate the Fleet Management Policy to integrate both the Board direction and tools they support to begin reshaping the fleet composition to improve fleet utilization.

Appendix A: State and Local Guidance

Utilization Guidance

Washington State does not provide specific guidance for local government to follow for light vehicle utilization, but does provide goals and guidance for state agencies in Executive Order 05-01. This order provides specific guidance on integrating fuel efficient/low emission vehicles into fleets, the use of efficient rental vehicles and performance goals.

As of 2013 Public Works introduced a “Strategic Plan” which began identifying specific strategic tasks. This document is expected to evolve over time and expand to include strategic goals and specific measures of success related to fleet composition, sustainability, effectiveness and efficiency.

The most current Clark County light vehicle policy and standards for light vehicle utilization were in the *Public Works – Equipment Services Division Draft #2 Vehicle/Equipment Acquisition, Retention and Replacement Policy (ER&R Policy)* written in 2004 with the advice of the Fleet Management Review Board. It was updated in 2008 and is currently under revision again. This document currently represents Fleet Services’ continuing efforts to evolve procurement and usage standards for light vehicles.

Efficiency Guidance

State

[RCW 43.41.130](#): Washington state agencies goals

- Fleet average 36 MPG for passenger vehicles by 2015
- Annual reporting of progress required since 2011
- Goal 40 MPG average for light duty passenger vehicles
- Goal 27 MPG for vans/ SUVs purchased after June 15, 2010
- Executive Order 05-01: priority to buy hybrid or “fuel efficient low emissions” (FELE) vehicles (30+ MPG and EPA Tier 2)
 - If sole occupant or rental, must use fuel efficient low emissions vehicles if available.
 - Four wheel drive vehicles are replaced with two wheel drive unless over 30 MPG

County

Three relevant goals are identified in the [2011 Sustainability Report](#)

- 25 percent reduction in the four wheel drive fleet by 2017 (2011 baseline)
- Reduce fossil fuels by 30 percent by 2015 (2006 baseline)
- Reduce greenhouse gasses by 30 percent by 2017 (2008 baseline)

Other goals are within the draft ER&R Policy

- Reduce four wheel drive vehicles in the fleet
- Eliminate rollover vehicles (none by 2012)
- Replace vehicles with recommended vehicles where specified

Appendix B: Objectives, Scope, and Methodology

Overall Objective

Our objective was to determine if the Clark County light vehicle fleet is being utilized in a highly efficient and cost effective manner. We evaluated how Fleet Services adapted the practices they were using in 2004 to current operation and how they have integrated recommendations identified during the audit, as well as best and/or emerging practices.

Work was conducted in the Public Works Department with Fleet Services as the primary focus, but included other departments and users for key interviews and documentation requests. For instance, major customer departments were asked for any written internal vehicle use guidelines and utilization records. Financial Services was asked for travel reimbursement records and ER&R calculations.

Major Audit Objectives

- (1) Evaluate how effectively Fleet Services adopted recommendations and best practices since 2004.
- (2) Determine effectiveness of current fleet utilization.
- (3) Determine the existing fleet's operational efficiency and cost effectiveness.

Scope

This audit includes all light vehicles owned or operated by Clark County government, and focused primarily on 2011 full year data. When multiyear trends are included, they will focus on data prior to 2011.

- a. "Light vehicle" included sedans, SUVs, two wheel drives and light trucks under gross vehicle weight of 8,500 pounds consistent with the State of Washington's standard definition. It does not include vehicles under 8,500 pounds that are specialty or primarily non-highway use vehicles. In some places we included trucks up to 10,000 pounds and clearly identified those times. Note: International City/County Management Association (ICMA) defines a light vehicle under 10,000 pounds.
- b. Within this group are 52 specialty ("T" series) work vehicles that are "heavy duty", large pickups of 3/4-ton capacity or higher; many of them push the limit of "light vehicle" or have been modified to include payloads that make them impractical as a light use vehicle. Some of them may benefit from being separated and their utilization measured based on the value of their specialty use. Because they generally met utilization guidance based simply on miles, we did not separate them for his audit.

