



*City of Independence*

# Review of Fleet Management Practices

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City Of Independence, Missouri

**Report to the Mayor and City Council  
By the Management Analyst  
February 8, 2013  
Report No. 12-01**

# City of Independence

## City Council Office



February 8<sup>th</sup>, 2013

Honorable Mayor and Members of the City Council:

This audit of the City's fleet management operations was assigned by the Audit and Finance Committee in August 2012 and was initiated by the City Management Analyst pursuant to Chapter 1, Article 43 of the City Code of Ordinances. The audit focuses primarily on the Public Works Department's Central Garage Division, which oversees the repair and maintenance of 510 vehicles and equipment assigned to seven City departments. General consideration is given to the 385 vehicles and equipment serviced external to the Central Garage.

Improved vehicle and equipment replacement planning and funding is needed. The average time-in-service of fleet maintained by the Central Garage is nearly 11 years, which is roughly four years longer than cities of similar population sizes. Moreover, 55 percent of the fleet maintained by the Central Garage exceeds replacement criteria. Fully funding fleet replacement has been a challenge, given the many other competing needs the City faces. However, the City should improve its replacement planning efforts in the meantime. Presently, 27 percent of the fleet maintained by the Central Garage lacks any pre-defined replacement criteria. Reliable information is needed in order to accurately assess which assets are most in need of replacement. This is especially important given the minimal number of assets considered for replacement each year.

The Central Garage Division's hourly billing rates and markups are lower than most local private garages and are comparable to similarly-sized cities. Parts and fuel markups also resemble those assessed by peer cities. However, maintenance and repair costs per mile are found to be higher for each fleet class when compared to peer cities. Additionally, costs are found to be lower than private garages for several common repairs, suggesting that while lower hourly billing rates and markups contribute to lower maintenance and repair costs, the significant age of the City's fleet leads to more frequent repairs. To help users better understand the cost of maintaining an aging fleet, the Central Garage should develop itemized activity summary reports that can be provided to vehicle operators or fleet supervisors upon completing each work order.

A lack of standardization among the City's fleet prevents the Central Garage from specializing in the parts kept in-stock and could potentially increase the cost and downtime for each vehicle as parts are ordered. To increase standardization among the City's fleet, management should revise its Administrative Policy for Vehicle Selection Criteria (AP-98-03) in order to narrow each standard of vehicle to a limited number of makes and models, though extenuating circumstances may need to be considered for some departments.

While Central Garage Division staff collects some fleet performance data, these measures need to be evaluated regularly so that any changes in performance levels can be readily identified. The division has an information system that it uses to track billing and maintenance, but limited capabilities of the system make it difficult to provide management with performance information. Management should explore investing in a singular fleet management software system to improve and consolidate citywide fleet data. Finally, the Central Garage should renew its effort to survey customer satisfaction with cost, quality, and timeliness of repairs.

The City, much like the majority of governmental organizations, has established a dedicated fleet fund to track costs directly associated with fleet operating expenses. However, improvements in how annual funding is developed and monitored are needed. Existing methodologies are complex and not well understood. The

Central Garage Fund creates questions among users about its equity. Improved practices are needed to ensure adequate funding for fleet maintenance and repair is available throughout each fiscal year. The monthly reports received by departments from the Central Garage can be difficult to understand and can make it challenging to accurately track available fleet maintenance and repair funding. The Budget Office must remain diligent about working with Central Garage Division staff and City departments to monitor the Central Garage Fund and develop reports that easily assist in managing the Central Garage Fund. Conversely, Division staff and user departments must be willing to meet with one another as well as with the Budget Office to better inform themselves of fleet financial management issues.

While fleet industry standards hold that 95 percent of preventative maintenance services should be performed in accordance with their scheduled due date, only 63 percent of preventative maintenance activities were performed on time at the Central Garage in Fiscal Year 2011-12. Preventative maintenance prolongs the life of equipment, helping ensure reliable and cost-effective operation. Management should consider implementing a second shift at the Central Garage Division in order to increase the number of preventative maintenance services performed on-time by providing these services when a majority of fleet is not scheduled for duty. Additionally, though the Central Garage Division has developed an extensive preventative maintenance program following manufacturer's guidelines, a procedures guide that details recommended service intervals should be updated to reflect revised service milestones.

With the impending retirement of the Fire Department's lone Fire Apparatus Mechanic, an evaluation of additional merger opportunities between the Fire Department and the Central Garage Division is critical. Such evaluations have the potential to improve economies of scale, back-up and cross-training of division staff, and management oversight. If an integration were deemed appropriate, several issues would need to be considered, including enhanced staff training and certification, work scheduling, space utilization, and parts management.

Management should also utilize this opportunity to evaluate the appropriateness of returning fleet management responsibilities for the Water Pollution Control Department to the Central Garage Division. Water Pollution Control privatized management of its fleet nearly 20 years ago due to perceived issues of work prioritization and cost containment. This report, along with a 2004 Management Analyst audit of the Central Garage, found work practices and rate structures to be greatly improved and competitive with area vendors. Additional economies of scale may be realized by distributing various overhead and indirect costs across a larger customer base. Returning these services to the Central Garage would also potentially improve the centralization of fleet management records and performance evaluation data.

Users of the Central Garage Division have generally received services at a reasonable cost, due in large part to the tenacity, resourcefulness, and ingenuity exemplified daily by Division staff. However, it is imperative that the current operating procedures, which are predominately adhered to through custom and tradition built over many years of service, be formally adopted and documented. Management should develop an administrative policy to define operator responsibility for vehicle use and maintenance, operating policies and procedures for the Central Garage Division, and responsibilities for other staff integral to the fleet management process.

Staff from the Community Development, Finance, Fire, Health, Parks & Recreation, Police, Power & Light, Public Works, Water, and Water Pollution Control Departments reviewed a draft of this report. Formal responses were provided by the Fire, Police, and Public Works Departments and are appended. The draft report was also reviewed by the City Manager and City Counselor, and their responses are appended. Finally, members of the Audit and Finance Committee reviewed this report before it was finalized and released. The cooperation and courtesy of all who provided documents and answered questions is greatly appreciated.



Zachary Walker  
City Management Analyst

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# Introduction

## ***Audit Objectives***

This audit of the Public Works Department's Central Garage Division was conducted pursuant to Chapter 1, Article 43 of the City Code of the City of Independence, which outlines the primary duties and responsibilities of the City Management Analyst.

A performance audit provides objective analysis to assist management and those charged with governance and oversight in using the information to improve program performance and operations, reduce costs, facilitate decision making by parties with responsibility to oversee or initiate corrective action, and contribute to public accountability.<sup>1</sup> This audit was designed to answer the following questions:

- Are cost, quality, and timeliness of maintenance and repairs reasonable?
- How does each City department address their fleet maintenance needs?
- Is the organizational structure of the Public Works Department's Central Garage Division appropriate?

It was decided that an audit of the City's fleet maintenance operations was appropriate because of the size and cost of the operation, the number of retirements among fleet maintenance staff, and elapsed time since the function was last reviewed.

## ***Scope and Methodology***

The audit focuses primarily on the Public Works Department's Central Garage Division, though the fleet maintenance operations of the City's three utilities were reviewed and highlighted in this report. The review is primarily based on data from Fiscal Year 2011-12. The audit was assigned by the City Council's Audit and Finance Committee in August 2012 and begun in September 2012.

The audit was conducted in accordance with generally accepted government auditing standards as well as the City's audit policies and procedures. Audit methods included:

- Conducting interviews with management staff in the Public Works Department, Central Garage Division management and staff, staff from departments that utilize Central Garage services, and staff from each of the City's three utilities.
- Reviewing literature related to fleet maintenance operations.
- Observing operations at the Central Garage facility, the Water Department garage facility, and the Independence Power and Light garage facility.

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<sup>1</sup> Comptroller General of the United States, *Government Auditing Standards*, (Washington, D.C.: U.S. Government Printing Office, 2011), p. 17.

- Developing, conducting, and analyzing a customer satisfaction survey from departments that utilize the Central Garage facility.
- Analyzing cost and performance data compiled in the Central Garage Division's Computerized Fleet Analysis (CFA) fleet management system for Fiscal Year 2011-12.
- Phoning area vendors to compare costs of labor hours, parts markup, and selected common repairs on light equipment.
- Identifying municipalities of like population sizes to compare hourly billing rates, parts and fuel markups, as well as maintenance costs, policies, and procedures. Municipalities were identified using ICMA Center for Performance Measurement's Fiscal Year 2011 Fleet Management Survey. Some data was obtained using responses provided in the survey, while contact was made with fleet administrators in each community to provide additional information.

No information was omitted from this report because it was deemed privileged or confidential.

## **Background**

The Public Works Department's Central Garage Division is one of the City's three garage operations, providing fleet maintenance and repair services to the Public Works, Fire, Police, Finance<sup>2</sup>, Community Development, Health, and Parks and Recreation Departments, with two exceptions. The Parks and Recreation Department retains one mechanic on staff to provide maintenance services internally for mowers, tractors, and other small engine equipment. Parks and Recreation staff believes this to be critical to providing emergency services to these pieces of equipment in order to minimize downtime and keep facilities functional for programming and other recreational activities. Additionally, the Police Department outsources maintenance of its motorcycle fleet because the Central Garage is not equipped to provide these services. Moreover, the Police Department is authorized and budgeted to have a full-time Electronics Fleet Technician. This grant-funded position installs and maintains all technical components of the Department's specialized equipment. The Water and Power and Light Departments each operate their own garage facilities. Water Pollution Control outsources its fleet maintenance services to area vendors. The Central Garage Division serves the rest of the City, maintaining approximately 510 vehicles and other equipment.

In order to determine the actual number of vehicles and equipment serviced by the Central Garage Division, data from the Finance Department's Accounting Division was cross-checked against data provided by the Central Garage Division to eliminate any inactive vehicles or add any new vehicles. Both the Central Garage Division and each individual department reviewed these revised figures and found them to be accurate, which made meaningful data analysis and comparison possible.

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<sup>2</sup> Mail delivery and the vehicle used in providing this service was transferred from the Finance Department to the City Clerk during the course of this audit.

**EXHIBIT 1: SUMMARY OF CITY OF INDEPENDENCE FLEET BY CITY DEPARTMENT**

Department	Total Fleet	Fleet Maintained by Central Garage	Fleet Maintained by Department Garage	Fleet Maintained by Outside Vendor
Community Development	9	9	0	0
Finance	1	1	0	0
Fire	52	52	0	0
Health	33	33	0	0
Parks and Recreation	116	78	38	0
Police	193	186	0	7
Power and Light	206	0	206	0
Public Works	151	151	0	0
Water	61	0	61	0
Water Pollution Control	73	0	0	73
<b>Total</b>	<b>895</b>	<b>510</b>	<b>305</b>	<b>80</b>
<b>Percent</b>	<b>100%</b>	<b>57%</b>	<b>34%</b>	<b>9%</b>

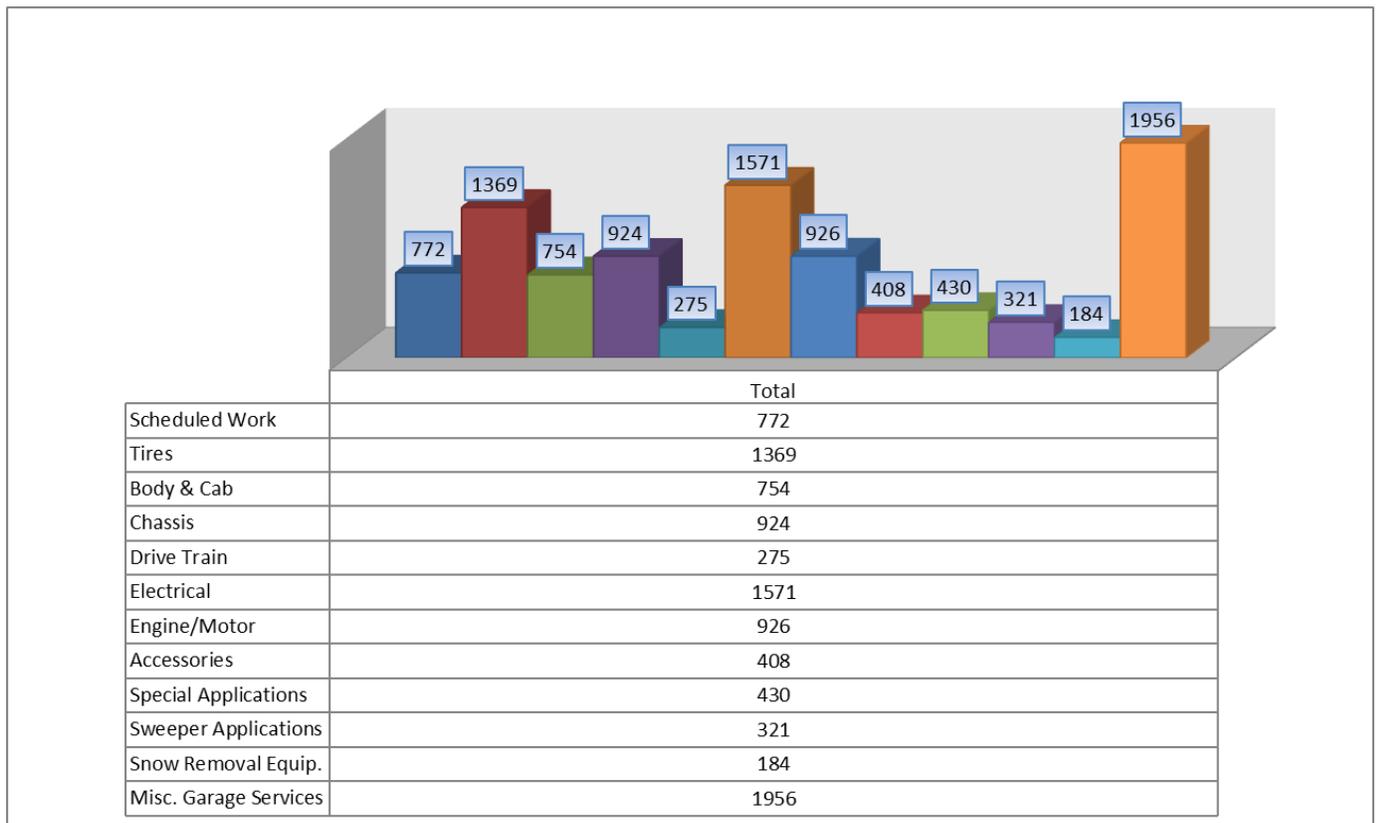
The Central Garage Division operates from a facility located at 1030 South Chrysler, where it has been housed for approximately seven years. Prior to that, it was located near City Hall on the north side of Pearl Street, east of Noland Road. The current facility operates four heavy equipment bays, five auto equipment bays, and a separate area in which fire vehicles and equipment are serviced. Maintenance and repair services are provided for light and heavy vehicles and equipment as well as fire vehicles and equipment. Services provided include preventative and routine maintenance and repair as well as fabrication and welding requests. Major component repairs, electrical system issues, body work, items under warranty, major heavy equipment repairs, and tire mounting services are outsourced and managed by price agreements with area vendors. The division also operates a storeroom and seeks to limit its supply to items that are used with some regularity. Specialty parts are supplied by area vendors through price agreements and delivered to the Central Garage within a reasonable time of the request.

The division currently runs one shift, beginning at 7:00 a.m. and ending at 3:30 p.m., Monday through Friday. Beginning November 25<sup>th</sup>, or the first snow event (whichever comes first) and lasting until March 15<sup>th</sup>, the Central Garage activates two shifts during snow removal operations with two heavy mechanics and one auto mechanic on each shift. In addition to their regular duties, these individuals are responsible for preparing and servicing the snow and ice removal equipment to be deployed into service. As part of the work agreement with the Service Employees International Union (SEIU) Local No. 1, bargaining unit members assigned to a snow removal shift receive four hours straight time per week standby time for the time they are on call. Prior to the winter season, Division staff prepares vehicles for severe weather response by fitting vehicles with the necessary equipment to provide safe travel during severe weather conditions. During these severe weather events, Central Garage Division staff provides a critical service by quickly preparing trucks to be dispatched for snow and ice removal. Division staff also replaces various vehicle and equipment components that suffer rapid deterioration during a severe weather event, such as windshield wipers and hydraulic hoses, so that vehicles and equipment can be returned to service as quickly as possible. This function is critical to the safety and well-being of the public, and the timeliness and quality of the service ensures vehicles and equipment are deployed in a rapid and dependable fashion.

A service truck is available to provide repairs to vehicles that break down in the field and cannot make it to the Central Garage. If the issue cannot be resolved in the field, the Central Garage has a tow truck to dispatch and bring it to the facility. This tow truck is older, however, and can only be used on equipment with steel bumpers. If the equipment does not have a steel bumper, a private vendor must be contacted to dispatch a roll-off tow truck to deliver the vehicle.

The Central Garage Division is responsible for maintaining and operating two fuel sites for user departments: one located at the Central Garage Facility, and one located at the former garage site at Pearl Street. The chart below depicts the work activities for the Central Garage in Fiscal Year 2011-12.

**EXHIBIT 2: FISCAL YEAR 2011-12 CENTRAL GARAGE WORK ORDER BY SYSTEM TYPE<sup>3</sup>**



## ***Legal Authority***

### **Code of Ordinances**

Ordinance Number 1051, passed in July 1965, created and established the Central Garage Fund as a division of the General Fund, to provide working capital on a revolving basis to account for garage activity in accordance with generally accepted accounting principles. Ordinance 8226, passed in August

<sup>3</sup> Misc. Garage Services include machine work, metal work, towing, vehicle cleaning, vehicle preparation, vehicle shuttle (pick-up and return to users), welding, service calls, tractors and mowers, and parts pick-up.

1984, established the Central Garage Fund as a separate Internal Service Fund, rather than a division within the General Fund. The fund is intended to charge for services provided involving maintenance, fuel, parts for vehicles and equipment attributed to other funds within the City.<sup>4</sup>

### **Administrative Policies (APs)**

There are three Administrative Policies (APs) addressing motor vehicles and their operation. AP-98-03 sets selection guidelines for City passenger and utility vehicles. Its purpose is to set criteria for the future selection of standard City passenger and utility vehicles. The policy does not apply to special use vehicles such as dump trucks, line trucks, fire trucks, and so forth. AP-99-01 establishes a consistent procedure for conducting driver's license reviews for all employees required to maintain a valid driver's license or commercial driver's license as a condition of employment. The policy applies to any employee who operates a City vehicle or their own vehicle in the course of City business. AP-00-01 regulates and provides guidance for the use of "take-home" vehicles, which are those owned by the City and operated by a City employee during on-call and stand-by status.

### **Personnel Policies and Procedures**

Article IX of the City's Personnel Policies and Procedures defines the City's Drug and Alcohol Policy. Section D.1.b(3) requires submission to a pre-employment drug test for all positions in which the employee must maintain a commercial driver's license as a condition of his or her employment with the City. Section D.2.b requires submission to an unscheduled (random) test for all positions in which the employee must maintain a commercial driver's license as a condition of their employment with the City. Section D.4 requires a post-accident drug/alcohol test for any employee involved in a work-related accident or incident while the employee was operating a motor vehicle while on City business.

### ***Funding***

The Central Garage Division operates as an internal service fund<sup>5</sup>, with a Fiscal Year 2012-13 budget of \$2,280,367. The budget is based on departments' estimated fleet maintenance expenditures for the year, with historical expenditures for each department advising the budget need for the next fiscal year. Revenues come primarily from within the organization, though a small amount of revenue is generated by supplying fuel to Jackson County. All revenue is then offset by costs within each department as a result of charges for direct labor, parts, fuel, commercial labor and parts, and overhead. A markup of 20 percent is currently added to parts used at the Central Garage. A 10 percent markup is added for parts installed by a commercial vendor. A fuel markup of 13 cents per gallon above the wholesale price is also assessed to departments. The fuel markup assists with various overhead costs associated with providing this service, but remains well below what is available commercially.

As an internal service fund, revenues are estimated in the Central Garage Fund and total appropriations divided amongst each department. Revenues are established at a level sufficient to cover the operating

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<sup>4</sup> 2012-13 City of Independence Revenue Manual, p. 100.

<sup>5</sup> According to the 2012 Industry Profile Survey conducted by *Government Fleet*, 67 percent of governmental organizations surveyed utilize an internal service fund to account for fleet management.

costs of the Central Garage facility. Finance staff indicated that these appropriations are imbedded within each department to increase accountability as well as to avoid concerns that the Central Garage favors Public Works Department vehicles and equipment. The amount appropriated to each department is required to be spent for fuel and fleet maintenance and cannot be expended for any other activity.

The division's revenues and operating expenditures have been fairly flat over the past several years. According to the budget office, the Central Garage Fund previously experienced dramatic fluctuations from month to month or ran a deficit in the fund, but that has since improved and was primarily attributed to unforeseen increases in the cost of fuel. Public Works management receives an operating statement for the Central Garage Fund as part of the Monthly Financial Report prepared by the Finance Department summarizing revenues and operating expenses for the current month and year-to-date.

**EXHIBIT 3: COMPARISON OF REVENUES AND OPERATING EXPENSES; FISCAL YEARS 2007-2012**

Summary of Revenues							
	Actual 2006-07	Actual 2007-08	Actual 2008-09	Actual 2009-10	Actual 2010-11	Actual 2011-12	Average
Central Garage Fund	\$ 1,986,204	\$ 2,195,181	\$ 1,964,660	\$ 2,107,030	\$ 2,223,525	\$ 2,274,167	\$ 2,125,128

Summary of Expenses							
	Actual 2006-07	Actual 2007-08	Actual 2008-09	Actual 2009-10	Actual 2010-11	Actual 2011-12	Average
Personal Services	\$ 621,933	\$ 617,784	\$ 574,677	\$ 599,749	\$ 636,840	\$ 697,667	\$ 624,775
Other Services & Charges	\$ 358,586	\$ 334,658	\$ 352,159	\$ 453,975	\$ 386,623	\$ 366,164	\$ 375,361
Supplies	\$ 974,214	\$ 1,271,693	\$ 968,646	\$ 1,001,797	\$ 1,130,249	\$ 1,200,173	\$ 1,091,129
Capital Outlay	\$ -	\$ -	\$ -	\$ 34,908	\$ -	\$ 3,785	\$ 6,449
Total	\$ 1,954,733	\$ 2,224,135	\$ 1,895,482	\$ 2,090,429	\$ 2,153,712	\$ 2,267,789	\$ 2,097,713

<b>Net Balance</b>	<b>\$ 31,471</b>	<b>\$ (28,954)</b>	<b>\$ 69,178</b>	<b>\$ 16,601</b>	<b>\$ 69,813</b>	<b>\$ 6,378</b>	<b>\$ 27,415</b>
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Vehicle replacement charges were phased out in the early 1990's and funds were depleted by the Fiscal Year 1992 budget. Prior to that, a lifecycle analysis would be completed to calculate the amount needed to replace each piece of equipment. That amount was then divided over the useful life of the vehicle and charges were made annually to acquire sufficient funding to replace each piece of equipment as needed. The funds collected were set aside in a designated fund balance of the General Fund to replace General Fund department vehicles. However, as the City began to experience financial constraints, this funding was diverted for other unrelated needs. Since that time, the City has budgeted minimally for vehicle replacement, with approximately three to four new vehicles or pieces of equipment planned for each year. However, the expenditure is typically not authorized until the end of the year in order to determine how other issues are performing. Finance staff indicated that those funds are largely needed to assist with the costs of other programs at the end of each fiscal year.

***Staffing***

The division is authorized 9.75 full time equivalent positions for Fiscal Year 2012-13. However, the division is currently holding vacant one of its budgeted Auto Mechanic positions, and the part-time Administrative Specialist II position is authorized but not funded in the current budget. The Administrative Specialist II position was created in the Fiscal Year 2009-10 budget when the Clerk Typist

II position was eliminated. Additionally, the Fire Department has one authorized Fire Apparatus Mechanic position that is budgeted in the Fire Department but performs its job duties at the Central Garage facility. The hours worked for this position are recorded separately from the other Central Garage staff, but the parts management and maintenance activities for Fire Department vehicles and equipment are tracked using the same fleet management system. With the exception of the Fire Apparatus Mechanic, all positions at the Central Garage facility report to the Garage Supervisor. Except for the Garage Supervisor and the Fire Apparatus Mechanic, all positions at the Central Garage are members of the Service Employees International Union (SEIU) Local No. 1.

**EXHIBIT 4: CENTRAL GARAGE DIVISION FIVE-YEAR STAFFING SUMMARY**

<b>Position Title</b>	<b>FY 2008-09</b>	<b>FY 2009-10</b>	<b>FY 2010-11</b>	<b>FY 2011-12</b>	<b>FY 2012-13</b>
Heavy Equipment Mechanic	4.00	4.00	4.00	4.00	4.00
Clerk Typist II	1.00	0.00	0.00	0.00	0.00
Auto Mechanic	3.00	3.00	3.00	3.00	3.00
Fleet Parts Inventory Clerk	1.00	1.00	1.00	1.00	1.00
Administrative Specialist II	0.00	0.75	0.75	0.75	0.75
Garage Supervisor	1.00	1.00	1.00	1.00	1.00
<b>Total</b>	<b>10.00</b>	<b>9.75</b>	<b>9.75</b>	<b>9.75</b>	<b>9.75</b>

Each mechanic is required to furnish their own hand tools to perform their duties, though each is given an \$800 tool allowance annually as part of the work agreement between the City and SEIU Local No. 1.<sup>6</sup> Though funding is provided for training, testing, and other certifications (\$4,625 in Fiscal Year 2012-13), the Central Garage, and the Public Works Department in general, have not been expending appropriations for out-of-town travel and training.

***Fleet Management System***

The division uses a computerized fleet management system called Computerized Fleet Analysis (CFA) to track repairs, parts inventory, and billing information. When a vehicle is brought to the Central Garage, a manual work order is prepared by a mechanic for which billable hours, parts, and services are tracked. Each activity has a unique code that is then entered by the Garage Supervisor into CFA upon completion.

The CFA system provides numerous features to track and manage the City’s fleet, including equipment replacement summaries, notification of vehicles due for preventative maintenance, inventory management, billing, and management information reports. However, the age of the system limits any dynamic reporting or analysis typically associated with newer systems. Moreover, Central Garage staff noted that the equipment replacement summary has not been updated recently because of time constraints as well as having no demand for the report due to a lack of equipment replacement funding.

<sup>6</sup> According to the 2012 Industry Profile Survey conducted by *Government Fleet*, 38 percent of governmental organizations surveyed provided a tool allowance, with a \$500 median annual tool allowance per technician.

In addition to the fleet management system, the Central Garage also utilizes a fuel management system known as Gas Boy. This system requires Central Garage users to enter the vehicle number and current odometer reading prior to fueling. This data is uploaded daily into the CFA system and is used to track mileage to identify when each vehicle is in need of preventative maintenance services. Various vehicle fluids are also available at the two fueling sites maintained by the Central Garage. Consumption of fluids is not directly tracked by each user. Instead, costs are billed to each department on a “pro-rata” basis.

### ***Non-Central Garage Users***

An important consideration of this audit was to identify how each City department was addressing its respective fleet maintenance needs. The City’s three utilities have chosen to operate independently of the Central Garage, though each has its own unique approach to managing this function.

### **Power and Light Department**

The Power and Light Department operates its own garage facility, which is housed at the Power and Light headquarters (aka, Blue Valley Power Station) at 21500 East Truman Road. This facility houses three work bays, one in-ground lift, and one above-ground lift. The Department also operates a storeroom. The Power and Light Department utilizes four Heavy Equipment Mechanics to maintain the Department’s 206 vehicles and other equipment. The Department also makes use of one Utility Maintenance Worker who is responsible for fueling all of the department’s vehicles as well as providing general shop maintenance such as cleaning and trash removal, fleet washing, tire repairs, pick-up and delivery of parts, and replacing some service items such as wiper blades and light bulbs. These positions are members of the International Brotherhood of Electrical Workers (IBEW) Local No. 53. Garage work is managed by a Fleet Control Data Technician, while the Fleet Administrator is responsible for the acquisition and management of the fleet as a whole. The staffing level has remained constant for several years.

#### **EXHIBIT 5: POWER AND LIGHT DEPARTMENT VEHICLE MAINTENANCE DIVISION: FIVE-YEAR STAFFING SUMMARY**

<b>Position Title</b>	<b>FY 2008-09</b>	<b>FY 2009-10</b>	<b>FY 2010-11</b>	<b>FY 2011-12</b>	<b>FY 2012-13</b>
Fleet Control Data Technician	1.00	1.00	1.00	1.00	1.00
Utility Maintenance Worker	1.00	1.00	1.00	1.00	1.00
Heavy Equipment Mechanic-1st Year	0.00	0.00	1.00	0.00	0.00
Heavy Equipment Mechanic-3rd Year	4.00	4.00	3.00	4.00	4.00
Fleet Administrator	1.00	1.00	1.00	1.00	1.00
<b>Total</b>	<b>7.00</b>	<b>7.00</b>	<b>7.00</b>	<b>7.00</b>	<b>7.00</b>

The Vehicle Maintenance Division operates two shifts: 7:30 a.m. to 4:00 p.m. and 3:30 p.m. to 11:30 p.m. The Utility Maintenance worker is available between 12:00 p.m. and 8:30 p.m. Each shift includes two Heavy Equipment Mechanics. The evening shift is primarily responsible for performing preventative maintenance service for the Department’s fleet as this is when most vehicles are unscheduled for duty.