- c. All Public Safety (Clark County Sheriff Office) light vehicles were included, except as noted in “e” below. “Rollover” vehicles kept in operation beyond their scheduled replacement and after they have been replaced were also covered within scope.
- d. Evaluation of the utilization of alternative fuel vehicles (hybrid and electric) was within scope.
- e. The cost effectiveness of some other transportation options beyond the motor pool vehicles and standard day-use assigned vehicles were addressed within this audit. These options include take home vehicles, commercial rentals, and employee mileage reimbursement to use their private vehicle.

Some areas related to vehicles and travel reimbursements were beyond the scope of this audit.

- f. Owned, leased, or rented vehicles that were part of any law enforcement task force or undercover operation were excluded from this assignment. They operate under different conditions and are not regulated by the Public Works Fleet organization.
- g. Medium and heavy vehicles, as well as other major pieces of equipment that do not fall into the light vehicle category were outside the study scope.
- h. Vehicle allowances, currently \$600 per month, are provided to nine individuals as part of their employment. These were not reviewed in this assignment.

Methodology

Our approach involved four major focus areas: *regulatory documentation, research, internal data review, and interviews*. The *regulatory documentation* focus was the basis of our initial research and included a review of state and local laws, mandates, as well as policies and procedures that impacted the major areas of this assignment. *Research* included emerging and best practices in both public and private fleet operations where sufficient comparability exists. *Internal data reviews* included computer based data gathered from multiple systems, including the fleet management system (FASTER) and the county’s financial system (Oracle) as obtained from the Fleet Manager. *Interviews* were of Fleet Services employees and select customers with special needs or large fleets, to include the Assessor’s Office, Sheriff’s Department and Fire Marshal.

Analysis and Recommendations were the final steps of the methodology to be applied. Depending on the information required, different forms of analysis were conducted on the data. In this assignment, the majority of

the analytical work relied on comparative analysis of fleet procurement, utilization and maintenance to internal standards that exist or to external benchmarks as appropriate. Recommendations were based on historical performance as well as emerging and established best practices.

We also compared current status to recent audit findings and recommendations, focusing heavily on the 2004 Clark County Fleet Management Audit Report.

Design Approach

This is the second of two assignments related to fleet in this series, and it focuses on fleet management & operations practices for light vehicles.

Scope Limitations

- (1) Vehicle data related to mileage logs and maintenance records was not reliable in 2004 but appears to be in 2012 based on selective testing.
- (2) A best practice in analyzing fleet operations is to compare actual individual mileage reimbursements paid to actual vehicle rental or ownership cost. We were not able to do so due to fiscal data limitations.

Progress Update 2013: *The Accounting Supervisor indicated they are working on an Oracle "eTravel" upgrade project that will improve standardized reporting of travel mileage. This upgrade will include a single object code for all reimbursable travel mileage claimed, and together with the fund code should provide adequate information needed to view travel reimbursements by fund and organization.*

- (3) We will not look at fuel purchasing to determine if the contract(s) in place are the best value for the county. Clark County follows best practices in this area by obtaining fuel from the State contract.

Appendix C: Best Practices & Fleet Management Model

Defining Best Practices

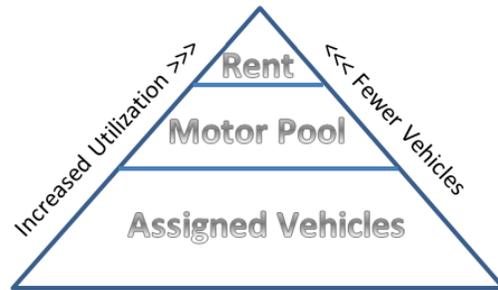
Best Practice is a term that currently used by many organizations to simply mean “a good idea.” Its origin is within the scientific and medical community. Best practices are only one outcome of the broader science of *evidence based practices*. These are methods or techniques that have documented outcomes and ability to replicate as key factors.