The Fiscal Year 2012-13 Budget for the Vehicle Maintenance Division is \$2,253,190 and is inclusive of all maintenance, repair, overhead and fueling responsibilities associated with the division. Because services are only provided internally, operating expenses are contained exclusively within the division.

Power and Light utilizes a fleet management software program known as Fleet Controller. The program is designed for the management of municipal fleets and intended for use by a central garage with the ability to set up satellite locations as well. The system has been in use since 1987. It also features a parts inventory management system as well as multiple management reporting functions. As with the Central Garage, the Fleet Controller software is updated with vehicle mileage and fuel data from the Gas Boy system, which Power and Light also uses for fuel management.

The Department uses the Fleet Controller program to manage its work orders and preventative maintenance needs, similar to the Central Garage. Fleet Controller is also used to assist with developing and tracking a number of performance measures, including fleet cost per mile, fleet down time, and fleet miles per gallon.

The Fleet Controller system also contains a feature to notify the Fleet Administrator when a piece of equipment is approaching its useful life as well as when it has reached and exceeded this milestone. Each year, the department conducts a 12-year projection to identify when each piece of equipment will be due for replacement. This report identifies the anticipated replacement date for each vehicle, the anticipated replacement cost for each vehicle, and the total replacement cost for each fiscal year. This information is then utilized in the budget development process each year.

Power and Light Department staff cited several reasons for operating their own garage facility. The primary reason noted by staff was that many of their vehicles and equipment are of a very technical and specialized nature due to the work conditions these vehicles and their operators are exposed to. The positions that work in the Power and Light Vehicle Maintenance Division have unique job descriptions due to the highly technical nature of the work. Staff is sent to special training and attends in-house training to familiarize themselves with the specialized work and any new practices or regulations that have been implemented in the industry. In addition to the technical nature of the work, staff also pointed to the fact that all of the Department's fleet is stored at the same location as the garage. Vehicle Maintenance staff have ready access to all vehicles and equipment. In fact, staff is able to do most preventative maintenance work during the second shift when the vehicle is not in service, thus minimizing downtime. By contrast, the Central Garage is located nearly seven miles from Power and Light Department Headquarters, requiring additional time, and potentially cost, to shuttle vehicles between these locations.

## **Water Department**

The Water Department also operates its own garage facility, which is a continued practice from the Department's time as a private utility. To manage its fleet of 61 vehicles, the Department is authorized to have two Maintenance and Utility Worker positions and operates two shifts with one position each: 7:30 a.m. to 4:00 p.m. and 3:30 p.m. to 12:00 a.m. These positions are responsible for fleet maintenance as well as providing building maintenance at the Department's various facilities, such as

electrical, plumbing, HVAC issues and some carpentry work. The positions are members of the United Steel, Paper and Forestry, Rubber, Manufacturing, Energy, Allied Industrial Union Local No. 13558.

Fleet activities at the Water Department include preventative maintenance and minor repairs. The morning shift is primarily responsible for addressing repair needs, while the evening shift handles most preventative maintenance needs since most vehicles and equipment are not scheduled for duty in the evening. Any sizeable repair, such as engine problems or major system components, is outsourced to a commercial vendor through a price agreement. The Department operates a small storeroom, but the parts inventory is purposely kept low to prevent theft and avoid space constraints. In addition to the garage, the Department also operates a fueling station onsite.

The Fiscal Year 2012-13 Budget provides \$60,000 for Water Department fleet repair and maintenance costs. This represents only the amount budgeted for servicing vehicles and equipment and is not inclusive of employee salary and benefit costs or departmental fueling costs.

The Water Department is not currently utilizing any fleet management software. Service records, owner's manuals, and parts manuals are kept on site. The service records are filed manually and sorted by vehicle number. Staff noted their impression that records retention efforts have increased greatly in the last five years. Staff further noted that many parts manuals are now available on compact disc or online only, and that moving to an electronic or computerized methodology will likely become necessary at some point, though they also noted that the size of the fleet has not yet overwhelmed staff.

Vehicle replacement is not formally tracked or planned for, though the Department does track repair costs to identify when a vehicle's repair costs exceed its value. Requests are made for several new vehicles each year, but lower than anticipated revenues have made funding these requests impossible. The Department hopes a recently-approved rate increase will allow older fleet to be replaced.

As with the Power and Light Department, the Water Department noted that having the majority of its fleet stored nearby its garage minimized vehicle downtime. Because the Department does not possess any surplus fleet, they noted it was critical to have maintenance and repair activities completed as quickly as possible, with the majority of services being performed when a vehicle is not scheduled for duty. This was noted as being especially critical, given the demand placed upon its fleet to respond quickly to water infrastructure maintenance and repair issues.

## **Water Pollution Control**

The Water Pollution Control Department is unique in that it uses neither the Central Garage nor an internal garage service to maintain its fleet of 73 vehicles and other equipment. Instead, the Department has elected to contract with commercial vendors to provide maintenance and repair services through the use of price agreements and blanket purchase orders. Water Pollution Control is also unique among the three utilities in that it was once a client of the Central Garage, but elected to discontinue soliciting its services. This decision coincided with the Department's transition from a division of Public Works to a fully-operational utility. Staff noted that their creation as a utility meant an increased need to develop efficient operating policies, and the Central Garage was not seen as providing

them with an efficient product, both in terms of cost and timeliness. A 2004 audit by the City’s Management Analyst found Central Garage’s operating procedures to be greatly improved and recommended that the Water Pollution Control Department consider returning to the Central Garage for services.<sup>7</sup> Staff indicated that the recommendation was considered, but it was widely agreed that privatization of fleet maintenance continued to serve the Department well and remained acceptable.

**EXHIBIT 6: WATER POLLUTION CONTROL FIVE-YEAR FLEET MAINTENANCE HISTORY**

	<b>FY 2007-08</b>	<b>FY 2008-09</b>	<b>FY 2009-10</b>	<b>FY 2010-11</b>	<b>FY 2011-12</b>	<b>Five-Year Average</b>
Total Fleet						
Maintenance Costs	\$ 33,006.73	\$ 34,461.64	\$ 33,985.88	\$ 47,621.97	\$ 72,480.10	\$ 44,311.26

Presently, each supervisor at the Water Pollution Control Department is responsible for managing their own fleet. The Department previously had a fleet supervisor, who oversaw all fleet activities, but that individual retired in July 2012 and the position has remained vacant. As such, supervisors and vehicle operators are responsible for ensuring that vehicles and equipment remain functional. Selective repairs and maintenance are performed by vehicle and equipment operators<sup>8</sup>, such as replacing hoses, headlights and taillights. Staff suggested that these items are simply not worth the cost and time associated with taking them to a commercial vendor. Major repairs are either taken to the department’s commercial vendor or returned to the dealership if an extended warranty is in place. Preventative Maintenance needs are based on mileage and tracked using the Department’s fuel management system, which records vehicle mileage.

Vehicle replacement is not formally planned for, but is instead monitored to see when a vehicle reaches its recommended replacement level. At that point, staff noted that if a vehicle is in good operating condition and not requiring costly repairs that exceed the vehicle or equipment’s value, they will continue to keep the vehicle or piece of equipment in service.

The Department does not utilize any formal fleet management software, but has developed an extensive Excel Database collection of fleet maintenance records. These records are organized for each division by fiscal year and include a history of expenditures for each service received.

## **Findings**

### ***Summary***

This audit seeks to determine whether cost, quality, and timeliness of maintenance and repairs provided by the Central Garage Division are reasonable. The Central Garage Division provides services at a reasonable cost and generally satisfies its customers. A customer survey administered as part of this

<sup>7</sup> Report to the Mayor and City Council by the Management Analyst, *Review of the City’s Central Garage*, Report No. 04-3, December 2004.

<sup>8</sup> Eligible Water Pollution Control positions are members of the International Brotherhood of Electrical Workers Local No. 53.

audit indicated that 50 percent of respondents were either very satisfied or satisfied with Central Garage Division products and services, compared to 33 percent who were neutral and 17 percent who were dissatisfied. The garage maintains low hourly billing rates and markups as compared to a majority of its peer cities and area private garages, though not necessarily always lower than the private sector or peer cities. For some common services, set costs have been established. The low rate structure allows the Central Garage Division to maintain vehicles at a low cost per mile, and repair costs are typically lower than estimates provided by area private garages.

The low cost of service and general satisfaction is at risk of being offset, however, by the significant age of the fleet for which the Central Garage Division is responsible. A lack of funding and strategic planning for vehicle replacement has contributed to a fleet that has been in service on average nearly four years longer than that of peer cities. Aged units not only adversely impact mechanic productivity, but also negatively impact cost for maintenance, repair, and downtime. Though the City must attempt to fund many worthy causes, reestablishing a vehicle replacement program should be a priority in order to fully capture the low cost of service provided by the Central Garage Division.

A lack of strategic planning for vehicle and equipment replacement has also contributed to a highly diverse fleet, which can contribute to a higher maintenance and repair cost by preventing parts standardization and mechanic specialization. Among the City's largest vehicle class, there are 40 different models. Of these 40 models, 34 have less than 10 vehicles each. An Administrative Policy is currently in place to establish basic specifications and uses for passenger vehicles, utility vehicles, and police cruisers. This Policy should be revised to further restrict the various make and model available in each class in order to enhance vehicle and equipment standardization. Unique circumstances, such as the Police Department's need to rotate undercover vehicles or the ability to maintain compatibility between existing equipment and certain vehicle make and models, should be considered as needed. The Central Garage Division's categorization of fleet should also be revised to consolidate the 91 different vehicle and equipment classifications currently used in the CFA fleet management system.

Productivity among Central Garage Division staff is comparable to peer cities and exceeds industry guidelines. A high percentage of billable hours are generated due to staff experience, steady work, and rarely waiting long periods of time for necessary parts. Some Central Garage customers expressed a concern regarding the cost of service provided, though vehicle age and diversity, not rate structures, are primarily responsible for driving costs higher than desired. To improve customer understanding of cost and services provided, the Division should provide itemized transaction statements for each asset serviced. Presently, each department receives a monthly report summarizing all services to all assets in that period. Individual statements would improve customer awareness of cost and services received.

To further enhance their competitiveness, the Central Garage Division should develop balanced performance measures in conjunction with their customers, especially those that track quality and timeliness of service. Users of the Central Garage were generally pleased with the quality and timeliness of service provided by the Central Garage Division, but additional performance measures are needed to assess Division performance. Without good management information, the Division is unable to consistently track quality and timeliness and may be ill-equipped to deal with negative perceptions that

may arise or identify and correct problems. The Division's fleet management software (CFA) is able to track some measures, but an improved system is needed to provide more robust performance evaluation capabilities. A consistent method is also needed to evaluate and track fleet data citywide.

Although administration of the Central Garage Fund as an internal service fund represents a common practice among governmental entities, improved processes for developing and managing the Central Garage Fund are needed. While the Budget Office attempts to solicit input from users during the budget development process, many departments still feel they lack input in this process and find it to be vague. Understanding the management and financial status of fleet-related funding throughout the fiscal year also remains imprecise for some. Additionally, though the Finance Department provides a brief synopsis of the status of the Central Garage Fund each month, some users expressed difficulty in utilizing this report. The Central Garage Division should partner with the Budget Office to develop reports that are readily understood, empowering the Division to consistently manage the Fund throughout the entirety of the fiscal year. Identifying fleet liaisons in each department to solicit input and provide these reports to throughout the year may also help improve awareness among departments. Ensuring frequent communication and addressing financial concerns promptly is a responsibility both parties must also embrace.

While preventative maintenance helps maintain vehicle reliability and minimize repair costs, these services are not regularly performed in accordance with their scheduled due-date. Industry standards hold that 95 percent of preventative maintenance services should be performed on-time, only 67 percent of preventative maintenance activities were performed on time at the Central Garage in Fiscal Year 2011-12. The Division has a robust preventative maintenance program that has been developed in accordance with each vehicle's manufacturer recommendations. The Garage Supervisor personally notifies each vehicle operator when a preventative maintenance service is needed, and the Division offers a shuttle program to pick-up a vehicle for service and return it when completed. Management should consider whether adding a second shift at the Central Garage would be appropriate. This practice is currently in place at both the Water Department and Power and Light Department garages, and several Central Garage users expressed an interest in this option. Such an action would increase the opportunity to have this service performed and may improve the number of preventative maintenance services that are performed on-time.

Though the addition of a second shift would increase the opportunity to perform preventative maintenance services, this addition itself should not be considered a panacea for improving this figure. 32 percent of the work performed at the Central Garage was done on a scheduled basis last fiscal year, whereas industry standards hold that 50 to 70 percent of work should be performed on a scheduled basis. As long as the age of the fleet remains high, the repair volume and the number of unscheduled services performed will remain substantial and restrict the hours available to perform preventative maintenance services.

Administrative policies should also be added to address the procedures and practices that guide the operation of the Central Garage Division. That the fleet management practices of the Central Garage Division have largely been effective is a testament to the tenacity, resourcefulness, and ingenuity

exemplified daily by Division staff. However, it is imperative that the current operating procedures, which are adhered to through custom and tradition built over many years of service, be formally adopted and documented. While these processes may be effective, the City subjects itself to an unnecessary degree of risk by building programs around personnel instead of policies. Therefore, formally adopting Central Garage Division policies and procedures will ensure that even though individual staff may change, the policies and procedures will remain the same.

Management should define operator responsibilities for vehicle maintenance as part of a larger fleet management policies and procedures administrative policy. Although checking fluid levels and other minor items is a simple way to help keep a vehicle or piece of equipment in operating condition, there are no citywide regulations that require operators to maintain fleet assigned to them. Though some departments have developed policies for operator responsibilities, a standardized policy is needed to ensure vehicles and equipment are utilized and maintained in a safe and cost-effective manner.

With impending retirements, the City is presented with a unique opportunity to assess the organizational structure of the Central Garage Division. While the Fire Department partially integrated their fleet management operations into the Central Garage nearly seven years ago, they have continued to retain a Fire Apparatus Mechanic on their staff to perform all fire equipment maintenance and repair services at the Central Garage. With the retirement of the current Fire Apparatus Mechanic, both the Fire Department and the Central Garage Division have expressed an interest in completing this integration, and management should evaluate the organizational structure to see if such integration is indeed desirable and appropriate. Increasing the number of mechanics certified to perform emergency vehicle services, work scheduling, parts management, and space utilization are all issues that management must address when considering full integration.

Management should also utilize this opportunity to evaluate the appropriateness of returning fleet management responsibilities for the Water Pollution Control Department to the Central Garage Division. Though once a customer of the Central Garage, Water Pollution Control privatized management of its fleet nearly 20 years ago due to perceived issues of work prioritization and cost containment. Yet this report, along with a 2004 Management Analyst review of the Central Garage, found work practices and rate structures to be greatly improved and competitive with area vendors. Additional economies of scale may be realized by distributing various overhead and indirect costs across a larger customer base. Returning these services to the Central Garage would also likely yield the added benefit of improving the centralization of fleet management records and performance evaluation data. Because of these potential benefits, management should evaluate the organizational structure to see if this additional merger is also desirable and appropriate.

### ***Vehicle and Equipment Replacement Planning and Funding Is Needed***

Vehicle and equipment replacement planning lacks consistent review at a citywide level and has not been regularly funded for many years. Nationally, 65 percent of governmental fleets have a formal replacement program.<sup>9</sup> Formal fleet replacement criteria (primarily vehicle mileage and age) are critical

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<sup>9</sup> *Government Fleet*, 2012 Industry Profile Survey

to identifying when a vehicle or piece of equipment has reached its useful life and the cost of maintaining it exceeds its value. This is especially important given that the age of the fleet maintained by the Central Garage is significantly higher than that of peer cities. Aged units not only adversely impact mechanic productivity, but also negatively impact cost for maintenance, repair, and downtime.

### Fleet Maintained by Central Garage is Significantly Older Than Its Peers

The average time-in-service<sup>10</sup> of a vehicle or piece of equipment maintained<sup>11</sup> by the Central Garage is 127 months, or nearly 11 years. Cities of similar population sizes were found to have an average time-in-service of 82 months or approximately seven years. In fact, the average time-in-service of the City’s fleet would be exponentially higher but for the Fire Public Safety Sales Tax, Police Public Safety Sales Tax, and Park Improvements Sales Tax that have allowed the Fire, Police, and Parks and Recreation Departments to replace their fleets with some regularity. However, these sales taxes have not fully satisfied the department’s fleet replacements needs, and a lack of revised and centralized replacement records makes it difficult to quantify this shortfall. A consistent citywide approach is needed. Having formal fleet replacement criteria and dedicated funding ensures aged vehicles and equipment are removed at an appropriate time to minimize downtime, repair costs, and mechanic hours billed.

#### EXHIBIT 7: AVERAGE VEHICLE AND EQUIPMENT TIME IN-SERVICE (IN MONTHS)

Jurisdiction	Residential Population of Area Served	Light Vehicles <= 8,500 GVW	Light Vehicles 8,501-10,000 GVW	Medium-Duty Vehicles 10,001-19500 GVW	Heavy-Duty Vehicles >= 19,501 GVW	Heavy Equipment	Police Vehicles	Fire Apparatus
Savannah, GA	136,286	46	77	52	N/A	118	42.99	82.59
Peoria, AZ	154,065	76	47.62	63	68	150	54	81
Surprise, AZ	117,517	N/A	70	51.8	43	N/A	36	78
Bellevue, WA	123,400	75	112	76	85	123.3	48.13	124
Columbia, MO	108,500	84	82.75	120	111	84	N/A	105.73
Olathe, KS	127,211	90	N/A	N/A	57	N/A	44	92.08
Cedar Rapids, IA	126,326	48	N/A	133.86	N/A	N/A	50	156
Concord, CA	122,067	108	126.31	61	123.67	118	36	N/A
Coral Springs, FL	145,058	N/A	52	N/A	82	83.03	44.26	126
Elk Grove, CA	153,015	107	N/A	N/A	N/A	93	N/A	N/A
Fort Collins, CO	144,875	63	N/A	68.73	78.86	50.82	59	N/A
Mc Allen, TX	132,338	80	67.33	84.15	88.79	84	39.26	130.95
2011 Survey Average	132,555	78	79	79	82	100	45	108
Independence, MO 2011 Average	117,213	79	137	145	192	219	23	93
Percentage of Total Independence Fleet		59%	4%	7%	12%	4%	8%	5%

<sup>10</sup> ICMA Center for Performance Measurement, *FY 2011 Fleet Management Template*. Average age in months of vehicle/equipment on the last day of the reporting period. Age begins when a unit is put into service by the governmental entity and ends when vehicle is completely removed from service.

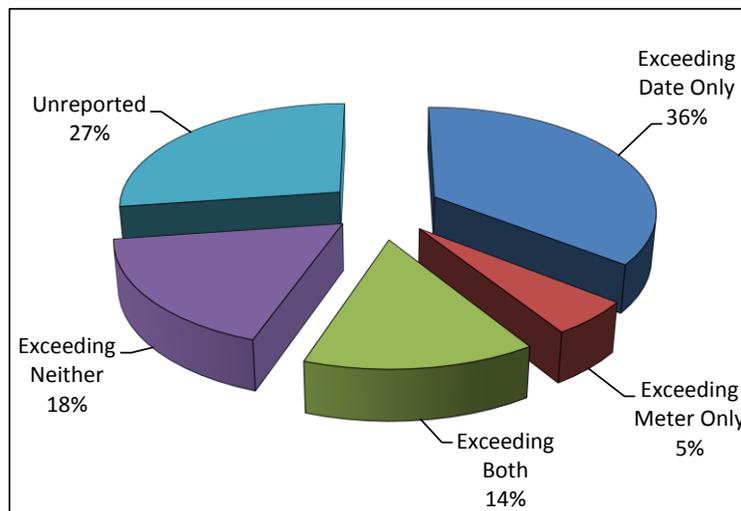
<sup>11</sup> Light equipment, consisting primarily of tractors, trailers, mowers, and small “pull-behind” items, is not included because many of these items do not generate mileage and are therefore difficult to compare.

After reviewing a draft of this report, the City Manager inquired as to whether the definition of time in service for a City vehicle meant that existing vehicles were either put into reserve status or cycled from one department to another. Departments interviewed for this report indicated that they maintain very few, if any, reserve vehicles, and Public Works Management reported that a very small number of vehicles are cycled between department's each year, suggesting this to be no more than two or three vehicles annually. The report thus concludes that the City's fleet is not replaced regularly, contributing to the higher average service time the City's for vehicles and equipment.

### **The Majority of Fleet Maintained By Central Garage Exceeds Replacement Criteria**

Fifty-five percent of the fleet maintained by Central Garage exceeds replacement criteria, while only 18 percent was reported to be within replacement guidelines. The fleet is tracked by mileage accrued as well as the date it was placed in-service, which is typical of other jurisdictions that were reviewed. Central Garage updates each asset in CFA with replacement dates and mileages. A report can be generated from CFA indicating which vehicles exceed various replacement criteria. Vehicle mileage and age are then considered in conjunction with maintenance and repair costs so that assets most costly to maintain are replaced first, while those assets with lower maintenance and repair costs can continue to be used if needed. Many departments also track this information independent of the Central Garage.

#### **EXHIBIT 8: CENTRAL GARAGE EQUIPMENT REPLACEMENT SUMMARY**



### **Citywide Fleet Replacement Needs Are Not Regularly Updated and Monitored**

As Exhibit 8 indicates, 27 percent of the fleet maintained by Central Garage contains no pre-defined replacement criteria. While some departments track and monitor their individual fleet replacement needs, a more holistic approach is needed. This is especially important given the minimal number of assets that are considered for replacement each year during the budget-setting process. Management must have reliable and current information in order to accurately assess which assets are most in need

of replacement. To maximize this investment, management must be able to consider this decision at a citywide level, not a departmental level.

Staff at the Central Garage noted that the inability to fill their Administrative Specialist II position has meant various data entry and other reporting tasks have been forgone in order to satisfy routine operational duties, such as processing work orders, preparing billing statements, and managing parts inventory. Because the equipment replacement report has not been routinely updated, the City lacks centralized and standardized reporting of the replacement needs of a critical number of assets.

### **The City Lacks Dedicated Funding for Vehicle and Equipment Replacement**

The City does not presently have a dedicated fleet replacement funding mechanism. Previously, the City identified each asset's replacement date and the total replacement cost. This cost was divided over the lifespan of the current asset to ensure funding would be in place when replacement became necessary. The amount contributed each year for vehicle replacement was placed in a designated fund balance of the City's General Fund. As budget constraints tightened, however, that designated fund balance was used to address expenses associated with other programs. This replacement amount declined from \$3.8 million in 1990 until it was fully depleted in 1992. The budget office indicated that funding is typically included for roughly three to four vehicles annually, but this appropriation is often required at the end of each fiscal year to assist with other expenses, such as higher-than-expected utility or fuel costs. While Finance staff agreed that planning for fleet replacement is important, they could not say that the City should be fully funding it at present, given the many other competing needs the City faces.

### ***Repair Costs Seem Reasonable, But Could be Lower***

The Central Garage Division's hourly billing rates and markups are lower than most local private garages. The hourly billing rate for small vehicles and equipment is lower than most peer cities, but the hourly billing rate for heavy vehicles and equipment is among the higher rates charged by peer cities. This differentiated rate structure, however, represents an equitable manner by which to distribute costs to those who require heavy vehicle and equipment service more frequently, and the hourly billing rate for this service is often well-below that offered by private vendors. Parts and fuel markups generally resemble those assessed by peer cities as well. However, maintenance and repair costs per mile are often found to be higher for each vehicle and equipment class when compared to peer cities. Repair costs are often found to be lower than private garages for several common repairs, suggesting that while lower hourly billing rates and markups contribute to a lower maintenance and repair cost, the significant age of the City's fleet leads to a need for more frequent repairs for each asset. A lack of standardization among the City's fleet prevents the Central Garage from specializing in the parts kept in-stock and could potentially increase the cost and downtime for each vehicle as parts are ordered. Fifty percent of users who responded to a survey for this audit identified cost as an area with which they were displeased, though this cost is attributable to the age of the fleet, not the Garage's rate structure.

## Hourly Billing Rates and Markups Are Low

The Central Garage’s auto mechanic hourly billing rate of \$55 is equal to or lower than 8 of 10 comparable cities that charge an hourly billing rate<sup>12</sup>, and is about 40 percent lower<sup>13</sup> than the average hourly billing rate charged by the eight area shops that were surveyed. The Central Garage’s heavy mechanic hourly billing rate of \$85 is lower than 3 of the 10 comparable cities that charge an hourly billing rate, but was 21 percent lower than the average billing rate charged by the six area shops that were surveyed. One vendor that was surveyed currently provides services to the Water Pollution Control Department. This vendor noted a special hourly billing rate that had been negotiated with Water Pollution Control. However, this rate was still higher than the auto mechanic billing rate assessed by the Central Garage.

### EXHIBIT 9: HOURLY BILLING RATES AND PARTS MARKUP AT AREA PRIVATE GARAGES

Labor Rates at Area Private Garages		
Area Shop	Hourly Rate	Parts Markup
Greg's Tire Center	County/City Rate: \$75 General Public: \$99	County/City Rate: 55% General Public: MSRP
AAMCO Transmissions	\$90	165%
Maywood Auto Repair	\$89	Variable
Landmark Dodge Inc.	\$100	No Markup
Midway Ford	Customer: \$126.54 Motorhome: \$159.60 Brakes: \$91.77 Tuneup: \$81.51 Warranty: \$100.28	Not Available
Bullard Auto Service	\$70	Variable
Midas	\$87-\$90 (average)	150%-200%
Metro Ford	\$79	20%

The Central Garage was unique among comparable cities and area vendors that were surveyed in that they have a different hourly billing rate based on the type of vehicle or equipment being serviced. At the Central Garage, anything that is less than one ton in weight is classified as auto equipment and subject to the \$55 hourly billing rate. Anything weighing greater than one ton is classified as heavy equipment and subject to the \$85 hourly billing rate. The City also has different job classifications and compensations to service these varying equipment classifications due to the fact that these classes require varying levels of technical skills and expertise. The Garage Manager at the Central Garage noted that this pricing structure had been established in order to equitably distribute the cost of maintaining different sizes of equipment. Therefore, departments that had little to no heavy equipment would not

<sup>12</sup> The City of Surprise, Arizona, does not bill users for labor hours. Salaries are budgeted for and paid from the fleet division account. The City of Elk Grove, California, has fully outsourced its fleet maintenance operations.

<sup>13</sup> One vendor surveyed provided both the hourly billing rate for the general public as well as an hourly billing rate negotiated for the Water Pollution Control Department and Jackson County. For consistency, this analysis used the general public rate for all vendors that were surveyed.

be responsible for supporting that cost. This practice seems appropriate to avoid unnecessarily distributing heavy vehicle and equipment costs.

**EXHIBIT 10: HOURLY BILLING RATES AND PARTS MARKUP AT AREA PRIVATE GARAGES (HEAVY EQUIPMENT)**

Labor Rates at Area Private Garages		
Area Shop	Hourly Rate	Parts Markup
Burnup Equipment Co.	\$75	Variable
Midwest Wheel	\$75	15%-28%
Foley Equipment	\$107	Parts In-House: No Markup Outside Parts: 30%
Central Detroit Diesel	\$124	33%
KCR/Diamond International	\$125	18%-35%
Midway Ford	\$137	Not Available

Additionally, the markup for parts and fuel is similar to that of other cities. The parts markup is generally found to be at or below what is charged by area vendors (area vendors noted that these figures represent averages and vary by individual circumstance). The Central Garage and peer cities highlighted the importance of assessing markups that satisfied various overhead costs associated with providing these services while ensuring these markups did not exceed the commercial costs of obtaining these services. The markup for fuel, for example, assists with obtaining insurance, licensing, permitting, and other regulations, but the per-gallon cost of fuel remains well below what is available commercially.

**EXHIBIT 11: COMPARISON OF HOURLY BILLING RATES AND MARKUPS TO OTHER CITIES**

City	Auto Mechanic Billing Rate	Heavy Mechanic Billing Rate	Internal Parts Markup	Commercial Parts Markup	Fuel
Columbia, MO	\$50.00	\$50.00	30%	No Markup	5%
Mc Allen, TX	\$53.00	\$53.00	16%	Admin. Fee (Varies)	\$0.10
Concord, CA	\$55.00	\$55.00	10%	10%	10%
Savannah, GA	\$59.00	\$59.00	Cost of Parts Only	10%	10% (External Users)
Coral Springs, FL	\$65.00	\$65.00	No Markup	No Markup	No Markup
Independence, MO	\$55.00	\$85.00	20%	10%	\$0.13
Cedar Rapids, IA	\$71.00	\$71.00	\$10 fee when total parts cost exceeds \$25	No Markup	9%
Peoria, AZ	\$71.00	\$71.00	17%	20%	\$0.10
Fort Collins, CO	\$86.00	\$86.00	25%	No Markup	\$0.15
Bellevue, WA	\$96.00	\$96.00	\$0.01-\$150: 24.2% \$150-\$500: 10% >\$500: 5%	\$0.01-\$150: 24.2% \$150-\$500: 10% >\$500: 5%	\$0.12
Olathe, KS	\$109.18	\$109.18	No Markup	No Markup	No Markup
Surprise, AZ	No Hourly Labor Rate		Cost of Parts Only	N/A	N/A
Elk Grove, CA	<i>Fully Outsourced</i>				

## Set Labor Costs are Established for Some Services

For more common services, the Central Garage Division has established set costs for employee time worked. These set costs are consistent regardless of vehicle or equipment class and are intended to allow customer to reliably anticipate the cost of common services. Additionally, because these jobs are performed more frequently, Central Garage Staff developed these set costs to minimize expenses incurred by Central Garage Customers by avoiding the standard hourly billing rate of \$55 or \$85 per hour. These costs are for billing of time only and do not include the cost of parts or shop supplies.