The science of evidence based practice continues to evolve. For the purpose of this report, often used levels of improved practices are defined as:

- a. *Common, Standard, or Industry Practice*: A practice followed by many or most organizations within the field. It is neither the “best” or “worst” practice but is one of the most common practices for the process it represents (“Everybody does it”).
- b. *Emerging Practice*: This is a practice that is not in commonly use, but has shown promise of significant improvement based on early adopters. It is not yet proven as a long term answer. (“Has potential”)
- c. *Leading Practice*: More efficient and effective than common or standard practice that are organization dependent and change over time. (“Above average approach”)
- d. *Best Practice*: Recognized as the most effective or efficient way of providing the service or outcome by peers and is based on repeatable procedures that have proven themselves over time. (“No better way”)

Fleet Management Model

The fleet management “three tier pyramid” model used within this report was developed through fleet management research and discussions with the fleet manager. It is an original depiction that describes the manner in which the fleet is managed. It was verified with the Fleet Manager that it represented the way they try to manage fleet vehicles.



Fleet Model

- At the core, assigned vehicles for daily / regular use. Characteristics would be:
 - Specialized configuration not rented or leased readily (Law enforcement)
 - Special vehicles (i.e. “rolling tool boxes”) that get daily use
 - Highly utilized standard vehicles, 6,000 to 12,000 miles per year
 - Maintenance program consistent with use
 - Adopt maintenance practices to maximize the time between services while minimizing the risk of failure
 - Evaluated regularly to maintain cost effective maintenance
 - Replaced at end of economic life or at optimum resale timing

- Supplementing the assigned fleet, a mix of pooled vehicles for anticipated temporary use. Characteristics would be:
 - High efficiency vehicles, sized and configured for most common usage
 - Highly utilized 80 percent or better utilization of vehicle-days
 - Cost less than rentals to operate for most uses
 - Expect higher maintenance cost per year, less per mile
 - Immediately available vehicles

- Finally, for unexpected or temporary requirements flexible expansion with external rented or leased resources. Characteristics would be:
 - Lease or longer-term rentals for seasonal or anticipated use (1-6 months)
 - Day use rental on government contract (daily)
 - Employee reimbursement (as needed)

Appendix D: Take Home Vehicle Use Analysis

Assigned Take Home Vehicles: Individually assigned, 24-hour official use

There are many ways to assign or deploy a fleet of vehicles. The use of pooled vehicles is usually seen as the most cost effective deployment, while take home vehicles provide the potential for immediate availability of emergency personnel from multiple locations on short notice.

Take home vehicles can provide a key advantage to departments that require emergency responses and are staffed at levels lower than optimum. They provide flexibility in deploying the existing force on short notice over a geographically large area. This is one reason take home vehicles are favored by many large, low density cities and many large counties.

Some law enforcement agencies use a mixed model, providing take home vehicles for patrol and select emergency response positions while using pooled vehicles for other personnel who do not have after-hours emergency response as a significant portion of their daily job.

The deployment model or models used is a management decision. This audit does not recommend one model over another, but identifies key characteristics of both as well as some of the best practices available for consideration.

Sheriff's Office Take Home Vehicles

The Clark County Sheriff Office has weighed the increase in operating costs that take home vehicles represent against his mission needs. The flexibility provided with 100 percent of the deputies operating from individually assigned, fully emergency-capable response vehicles that are geographically dispersed is currently worth the extra cost to him. He has found this flexibility is the best answer for his current needs.

The Sheriff's Office nearly achieves an industry best practice of no more than 30 percent of their mileage is commuting related; this practice establishes a maximum acceptable percent of commuting mileage for a take home vehicle. This standard was identified in a 2011 audit of the Illinois' State Vehicle Fleet. That audit noted many vehicles had very high commuting mileage compared to the total vehicle miles. The governor of Illinois noted vehicles with "extensive commuting mileage" and required that any fleet vehicle with more than 30 percent of their mileage related to commuting should be "carefully evaluated" by agency heads for its continued use as a take home vehicle.

The model used to identify commute mileage versus work specific mileage excludes half of the commute mileage for Patrol based deputies to represent the maximum use of "in transit" responses. Based on the model, nearly all (91 percent) of the patrol vehicles and 66 percent of the Sheriff's Office overall fleet take home vehicles met the 6,000 mile minimum usage standards in 2011. Of

those that do not meet the minimum commute standard, a limited number are specialty use vehicles.

Fire Marshall's Office Take Home Vehicles

The Clark County Fire Marshal has a small number of personnel for the potential response area and number of calls. The use of take home vehicles for after-hours responses provides increased flexibility for that organization, also.

The Fire Marshal's Office meets the county's annual mileage use goal and **best practice** for percent of commuting miles. Applying the same commuting percentage model that was applied to Sheriff's Office take home vehicles, The Fire Marshal's Office is estimated to have 32 percent commuting mileage. This is within the expected margin of error for the best practice standard.

On the next page is a comparison of fleet characteristics based on recent research:

Take Home Vehicles characteristics	Pooled Vehicle Characteristics
- Higher operating cost due to fuel for the commute distance	+ Lower overall operating cost due to no commute miles
+ No parking needed for employee's vehicle when on duty	- Parking needed for employee's vehicle
- Somewhat higher risk of accident or non-duty incident	+ Lower risk due to no off duty use
+ Higher community visibility for marked vehicles	- Lower community visibility
.- Lower utilization as the vehicle sits idle when employee is off shift	+ Higher utilization, vehicle does not sit idle
+ Lower maintenance demand since vehicles accumulate mileage slower	- Higher maintenance needs because vehicle is putting on more miles faster in many cases
- Higher capital investment since a patrol covering a designated area with 12 hour shifts will require twice the number of vehicles as a shared vehicle	+ Lower capital investment since fewer vehicles are purchased and less ancillary equipment is required
+ Less maintenance if miles accumulate at a lower rate	- More wear, quicker but with only two shifts and significant distances for commutes this may not be the case
+ Improves emergency response from highly dispersed home locations	- Requires return to the pooled vehicle location before an emergency response
+ Higher user satisfaction for ownership, save cost of private vehicle & insurance although vehicle retained longer	- Lower satisfaction with sharing, although cars are replaced more often. Users must have a commute car of their own

Appendix E: Management Comments

Oral Comments:

In reviewing the draft report with our auditees, we obtained their general agreement with the report as presented and the recommendations. The Public Works Director, Fleet Manager and County Assessor agreed with the report as presented.

The Sheriff's Office and Fire Marshal's Office provided written comments below.

Sheriff's Office
From: Evans, Mike
Sent: Monday, May 20, 2013 10:24 AM
Subject: Fleet audit

Thank you Mr. Kimsey for the thorough and comprehensive audit of our fleet, and its deployment. Your staff was open, thorough, and transparent during the entire process. The open exchange of information and policy considerations was extremely beneficial to us. It is our intent to conduct an internal review of our vehicle deployment and use policies. This review will include vehicle assignments by function; take home versus pool vehicle considerations, operational imperatives, de minimus issues, as well as public perceptions and expectations regarding the wise stewardship of public assets. While this review has not formally launched, preliminary, in house discussions have been held. It is anticipated that this review will be in full swing by the fall of 2013. The Clark County Sheriff has always been a leader in public policy, and we believe that, while there is room for improvement, our practices and policies are operationally sound and fiscally responsible.

Fire Marshal's Office: See next page



MEMORANDUM

TO: Linda Bade, Operations Review Manager
Tom Nosack, Internal Performance Auditor

FROM: Jon Dunaway, Fire Marshal

DATE: May 20, 2013

SUBJECT: Audit of Equipment (Fleet) Services Management and Operations

Thanks to you both for working with me and other Fire Marshal staff throughout this audit process. I have had an opportunity to examine the draft report for the above-mentioned audit and have only one comment I wish to add.

While answering questions and gathering requested data, we found an area where we need to be doing a better job of tracking our responses for service.

The gap we found was in our fire responses where not all investigators who responded to a fire (usually in a 2nd call-out situation) went in service either via radio or through our mobile data terminals to the Clark Regional Emergency Services Agency (CRESA) dispatch center. This caused some of our data to be less than accurate when it came to tracking number of responses, the personnel who responded, or how much time was spent at a fire scene. To remedy this, I have already instructed all FM staff to ensure we are logged into CRESA's system when we respond to any incident. I am also in the process of writing a formal policy to which staff can refer in the future.

It was good working with you and I appreciate the time you took with us to be sure you understood our mission, our processes, and the finer points of why we operate the way we do.