### EXHIBIT 12: CENTRAL GARAGE DIVISION SET COSTS

Code #	Definition	Price
92	Oil & Lube	\$ 10.00
93	Front Brakes	\$ 15.00
94	Rear Brakes	\$ 20.00
95	Replace Tires	\$ 10.00
96	Balance Tires	\$ 8.50
97	Batteries	\$ 15.00
98	Vehicle Shuttle (Round Trip)	\$ 10.00
99	Turn Rotor	\$ 10.00

## Some Survey Users Identified Cost as a Concern

As part of this audit, a user survey was conducted of Central Garage Division customers. Fifty percent of users identified themselves as being dissatisfied or very dissatisfied with the pricing at the Central Garage, 50 percent suggested they were neutral, and no users were found to be satisfied or very satisfied. During interviews held with each user department, some departments expressed a concern with the garage performing repairs or services that were beyond the original purpose for which the vehicle was taken to the Central Garage, which increased the cost they were expecting to be charged.

This concern was pointed out to Central Garage staff, and they indicated that it is their policy to repair all deficiencies found during the course of their work that, in their opinion, should be repaired prior to the next scheduled services to avoid future breakdowns or more expensive repairs. While this policy seems appropriate, departments should be informed when these issues are identified so that they can adequately prepare for the cost and downtime associated with any additional repairs. Individual transaction statements would likely assist with improving communications about services performed and the cost associated with each.

Concerns about costs are also largely attributed to the significant age and diversity of the fleet serviced rather than an inordinately high rate structure or excessive number of hours billed per vehicle. As the age of the fleet increases, the cost-per-mile of servicing it grows considerably. The cost of maintaining the current fleet would likely be greater if not for the low rate structure and moderate number of hours billed per vehicle or piece of equipment. Improved performance data reporting would assist in

communicating this challenge to users while highlighting the low hourly billing rate, parts markup, and number of hours billed.

### Low Hourly Billing Rates and Markups Help Minimize Average Repair Costs

The Central Garage Division’s low hourly billing rate and parts markup helps minimize the average repair cost. Cost estimates were obtained from six area vendors on five common repairs for three models of vehicles.<sup>14</sup> The Central Garage Division had the lowest repair cost for 9 of the 15 jobs. All three tire jobs were found to have more than one vendor quoting a lower cost, though Central Garage staff believed this to be due to vehicles being equipped with specially-rated tires to enhance performance, increase safety, and minimize the frequency with which the tires need to be replaced. The Central Garage staff also stated their belief that the remaining replacement jobs were for parts that were not always readily on-hand due to the diversity of the City’s fleet, which highlights the lack of vehicle standardization.

#### EXHIBIT 13: COST COMPARISON FOR SELECTED JOBS

	Parts	Labor	Sub-Total	Shop Supplies	Central Garage Repair Cost	Vendors Quoting Lower Cost	Vendors Quoting Higher Cost
<b>2002 Ford Ranger</b>							
Replace Front Brake Pads	\$ 43.28	\$ 10.00	\$ 53.28	\$ 11.04	\$ 64.32	-	6
Replace Front Brake Pads and Turn Rotars	\$ 43.28	\$ 30.00	\$ 73.28	\$ 11.04	\$ 84.32	-	6
Replace 2 Tires	\$ 228.72	\$ 37.00	\$ 265.72	\$ 11.04	\$ 276.76	2	4
Replace Alternator	\$ 205.18	\$ 27.50	\$ 232.68	\$ 11.04	\$ 243.72	2	4
Replace Battery	\$ 75.54	\$ 10.00	\$ 85.54	\$ 11.04	\$ 96.58	1	5
<b>2009 Chevy Malibu</b>							
Replace Front Brake Pads	\$ 58.41	\$ 10.00	\$ 68.41	\$ 11.04	\$ 79.45	-	6
Replace Front Brake Pads and Turn Rotars	\$ 58.41	\$ 30.00	\$ 88.41	\$ 11.04	\$ 99.45	-	6
Replace 2 Tires	\$ 355.17	\$ 37.00	\$ 392.17	\$ 11.04	\$ 403.21	6	-
Replace Alternator	\$ 211.03	\$ 27.50	\$ 238.53	\$ 11.04	\$ 249.57	-	6
Replace Battery	\$ 115.18	\$ 10.00	\$ 125.18	\$ 11.04	\$ 136.22	2	4
<b>2007 Ford Crown Victoria</b>							
Replace Front Brake Pads	\$ 59.98	\$ 10.00	\$ 69.98	\$ 11.04	\$ 81.02	-	6
Replace Front Brake Pads and Turn Rotars	\$ 59.98	\$ 30.00	\$ 89.98	\$ 11.04	\$ 101.02	-	6
Replace 2 Tires	\$ 256.60	\$ 37.00	\$ 293.60	\$ 11.04	\$ 304.64	4	2
Replace Alternator	\$ 312.46	\$ 27.50	\$ 339.96	\$ 11.04	\$ 351.00	-	6
Replace Battery	\$ 69.40	\$ 10.00	\$ 79.40	\$ 11.04	\$ 90.44	-	6

While conducting a telephone interview of area vendors, the manager of one local garage noted that comparisons between the cost of service at the City’s Central Garage and private garages will always be difficult because of the differing outcomes each pursues. This manager noted that the private garages are for-profit organizations that must generate sufficient income in order to satisfy their operating costs and compensate their employees while ensuring that they remain competitive relative to other private garages. The Central Garage, meanwhile, is operated in such a manner that it seeks only to meet the

<sup>14</sup> Repairs were selected due to the frequency in which they are performed. Models were selected because they represent an appropriate percentage of the City’s overall fleet. Of the 8 vendors providing hourly billing rates and markup data, six agreed to provide cost estimates.

cost of providing service to City departments, or a “break-even” approach. This sentiment was echoed by many of the fleet administrators that were surveyed in other cities, who commonly referred to a “Yellow-Pages Rule”, meaning that municipally-operated garages must strive to provide services below what is offered commercially or risk privatization. Though the Central Garage was found to be providing repair costs at a lower rate than many area private garages, they must continuously seek to identify any areas in which they may not be the most cost-effective provider and address the reasons for this.

### **The Age of the Fleet Maintained by the Central Garage Negatively Impacts the Cost Per Mile**

The low hourly billing rate and parts markup at the Central Garage Division is largely offset as the age of the fleet increases, leading to a higher cost-per-mile to maintain and repair vehicles and equipment than what is assessed in peer cities. Using the FY 2011 Fleet Management Template from the ICMA Center for Performance Measurement, the fleet maintained by the Central Garage was allocated into various categories based on use and measures of Gross Vehicle Weight. Light equipment, consisting primarily of tractors, trailers, mowers, and small “pull-behind” items, is not included because many of these items do not generate mileage and are therefore difficult to compare. “Marked” police vehicles used solely by uniformed patrol personnel and heavy fire apparatus are considered separately. The remaining categories are inclusive of all other vehicles and equipment maintained by the Central Garage. Each category represents maintenance and repair cost only (hours billed, parts, and shop supplies) and does not consider fuel or depreciation costs because these vary widely by organization.

**EXHIBIT 14: COMPARISON OF AVERAGE MAINTENANCE AND REPAIR COST PER MILE BY VEHICLE TYPE**

	<b>Light Vehicle I (Exp./Mile)</b>	<b>Light Vehicle II (Exp./Mile)</b>	<b>Medium-Duty Vehicles (Exp./Mile)</b>	<b>Heavy-Duty Vehicles (Exp./Mile)</b>	<b>Heavy Equipment (Exp./Mile)</b>
Average Peer City Cost Per Mile	\$0.19	\$0.34	\$0.40	\$1.64	\$109.92
Average Age (Months)	78	79	79	82	100
Independence, MO Cost Per Mile	\$0.17	\$0.37	\$0.50	\$9.94	\$104.70
Average Age (Months)	79	137	145	192	219

Despite having an auto mechanic hourly billing rate that is \$16.52 per hour lower than that of the average peer city as well as a comparable parts markup, the Central Garage maintains light and medium-duty vehicles at a cost of 4 cents per mile higher than its peers. This can be attributed to the fact that the average months-in-service of a light or medium-duty vehicle is 41 months greater than that of the average peer city. A fleet of heavy vehicles and equipment that has been in service 115 months longer

than the average city and has an hourly billing rate that is \$13.48 higher than the average charged by comparable cities has a cost-per-mile that is \$1.54 higher than the average cost-per-mile of other cities.

Measured another way, the Central Garage’s average hourly billing rate between auto and heavy mechanics is \$70 per hour, which is still below the \$71.52 that is charged by comparable cities. Yet despite having a lower average rate, the Central Garage has a cost-per-mile for non-fire apparatus and marked police vehicles that is 64 cents higher than the average for its peers. Again, this can be attributed to the fact that the Central Garage is maintaining a fleet that has been in service for 154 months compared to 84 months on average for its peers.

### **Newer Police and Fire Equipment Contributes to a Lower Cost Per Mile**

The Police and Fire Departments have been able to more closely follow recommended replacement schedules as part of the voter-approved sales taxes that have been authorized for their use. Coupled with the lower average hourly billing rate assessed by the Central Garage, these departments have experienced significantly lower maintenance and repair costs-per-mile for their vehicles and equipment than that of their peers. Police vehicles in this analysis consist only of “marked” vehicles that are used solely by uniformed patrol personnel. Additionally, fire apparatus consists only of heavy fire equipment and, in the case of peer cities, is also representative of maintenance of the vehicles themselves as well as their specialized equipment. In the case of Independence, this data is representative only of the maintenance of the vehicle itself and not specialized equipment associated with the vehicle, which bypasses the Central Garage. Moreover, the average cost-per-mile for Independence includes only the hourly billing costs for Central Garage Public Works employees and does not include the work hours incurred by the Fire Apparatus Mechanic. This position’s time is tracked separately from other Central Garage employees and therefore not available as part of the repair cost data obtained from CFA.

**EXHIBIT 15: COMPARISON OF AVERAGE COST PER MILE: POLICE AND FIRE**

	<b>Police Vehicles (Exp./Mile)</b>	<b>Fire Apparatus (Exp./Mile)</b>
Average Peer City Cost Per Mile	\$0.20	\$2.51
Average Age (Months)	45	108
<b>Independence, MO</b>		
Cost Per Mile	\$0.09	\$0.79
Average Age (Months)	23	93

### **Hours Billed Seems Reasonable, But Tracking Needs Improvement**

The hours billed by the Central Garage as a percentage of hours available is reasonable, but this should be closely monitored as it is a key measure of productivity. It illustrates the amount of time for which

the Central Garage is able to bill City Departments by actively servicing vehicles and equipment as opposed to being idle, such as when a mechanic must wait for a part to be delivered.<sup>15</sup> When considering only the hours that were available to be worked, which eliminates vacation, sick leave, holiday, and mandatory break-time hours, the Central Garage is found to be billing 93.83 percent of the available hours. Using this methodology, the Central Garage has determined that they must regularly bill between 80 and 90 percent of their time in order to cover their costs of service.

**EXHIBIT 16: COMPARISON OF HOURS BILLED AS A PERCENTAGE OF STRAIGHT-TIME HOURS AVAILABLE**

Central Garage Total Hours Billed FY 2011-12	Central Garage Total Hours Available FY 2011-12	Central Garage Percent of Hours Available Billed to Work Orders FY 2011-12
9086.5	9,684	93.83%

When compared to peer cities using ICMA factors, the Central Garage ranks 6<sup>th</sup> among 12 cities by billing 69.89 percent of available hours and is nearly identical to the average of 70.31 percent of hours billed. The ICMA methodology considers non-productive time (breaks, cleanup, department/union meetings) in the number of hours available. As such, hours billed consists of total straight time hours billed to work orders by central fleet maintenance employees whose time is considered billable. Hours available consists of total on-the-job hours (including non-productive time) and paid leave hours by central fleet maintenance employees whose time is considered billable.

**EXHIBIT 17: ICMA COMPARISON OF HOURS BILLED AS A PERCENTAGE OF HOURS AVAILABLE**

Jurisdiction	Hours Billed As Percentage of Hours Available
City of Surprise, AZ	50.81%
City of Bellevue, WA	58.62%
City of Columbia, MO	60.71%
City of Olathe, KS	66.59%
City of Mc Allen, TX	67.98%
City of Independence, MO	69.89%
City of Coral Springs, FL	70.38%
City of Peoria, AZ	71.55%
City of Savannah, GA	73.96%
City of Concord, CA	81.44%
City of Fort Collins, CO	82.95%
City of Cedar Rapids, IA	88.45%
City of Elk Grove, CA	N/A

<sup>15</sup> Total hours billed is based upon the time charged to Departments for work performed by the six Central Garage mechanics. Time for the Fire Apparatus Mechanic is tracked separately and not considered in this analysis.

Though these measures suggest the level of productivity to be reasonable at the Central Garage, this measure is currently difficult to track and therefore not regularly recorded. The CFA fleet management system employed by the Central Garage has limited reporting features and presents only the hours billed by mechanics who generate billable hours. For this analysis, data for the hours available (straight time, overtime, sick leave, vacation, etc.) had to be obtained using the City’s JD Edwards Financial Software. This is but one of several limitations of the current fleet management software, and illustrates the need to consider upgrading the system.

### **Repair Hours per Vehicle Is Significantly Lower Than the Average Peer City**

The Central Garage billed 23.24 hours per vehicle, which ranks it 5<sup>th</sup> among 12 peer cities, and well below the 78.51 hours billed on average by comparable cities. Garage staff noted that a high degree of seniority among mechanics has led to a highly competent and knowledgeable staff, which in turn allows them to quickly diagnose and repair each issue. This assessment is based upon hours billed by the six Central Garage mechanics for all vehicle and equipment categories served, though time incurred by the Fire Apparatus Mechanic is not included, as it is tracked separately from other Central Garage staff.

However, staff also cautioned that several factors can lead to a higher than necessary average hours billed per vehicle. A diverse fleet may contribute to higher hours as mechanics do not have the opportunity to specialize in repairs or vehicle types, as is the case in private shops. The age and condition of vehicles in the fleet may also contribute to higher hours billed per repair.

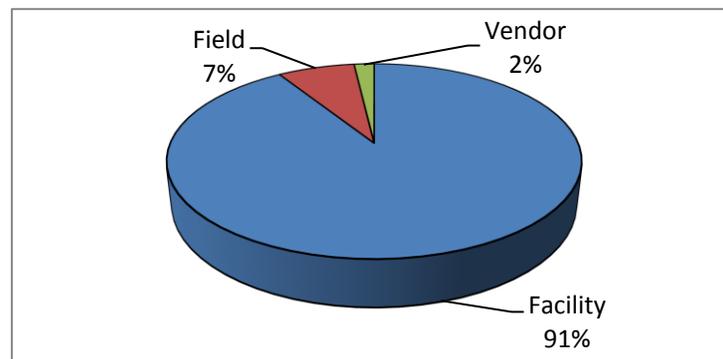
**EXHIBIT 18: COMPARISON OF HOURS BILLED PER VEHICLE MAINTAINED**

<b>Jurisdiction</b>	<b>Hours Billed Per Vehicle Maintained by Central Fleet Operation</b>
Bellevue, WA	13.75
Fort Collins, CO	16.81
Concord, CA	20.18
Mc Allen, TX	23.18
Independence, MO	23.24
Savannah, GA	33.81
Olathe, KS	34.87
Columbia, MO	49.01
Surprise, AZ	80.17
Peoria, AZ	114.60
Cedar Rapids, IA	190.89
Coral Springs, FL	286.29
Elk Grove, CA	N/A

## Repairs by a Private Vendor are Minimized, Which Minimizes Overall Cost

Of the 9,890 work orders processed by the Central Garage in Fiscal Year 2011-12, 185, or 2 percent, were serviced by a private vendor. As previously noted, the Central Garage has a lower hourly billing rate and parts markup than the average reported by area private garages. Having a majority of work performed by the Central Garage allows the City to minimize its expenditures for maintenance and repair services. Moreover, of the departments surveyed as part of this audit, only 17 percent were dissatisfied with the Central Garage's ability to meet their needs. However, the Central Garage must continue to quickly determine its ability to perform a service and avoid a duplication of effort that would prove costly to City departments.

### EXHIBIT 19: FISCAL YEAR 2011-12 CENTRAL GARAGE WORK ORDER BY REPAIR SITE



## Standardization of Central Garage Fleet Should Be Increased

Though likely unintended, the City has amassed a highly diverse fleet. Among its largest category of vehicles, Light Vehicles I (those with a gross vehicle weight less than 8,500 pounds), the City has 229 vehicles comprising 40 different models. Of these 40 models, 34 have less than 10 vehicles each. While diversity *between* vehicle and equipment categories is likely necessary, diversity *within* categories should be minimized to the extent possible. Insufficient standardization adversely impacts mechanic productivity, parts warehousing, and vehicle acquisition costs.

Administrative Policy 98-03 was issued to set selection guidelines for City passenger and utility vehicles, but improved enforcement is needed to corral the diversity of the City's fleet. This AP sets forth basic specifications and uses for passenger vehicles, utility vehicles, and police cruisers. These specifications are to be maintained and updated annually by the Assistant Public Works Director-Operations. The AP also dictates that the purchase of all-wheel or four-wheel drive vehicles must receive prior approval of the City Manager, based upon a recommendation by the Assistant Public Works Director-Operations.

Police Department staff who reviewed the findings of this report indicated a desire to retain some degree of flexibility when identifying and selecting vehicles and equipment. Police Department staff suggested that the ability to maintain some variety in vehicle type was critical to certain operations, such as varying the use of undercover vehicles to readily blend with surroundings. Moreover, Police Department staff submitted that the ability to reuse existing equipment in certain vehicle makes and models was critical to cost containment. While unique circumstances such as those proposed by the

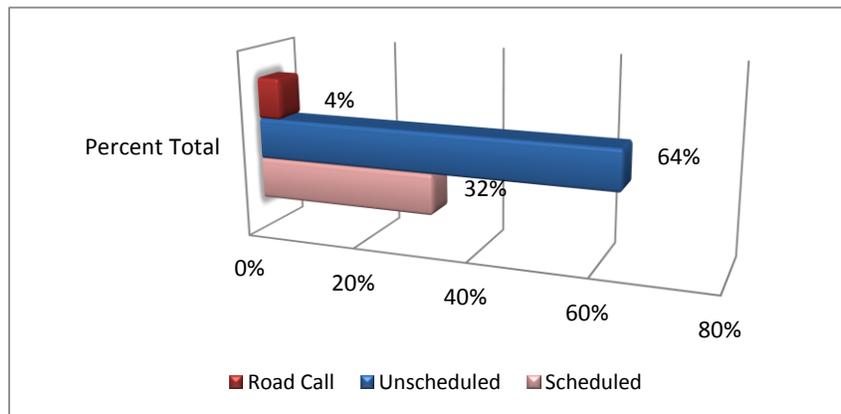
Police Department have merit and should certainly be incorporated, this report finds a critical need for vehicle standardization in general, and management should seek to revise Administrative Policy 98-03 to increase vehicle and equipment standardization.

In addition to the lack of standardization among the City’s fleet, the Central Garage lacks consolidated classification of vehicle and equipment types, making analysis cumbersome. The Central Garage has created 91 different vehicle and equipment categories in the fleet management system. By contrast, the ICMA Center for Performance Measurement divides vehicles and equipment into eight categories. A review of the categories in CFA would likely highlight several groupings that could be combined.

### **A Majority of the Work Performed by Central Garage Division is Unscheduled**

64 percent of the work performed by the Central Garage Division in Fiscal Year 2011-12 was done on an unscheduled basis, compared to 32 percent of work that was scheduled. 4 percent of work was “roadside” or “fieldwork”. Scheduled work consists of preventative maintenance services, items scheduled to be performed at a later date, and any annual DOT inspections. A greater percentage of scheduled work should be sought, as unscheduled work can yield higher overall maintenance and repair costs and lower fleet reliability. Moreover, workforce planning becomes more challenging when most vehicle work is unscheduled. Fleet industry standards suggest 50 to 70 percent of work be scheduled.

**EXHIBIT 20: COMPARISON OF CENTRAL GARAGE SCHEDULED VS. UNSCHEDULED WORK**



The Garage Supervisor noted several factors that may contribute to a high percentage of unscheduled repairs. The significant age of the fleet leads to the need for more corrective action as these assets are likely to experience frequent breakdowns. Moreover, the Garage Supervisor noted that if a corrective action is identified during the course of preventative maintenance, this repair will be made at that time rather than waiting to schedule it. As such, the service that began as scheduled work may be recorded as an unscheduled activity. Improved fleet management software capabilities would likely contribute to improved record management.

### **Users Do Not Receive a Summary Report for Each Service Performed**

Departments do not currently receive a summary for each service they receive, as is customary at many commercial garages. Instead, users are sent a monthly report containing each vehicle the department

owns (identified only by equipment number), hourly billing costs, parts costs, outside repair costs, and fuel costs. It is often difficult to identify the type of service each vehicle received. Uncertainty regarding the charges received creates doubt among users regarding the cost of service. The Central Garage Division should seek to develop a maintenance and repair transaction summary that can be provided to users when each vehicle or piece of equipment is returned.

### ***Improved Measures Are Needed to Assess Division Performance***

Though quality and timeliness of work are critical measures that are monitored through various techniques by the Central Garage Division, there is a lack of systematic measures to assess quality or timeliness of work on city vehicles. While Central Garage Division staff collects some fleet performance data, these measures need to be evaluated regularly so that any changes in performance can be identified more easily. Improvements to the consistency, accuracy, and timeliness of data being used are needed. A management information system to track vehicle maintenance, costs, and performance data is essential for a well-managed fleet. The Division has an information system that it uses to track billing and maintenance, but limited capabilities of the system make it difficult to provide performance information. Moreover, a holistic assessment of citywide vehicle and equipment performance data is impossible, given that each entity uses different resources to collect information. 67 percent of Central Garage users were satisfied or very satisfied with the timeliness of the services received, with remaining 33 percent indicating they were neutral. 67 percent of users rate Central Garage products and services as somewhat better or about the same when compared to alternative products and services available in the private market, while only 17 percent found Central Garage products and services to be worse when compared to alternative services.

### **Additional Quality of Work Measures are Needed**

The Central Garage Division's and individual mechanic's performance is assessed primarily based on the amount of time charged to each job as well as the percentage of time the division is able to bill. The Garage Supervisor periodically inspects completed repairs to assess job performance. Vehicle Repair Report's completed by Division mechanics also include a job code for rework. Tracking and reporting jobs that are coded as rework should be improved, however. Moreover, the division has not set formal performance measures or goals to assess quality of work. The Garage Supervisor said that he reviews each completed work order to ensure appropriate billing and any unusual tasks that were performed as well as having an "open-door" policy to receive any customer feedback regarding the division's performance. However, dynamic measures are needed to consistently monitor work quality and inform users about the quality of services they receive.

### **Survey Responses Were Positive Regarding Quality**

Both the customer survey administered for this audit and individual departmental interviews found a mix of comments regarding the quality of work at the Central Garage. Users were asked to compare Central Garage products and services to alternative products and services available in the private market. 67 percent of survey users rated Central Garage products and services somewhat better or about the same, 17 percent found Central Garage products and services to be worse, and 17 percent

said they didn't know which products and services they felt was better. Though most users seemed generally pleased with the quality of work, some respondents in individual interviews expressed a desire for enhanced thoroughness of the work, hoping that by taking more time to diagnose issues, the frequency of repairs would be minimized. Though the percentage of work coded as rework was not readily available, the frequency with which any repairs are performed is likely correlated in part to the significant age of the fleet the Central Garage Division services.

### **Improved Measures are Needed to Assess Timeliness of Work**

Central Garage Division management does not systematically measure the timeliness of work performed by division mechanics. Though Central Garage Division management reviews each completed work order to ensure that repairs have been done in a timely fashion, this is based primarily on the Garage Supervisor's assessment of how long a typical activity should take to complete. Instead, more standardized measures are needed that can be readily tracked and reported to customers and management alike.

### **Survey Responses Were Mostly Positive Regarding Timeliness; Common Concerns Exist Among Users**

Respondents to the user survey conducted as part of this audit were mostly positive regarding the timeliness of service they received, with 67 percent of users indicating they were either satisfied or very satisfied and the remaining 33 percent responding as neutral. Interviews suggested near unanimity in preferring the Central Garage to receiving service from a private garage, where the overriding concern was the time needed to transfer vehicles to and from these locations as well as a lack of prioritization among other non-City vehicles and equipment, thereby increasing downtime. The majority of users also indicated that they pay the \$10 "shuttle fee" to have their vehicles retrieved and returned by Central Garage staff when service is needed, and many users found this to be a beneficial practice.

While the remaining 33 percent of respondents were neutral, interviews with user departments identified some common concerns with timeliness. The most common concern revolved around the perceived inflexibility of division staff that is seen as being rigid in adhering scheduled start and ending times as well as scheduled breaks. The adherence to these timelines is perceived by some as delaying the time necessary to complete some requests. These timelines are largely governed by the SEIU work agreement, however, which dictates the total number, lengths, and ideal occurrence of these breaks.

An additional concern regarding timeliness expressed by departments was the hours of operation at the Central Garage. These users expressed a desire for the division to operate a second shift when vehicles could receive preventative maintenance, thus decreasing the time a vehicle was out of service. As previously noted, this is the practice at both the Water Department and Power and Light Department garages. The Garage Supervisor indicated that the division had previously operated a second-shift, but this was discontinued shortly after the Water Pollution Control Department ceased to receive services from the Central Garage.

Finally, some users expressed that a lack of communication regarding the status of their vehicle negatively impacted perceptions of timeliness. These users shared occurrences in which vehicles had been taken by the Central Garage to a vendor for repair, but the user was not notified. The user indicated they contacted the Central Garage when they felt their vehicle had been overdue to be returned, and only then were they informed it had been taken to a private vendor. Improved communication of vehicle status, including providing individual transaction statements to users for each service, is key to enhancing customer satisfaction.

## Quality and Timeliness Should Be Assessed

Division management, with input from its customers, should set goals related to the quality and timeliness of work and develop performance measures to assess progress in meeting those goals. Good fleet management practices include goals and measures that allow management to assess the quality of work performed and identify problem areas. Inadequate information and failure to assess the quality of maintenance and repairs could result in operating procedures that are costly or unnecessary.

A June 2008 report by Chatham Consulting, Inc. studied the Fleet Services Division for the City of Seattle, Washington.<sup>16</sup> This report noted the need for that organization to improve the breadth and depth of performance measures being tracked, and suggested a number of key performance measures Seattle should use. Four years later, in June 2012, the City of Seattle's Fleet Management Division was named by *Government Fleet* as the "Number One Fleet" as part of the "100 Best Fleets" list for 2012.<sup>17</sup> The performance measures recommended for use in that report regarding quality and timeliness are listed below. Some of these measures are currently reported by the Central Garage, though improvements are needed regarding their consistency, accuracy, and timeliness.

- Fully Burdened Labor Rate: Computed by dividing the sum of all direct and indirect costs associated with fleet maintenance and repair by the total number of billable hours charged by the mechanic workforce. Measures the efficiency of maintenance and repair services performed against other providers of these services.
- Turn-Around Time: Amount of clock time needed for a vehicle to be returned to service after it has been put in the shop for repair.
  - Targets:
    - Less than 24 hours: At least 70 percent
    - 24 to 48 hours: 20 percent
    - Longer than 48 hours: Not to exceed 10 percent
- Scheduled vs. Unscheduled Work: Amount of work that has been scheduled for service versus that which is done on an unscheduled basis. If the shop is engaged in excessive unscheduled repair work, overall maintenance and repair costs will be higher and fleet reliability lower.
  - Target for Scheduled Work: 50 to 70 percent

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<sup>16</sup> Chatham Consulting, Inc. *Report On Fleet Operations Study of Fleet Services Division City of Seattle, Washington*, June 2008.

<sup>17</sup> Government Fleet, *100 Best Fleets*, <http://www.government-fleet.com/100bestfleets/default.aspx>

- Repeat Work: Maintenance work that has to be redone because it was not done correctly in the first attempt.
  - Target: Less than 2.5 percent
- Downtime: Measures the amount of time the equipment is out of service because it needs to be repaired.
  - Target: Not to exceed 6 percent (excluding accidents)
- Mechanic Utilization: A measure of the percentage of available time mechanics spend working on vehicles rather than other activities such as running for parts, waiting for work, cleaning up work areas, or running errands.
  - Target: 65 to 70 percent
- Preventative Maintenance: This indicator measures all preventative maintenance inspections as compared to the total number scheduled in a given period of time.
  - Target: 95 percent

### **Customer Satisfaction Should Be Measured**

Customer satisfaction is an important measure of the quality of repairs. While the Division previously solicited feedback from users, this effort was halted some time ago as staffing levels were reduced. Instead, the Garage Supervisor has relied upon on “open-door” policy to generate customer feedback. The Central Garage Division should resume efforts to solicit formal feedback from users by conducting regular customer satisfaction surveys

### **Consistent Fleet Management Reporting Practices Are Needed Citywide**

In order to evaluate performance and assess fleet needs citywide, the City must establish consistent reporting guidelines and capabilities for all of its fleet management personnel, regardless of where each vehicle or piece of equipment is serviced. To that end, management should invest the necessary resources to obtain universal fleet management software that can be used to reliably track performance at all garage facilities. The CFA software used by the Central Garage was acknowledged by Public Works management to be limited in its reporting capabilities. The “Fleet Controller” application currently used by Power and Light, conversely, was noted to be designed for use by a central garage with use by other satellite garages. Such a program would not only greatly enhance reporting capabilities, but would likely yield a savings to the City over time since software licensing and maintenance costs would only be needed for one application. The long-term savings from accurate and timely management information should also outweigh the short-term costs of developing procedures for consistent job-coding and reporting.

### **Improvements Are Needed in the Consistency, Accuracy, and Timeliness of Data Being Used**

Improvements are needed in the consistency, accuracy, and timeliness of data being used. For example, figures for the number of vehicles and equipment serviced by the Central Garage vary depending on which report is generated by CFA. Moreover, a large disparity exists between the total fleet reported by the Central Garage Division and the Finance Department’s Accounting Division. In order to determine

the actual number of vehicles and equipment serviced by the Central Garage Division, data from the Accounting Division was cross-checked against the data provided by the Central Garage to eliminate any inactive vehicles or add any new vehicles. Both the Central Garage Division and each individual department reviewed this revised figures and found them to be accurate.

The Accounting Division contacts departments annually to update these records for various reporting requirements. However, the Garage Supervisor indicated he had difficulty receiving regular updates regarding vehicles that had been added and removed from the fleet and will often only learn of a new vehicle when a department requests a key-card be made for a new vehicle to use the Gas Boy fuel system. The Garage Supervisor also indicated a lack of administrative support had decreased the available time to revise the fleet records. The Central Garage Division, Accounting Division, and user departments should work together to ensure regular and reliable data is available.

### ***Development and Management of the Central Garage Fund Needs Improvement***

The City, much like the majority of governmental organizations, has established a dedicated fleet fund to track costs directly associated with fleet operating expenses. However, improvements in how annual funding is developed and tracked are needed. Existing methodologies are complex and not well understood. The Central Garage Fund creates questions among users about its equity. Improved practices are needed to ensure adequate funding for fleet maintenance and repair is available throughout each fiscal year. The Budget Office must remain diligent about working with Central Garage Division staff and City departments to monitor the Central Garage Fund and develop reports that easily assist the Division in managing the Central Garage Fund. Conversely, Division staff and user departments must be willing to devote time to meet with one another as well as with the Budget Office to better inform themselves of fleet financial management issues. The monthly reports received by departments from the Central Garage can be difficult to understand and can make it challenging to accurately track available fleet maintenance and repair funding.

### **A Shortage of Input is Perceived in Developing the Central Garage Fund**

Several City departments expressed a concern that they lack input in establishing appropriate fleet maintenance and repair funding as part of the annual budget process. The Budget Office explained that the budget is developed using the 12-month history of expenditures from the previous fiscal year. After salary and benefit costs are established for Central Garage Division staff and other minimal cost increases are considered, these preliminary numbers are provided to departments and feedback is requested. The budget office noted that time constraints associated with development of the budget limit the time feedback can be received, yet little input is received.

### **Central Garage and Public Works Management Lack Clarity on Central Garage Fund Status**

Both the Central Garage Division Supervisor and Public Works management expressed an inability to regularly understand the status of the Central Garage Fund. While they are aware of the expenditures

they have made, they expressed confusion about the revenues that have been collected and the remaining budget available to them throughout the fiscal year. Though the Department receives a monthly fund-status update as part of the Finance Department's Monthly Financial Report, the Public Works Department and other users find this report to be difficult to utilize.

Finance Department staff suggested that tracking of the Central Garage Fund status can be difficult for the Central Garage Division and Public Works management for a variety of reasons. As such, Finance staff indicated they could improve upon assisting the Central Garage Division in managing the fund, but a willingness on the part of Division staff to be better informed of the financial status of their customers is imperative. Finance staff, Public Works management, and Central Garage Division staff must work together closely to identify the needs of one another and develop appropriate reporting tools and methods of communication to enhance management of the Central Garage Fund.

### **Enhanced Practices Are Needed to Ensure Adequate Funds Are Available**

Some City departments expressed frustration with the availability of funding throughout the fiscal year. These departments highlighted experiences in which individual departmental budgets suggested funding was available for fleet maintenance and repair, but appropriations in the Central Garage Fund were found to be fully expended.

Finance staff indicated that it is not uncommon for the Central Garage Fund to begin to become fully expended as the end of each fiscal year nears. The Budget Office suggested this can be attributed to:

1. Failure by Central Garage Division staff to adequately track the full cost of providing services and billing an appropriate amount to recover these costs.
2. The need to liquidate encumbered funds.
3. Departments that have over-expended for fuel costs, in which case maintenance and repair funding is needed to satisfy the fuel costs.
4. An excessive amount of expenditures by a single department who has experienced an inordinate amount of maintenance and repair needs, which constrains the flexibility of other departments.

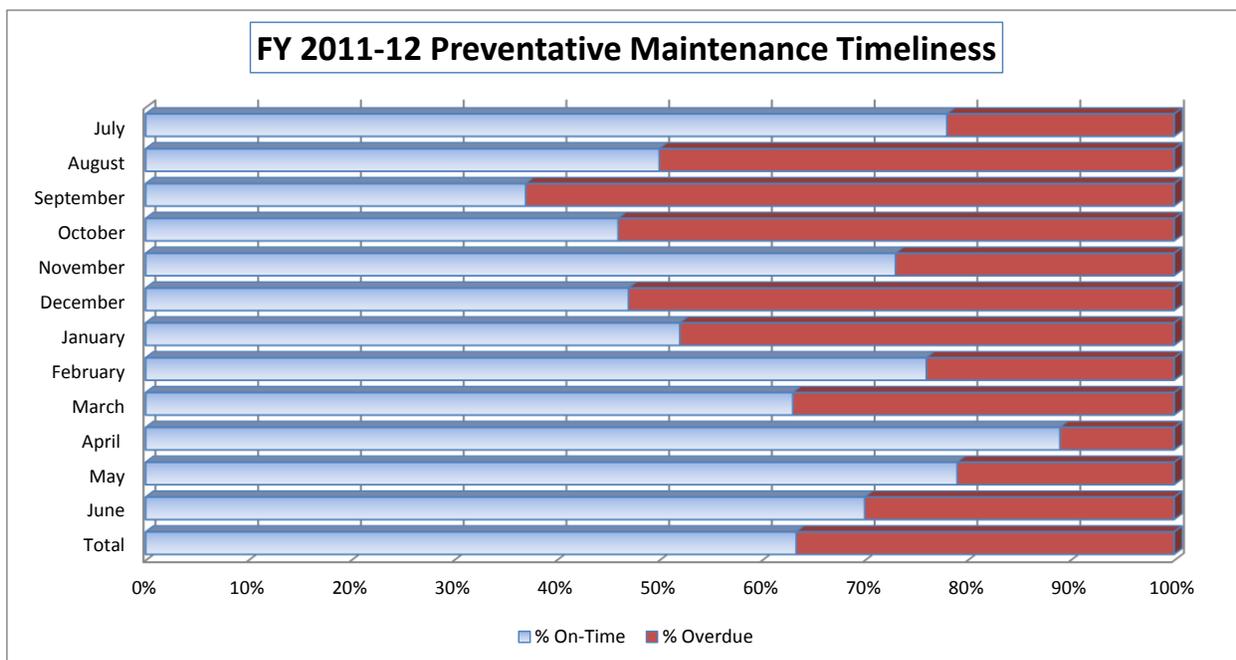
To this final point, Finance staff clarified that they are not tracking the business operation of the Central Garage Fund, but rather globally view the City as one customer of the Central Garage instead of viewing each department as an individual customer. As such, the Central Garage Fund is concerned with the need to break even. The Budget Office did stress the necessity, however, for the Central Garage to pay attention to the individual status of each department as the fiscal year progresses, and expressed a willingness to help the Division with monitoring this activity. The Central Garage Division should pursue this offer and seek to further refine their management of the Central Garage Fund.

### ***Accountability for Preventative Maintenance Should Be Strengthened***

While fleet industry standards hold that 95 percent of preventative maintenance services should be performed in accordance with their scheduled due date, only 63 percent of preventative maintenance activities were performed on time at the Central Garage in Fiscal Year 2011-12. Preventative maintenance prolongs the life of equipment, helping ensure reliable and cost-effective operation.

Central Garage Division customers were satisfied with the division’s effort to notify them of the need for preventative maintenance service, and were complimentary of the division’s willingness to schedule these services at convenient times. The Central Garage Division has developed an extensive preventative maintenance program following manufacturer’s guidelines. However, a procedures guide that details recommended service intervals should be updated to reflect revised service milestones.

**EXHIBIT 21: FISCAL YEAR 2011-12 PREVENTATIVE MAINTENANCE TIMELINESS**



Central Garage Division staff indicated a variety of reasons for which fleet may not receive timely preventative maintenance. First, some vehicles are no longer used as frequently, in which case a department may elect to extend the time between preventative maintenance services. Second, preventative maintenance services are often scheduled at a time that is convenient for the user. If a vehicle is due for preventative maintenance, but a user knows they will not be scheduling the vehicle in the near future, the preventative maintenance service may be delayed until the vehicle is no longer needed by the user. Third, police vehicles require that various on-board items be removed prior to the Central Garage performing the preventative maintenance, such as weapons and ammunition. If these items have not been removed, the Central Garage cannot perform the preventative maintenance service. Additionally, because some of the police vehicles are used as take-home vehicles, the Central Garage seeks to find a convenient time to schedule preventative maintenance service. Finally, construction equipment, agricultural equipment, and heavy fire apparatus (i.e., pumpers) receive preventative maintenance service on a calendar basis. Because many of these vehicles and equipment have similar calendar dates on which preventative maintenance service is due, it is not always possible to pull each asset out of service on its scheduled date so that sufficient fleet are available.

## **Survey Users Are Satisfied with the Central Garage Division's Effort to Contact Them for Preventative Maintenance**

Eighty-three percent of survey respondents indicated that they were satisfied with the Central Garage Division's effort to contact them to schedule preventative maintenance services. Seventeen percent of respondents were neutral. Users were pleased with the Garage Supervisor's effort to notify them when preventative maintenance services were needed, and also expressed pleasure with the flexibility in scheduling preventative maintenance services at a convenient time. The Garage Supervisor notifies each vehicle's operator or fleet supervisor, by phone or by e-mail, of the need for preventative maintenance services, depending on the users preferred method of contact. While some users schedule a time to bring their vehicle to the Central Garage for preventative maintenance and wait for the service, most elect to have Division staff retrieve and return the vehicle upon completion.

## **Preventative Maintenance Services Are Thorough**

A checklist of preventative maintenance services has been developed for each vehicle category, based upon manufacturer recommendations. Sedans and light trucks are scheduled to receive PM-A service every 5,000 miles, while diesel engine vehicles are scheduled to receive PM-A service every 4,000 miles. Heavy fire apparatus, construction equipment, and agricultural equipment are scheduled to receive PM-A service every 180 calendar days. Additionally, all vehicles receive PM-B service as recommended by the manufacturer, which consists of transmission services. The PM-A process involves 67 items that must be completed by the mechanic, and the PM-B process contains an additional 11 service items. The heavy fire apparatus have a unique PM-A checklist and involves 26 procedures that are completed.

## **The Central Garage Division's Preventative Maintenance Procedures Guide Should be Updated**

The Central Garage Division prepared a detailed Preventative Maintenance Procedures Guide in January 2007. This guide provides a step-by-step description of items to be completed by a mechanic during the preventative maintenance process. The guide notes that a PM-A is to be schedule on the basis of past mileage performance not to exceed 3,000 miles or 90 days. This guideline has since been updated to schedule PM-A service every 5,000 miles in accordance with revised manufacturer's guidelines. The Preventative Maintenance Procedures Guide should be updated with this revised information.

## **Operating a Second Shift May Increase the Timeliness of Preventative Maintenance Service**

Management should consider whether adding a second shift at the Central Garage would be appropriate. Such an action would improve the opportunity to receive these services and may improve the number of preventative maintenance services that are performed on-time. The Central Garage Division seeks to work with operators to schedule vehicles for preventative maintenance service when the vehicle is not needed. While this flexibility is welcomed by customers, it restricts the Division's ability to perform preventative maintenance services at scheduled intervals. A second shift would increase opportunities to perform preventative maintenance services while ensuring vehicles continue

to remain available for duty. This practice is currently exercised at both the Water Department and Power and Light Department garages. Several Central Garage users expressed an interest in this option.

32 percent of the work performed at the Central Garage was done on a scheduled basis last fiscal year, whereas industry standards hold that 50 to 70 percent of work should be performed on a scheduled basis. While the addition of a second shift would increase the opportunity to perform preventative maintenance services, this adaptation alone should not be considered exclusively means for improving this figure. As long as the age of the fleet remains high, the number of unscheduled services performed will remain substantial and restrict the hours available to perform preventative maintenance services.

### ***Opportunities Exist to Assess Organizational Structure of Central Garage***

The current configurations of the Central Garage Division present management with an opportunity to assess the structure and business processes of the organization. With the impending retirement of the Fire Department's lone Fire Apparatus Mechanic, an evaluation of additional merger opportunities between the Fire Department and the Central Garage Division is critical. Such evaluations have the potential to lead to improved economies of scale, back-up and cross-training of division staff, and management oversight. Though the Fire Department began servicing its vehicles and apparatus at the Central Garage facility several years ago, they have retained a mechanic within their department, and full integration with the Central Garage Division has not occurred. If such an integration were deemed appropriate, several issues would need to be considered, including enhanced staff training and certification, work scheduling, space utilization, and parts management.

Management should also utilize this opportunity to evaluate the appropriateness of returning fleet management responsibilities for the Water Pollution Control Department to the Central Garage Division. Though once a customer of the Central Garage, Water Pollution Control privatized management of its fleet nearly 20 years ago due to perceived issues of work prioritization and cost containment. Yet this report, along with a 2004 Management Analyst audit of the Central Garage, found work practices and rate structures to be greatly improved and competitive with area vendors. Though continued privatization was deemed a satisfactory practice following the 2004 audit, periodic reviews should be conducted to ensure such a practice remains suitable. Such a review is now once again appropriate. Additional economies of scale may be realized by distributing various overhead and indirect costs across a larger customer base. Returning these services to the Central Garage would also potentially improve the centralization of fleet management records and performance evaluation data. The opportunity to evaluate a full merger is only a beginning; it is the responsibility of management to determine whether this opportunity is appropriate to pursue further.

### **The Fire Department Has Not Fully Merged with the Central Garage**

Though the Fire Department currently has its vehicles and equipment serviced at the Central Garage facility, work is performed by a Fire Apparatus Mechanic who is a member of the Fire Department. Basic maintenance and repair services are aided by other Central Garage mechanics. Parts management, maintenance and billing data, and other fleet management information is tracked using the same CFA fleet management software as is done by Central Garage Division staff for other user departments.

Moreover, the Fire Apparatus Mechanic maintains the same operating hours of other Central Garage Division staff, and Fire Department management has continued to encourage the Fire Apparatus Mechanic to work and bill only those hours for which he is scheduled and discouraged him from performing tasks on an unscheduled or unbilled basis.

Unlike other Central Garage Division staff, however, this position does not report to the Garage Supervisor, but instead reports to a Battalion Chief in the Fire Department. The Fire Department previously performed maintenance and repair services at one of its fire stations using two Fire Apparatus Mechanics. In 2005, the Fire Department reduced their staff to one Fire Apparatus Mechanic and as part of the Fiscal Year 2005-06 budget sought to “upgrade the Chrysler (Central Garage) facility to accommodate the merger of Fire Fleet Maintenance activities with other City Fleet Maintenance activities performed through Public Works.”<sup>18</sup> The facility has since been upgraded using Fire Sales Tax funds to provide a work space equipped to meet the needs of servicing fire vehicles and equipment.

### **Management Should Evaluate Further Merger Opportunities Between the Fire Department and Central Garage Division**

Both the Fire Department and Central Garage Division management expressed an appreciation for a fully centralized fleet management operation. The current structure presents an opportunity to potentially capture additional economies of scale, promote cross-training and provide back-up among division staff, and make appropriate use of adequate garage space. With their lone Fire Apparatus Mechanic nearing retirement, the Fire Department and Central Garage must carefully and sincerely evaluate how to best provide the necessary level of service for the fire vehicles and equipment. Crucial to this evaluation will be various considerations, including:

1. Outlining work schedules, policies, and processes that will ensure timely service and availability of fire vehicles and equipment.
2. Establishing minimum competencies and certifications that will be required of mechanics to perform fire fleet service in accordance with basic industry standards. While Division staff currently assists the Fire Apparatus Mechanic with basic maintenance and repair services, only the Fire Apparatus Mechanic is a certified Emergency Vehicle Technician (EVT). The National Fire Protection Agency develops, publishes, and disseminates more than 300 consensus codes and standards intended to minimize the possibility and effects of fire and other risks. NFPA 1911: Standard for the Inspection, Maintenance, Testing, and Retirement of In-Service Automotive Fire Apparatus, establishes widely-accepted standards related to technician qualifications, operational checks, and service and inspection criteria.<sup>19</sup> The standard requires that maintenance inspections, diagnosing, and testing be performed by qualified technicians. The Emergency Vehicle Technician Certification Program has been developed to meet the

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<sup>18</sup> City of Independence, Missouri, *Fiscal Year 2005-06 Adopted Operating Budget*, p. 191.

<sup>19</sup> IAFC Emergency Vehicle Maintenance Section, *White Paper on NFPA 1911*, [http://www.iafc.org/files/1EVM/evms\\_EVMSwhitePaperNFPA1911\\_final.pdf](http://www.iafc.org/files/1EVM/evms_EVMSwhitePaperNFPA1911_final.pdf), p. 1

requirements of NFPA 1071: Standard for Emergency Vehicle Technician Professional Qualifications.<sup>20</sup> Though the Fire Department has previously funded some training opportunities and other succession planning efforts, Public Works management and the Garage Supervisor both indicated that Central Garage Division staff has not expressed interest in receiving this formal EVT training. This was attributed largely to a lack of incentive to obtain the certification. The Fire Department, however, would prefer to have two-to-three division mechanics achieve EVT Certification in order to establish sufficient competencies and back-up among division staff. Adequate incentives for Division mechanics to pursue additional certifications and competencies will need to be considered. Additionally, while previous work scheduling practices for the Fire Apparatus Mechanic may have also deterred Division staff from pursuing this certification, the Fire Department has taken corrective actions to minimize the use of overtime or on-call practices. A continued effort to define work schedules should also be considered.

3. Space utilization at the Central Garage facility. Because the Fire Department invested Fire Public Safety Sales Tax funds<sup>21</sup> to retrofit a portion of the garage for Fire fleet services, it is important that any merger continues to utilize this area primarily for servicing fire vehicles and equipment.
4. Enhanced management of repair history, parts tracking, and inventory. The Fire Department indicated that they often rely upon the current Fire Apparatus Mechanic to determine if an item is still under warranty. The current Fire Apparatus Mechanic also has an extensive knowledge of parts needed for various repairs as well as the service history for Fire vehicles and equipment. They suggested that improved fleet management software would provide greater reliability and more dynamic management information for parts management, warranty work, and repair histories. The Fire Departments is supportive of implementing an upgraded fleet management system and is willing to help fund this effort.

## **Management Should Evaluate Water Pollution Control Fleet Administration Responsibilities**

Opportunities also exist to evaluate returning Water Pollution Control fleet management responsibilities to the Central Garage. At one time, Water Pollution Control functioned as a division of the Public Works Department, and its fleet was serviced by the Central Garage Division. When Water Pollution Control was established as a utility, however, it sought to enhance the efficiency with which it operated. One such decision was to privatize management of its fleet, as this was perceived to be costly and time-consuming. Yet this report, along with a 2004 Management Analyst audit of the Central Garage, found work practices and rate structures to be greatly improved and competitive with area vendors. Though continued privatization was deemed a satisfactory practice following the 2004 audit, periodic reviews should be conducted to ensure such a practice remains suitable. Such a review is now once again

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<sup>20</sup> IAFC Emergency Vehicle Maintenance Section, White Paper on NFPA 1911, [http://www.iafc.org/files/1EVM/evms\\_EVMSwhitePaperNFPA1911\\_final.pdf](http://www.iafc.org/files/1EVM/evms_EVMSwhitePaperNFPA1911_final.pdf), p. 2

<sup>21</sup> After reviewing this report, Police Department staff noted that \$450,000 in Police Public Safety Sales Tax funds were used to assist in upgrading the Chrysler Central Garage Facility.

appropriate. Additional economies of scale may be realized by distributing various overhead and indirect costs across a larger customer base. Returning these services to the Central Garage would also potentially improve the centralization of fleet management records and performance evaluation data. While specialized work for technical Water Pollution Control assets could continue to be serviced by area vendors, it may be advantageous to have basic maintenance and repair services performed by the Central Garage Division due to their low rate structure and timely services. As in the case of the Fire Department, however, this evaluation must consider work scheduling practices to ensure timely service that ensures necessary availability of Water Pollution Control fleet. Moreover, because this consolidation would involve the additional responsibility for 73 Water Pollution Control vehicles and equipment, this evaluation must assess the impact this increased workload would have on mechanic-to-vehicle ratio, and any adaptations to staffing levels or work schedules that may be necessary.

### ***Development of Central Garage Division Standard Operating Procedures is Needed***

Users of the Central Garage Division have generally received services at a reasonable cost, due in large part to the tenacity, resourcefulness, and ingenuity exemplified daily by Division staff. However, it is imperative that the current operating procedures, which are predominately adhered to through custom and tradition built over many years of service, be formally adopted and documented. A large number of impending retirements among key fleet personnel means the City, absent formal operating guidelines, may soon forfeit the very lynchpins that hold these programs together. Developing standard operating procedures will aid in ensuring that continuity in the level of service provided is maintained. These procedures will also increase accountability for preventative maintenance service, provide defined work procedures to ensure timely and prioritized work, decrease the percentage of unscheduled work, and establish defined responsibilities for key fleet-related personnel, including Public Works management, Central Garage Division staff, department directors, and vehicle and equipment operators.

### **No Standardized Citywide Policies Exist to Govern Fleet Management**

While the processes currently employed by Central Garage Division staff and fleet operators is generally found to be appropriate, the City subjects itself to an unnecessary degree of risk by building programs around personnel instead of defined policies. At its worst, a lack of formalized procedures leads to a lack of accountability, which can be seen in the high percentage of vehicles that were overdue for preventative maintenance, the high degree of unscheduled work performed by the Central Garage Division, and the lack of certainty among user departments regarding work policies and prioritization occurring at the Central Garage Division.

There is a lack of citywide policies defining operator responsibilities. No consistent approach is taken to requiring vehicle operators to perform pre-trip safety inspections in which issues needing corrective action may be discovered, though several departments indicated they have developed their own internal policies to govern such a process. Although checking fluid levels and other minor items is a simple way to help keep a vehicle in operating condition, there are no citywide regulations that require operators to maintain equipment assigned to them.

As such, management should develop a “Fleet Management Policies and Procedures Manual” akin to the City’s “Personnel Policies and Procedures Manual” to establish guidelines for key fleet-related personnel, including Public Works management, Central Garage Division, department directors, and vehicle and equipment operators. This manual should detail general vehicle usage procedures, responsibilities of key fleet-related staff, financial procedures, and vehicle and equipment maintenance and repair procedures. The City’s Administrative Policy governing Vehicle Selection criteria should also be updated to help increase fleet standardization and should be referenced in this manual, along with the City’s other applicable Administrative Policies. Examples of fleet management operating procedures manuals were found while conducting fieldwork for this audit, and these may be of assistance in developing a similar manual for the City.

Management should also seek to identify effective means for increasing operator responsibility for performing routine inspections. After reviewing a draft of this report, the City Manager inquired as to any specific examples of effective means employed by other cities to increase operator roles and responsibilities. Research for this report identified some municipalities that found some success, such as requiring a weekly inspection log to be completed and provided to garage staff at each preventative maintenance interval. Other jurisdictions took more dynamic action, such as enabling the fuel management system to prompt the user to verify they had completed a routine inspection prior to fueling being permitted. Perhaps the most severe measure was reported by the municipality that disabled an operator’s fuel key card if they had failed to meet their regular preventative maintenance milestone. Any such measures to enhance operator responsibility should be considered by management for their desirability and application.

## **Recommendations**

1. The Central Garage Division should set additional goals related to the quality and timeliness of work and develop performance measures to assess progress. The division should solicit input from users in setting goals and should provide performance reports at regular intervals.
2. Management should strive to reestablish gradually a vehicle replacement program to address its aging fleet. While appropriate means to fund this program may take some time to establish, regular updates to the Central Garage Division’s equipment replacement summary are needed to provide accurate and readily available data.
3. The Central Garage Division and Public Works management should regularly seek the assistance of the Budget Office to enhance their understanding of the financial status of their customers. The Budget Office should seek methods to provide regular and easily-understood information to help guide the Central Garage Division in managing their funding. Moreover, the Budget Office and City departments should seek to improve the feedback solicited and input provided in developing annual fleet-related funding.
4. The Central Garage Division should develop itemized activity summary reports that can be provided to vehicle operators or fleet supervisors upon completing each work order.

5. The Central Garage Division should develop an annual report that summarizes maintenance and repair expenses, performance measure targets and accomplishments, and targets established for the next fiscal year.
6. Management should revise its Administrative Policy for Vehicle Selection Criteria (AP-98-03) to increase standardization among the City's fleet by further narrowing each standard of vehicle to a limited number of allowable makes and models.
7. The Central Garage Division should revive its efforts to periodically survey users to assess their level of satisfaction with the cost, quality, and timeliness of maintenance and repairs.
8. Management should develop an administrative policy to define fleet management policies and procedures related to:
  - a. Operator responsibilities for vehicle use and maintenance
  - b. Operating policies, procedures, and guidelines of the Central Garage Division
  - c. Responsibilities and other guidelines for any additional staff deemed to be integral to the fleet management process
9. Management should explore investing in improved fleet management software to improve and consolidate fleet reporting and tracking citywide.
10. Management should pursue opportunities to evaluate the organizational structure of the Central Garage to determine if further integration of the Fire Department fleet management function in to the Central Garage Division is appropriate.
11. Management should evaluate Water Pollution Control fleet management responsibilities to determine the appropriateness of returning basic maintenance and repair services to the Central Garage Division based on the low cost and timeliness of service identified in this report.
12. Management should consider implementing a second shift at the Central Garage Division similar to what is currently operated to provide snow-removal services as well as the model utilized by the Water Department and Power and Light Department garages. A second shift would allow the Division to increase the number of preventative maintenance services performed on-time by providing these services when a majority of fleet is not scheduled for duty.

## **Appendix A: Fire Chief's Response**

# City of Independence

## MEMORANDUM

Fire Department

DATE: December 11, 2012  
TO: Zack Walker, City Analyst  
FROM: Sandra K. Schiess, Fire Chief   
SUBJECT: Fleet Management Review Audit



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The Fire Department has reviewed information included in the draft report on fleet management. The following are items that may need additional comment, emphasis, or clarification:

- Detailed records for each vehicle that include parts/service/repair (if only for liability purposes) must be maintained and accessible to the departments.
- Fire Department data does not include labor time.
- It would be beneficial to have warranty and parts information centrally located and tracked.
- For succession purposes the Fire Department has funded training, out of position pay, and overtime for Public Works personnel in order to have qualified individuals available to perform maintenance and repairs. Department director's attempting to invest or assist with providing for future anticipated needs have no recourse and are now hesitant to commit to time or funds or their operational readiness based on past history.
- If possible reiterate where Fire Department is not included or included in the findings.

Fire Department appreciates your work in this much needed review and your efforts to work with staff to provide an accurate report on the situation across all areas. This report when finalized will be disseminated to all personnel in the Fire Department to improve understanding of the scope of the work, service and efficiency that this division of Public Works is providing in a competitive manner.

Cc: S12-225

## **Appendix B: Police Department's Response**

# City of Independence

## MEMORANDUM

Police Department

DATE: December 7, 2012  
TO: Zach Walker, Management Analyst  
FROM: Travis Forbes, Major  
Administrative Services Division  
SUBJECT: Fleet Management Report Draft Response



Mr. Walker:

The police department staff has reviewed the draft Fleet Management Report. All agree that we are appreciative of the detail that you have put into the report and analysis. In addition to what was reported in the draft report, our staff had the following comments and observations:

The study mentioned that the Fire department allocated some funding from their PST for the Central Garage. It may be relevant in the study to note that PD allocated and spent \$450,000 to upgrade the Chrysler Central Garage facility; noted in tax documentation as upgrades to the public safety vehicle maintenance facility.

The study mentions that other departments have staff dedicated to fleet maintenance but there is no mention that police department has a full time Fleet Electronics Technician. This position, currently grant funded, impact the police department budget. The Fleet Electronics Technician allows us to install and maintain all technical components of our specialized equipment; an extremely detailed and cumbersome process.

The study mentions that the "Garage supervisor has an open door policy" to get input from user departments and address concerns. Although our experience is specific to the incumbent garage supervisor who may be retiring, police department personnel have found difficulty in working with Central Garage supervision and how found accountability and service to be lacking in that regard.

At the beginning of each fiscal year Finance dictates what the police department budget is for maintenance and fuel. In the past they advised that they just looked at the percentage of vehicles we have in our fleet and figured our budget on a proportion basis. The police department has requested and implemented changes within the Gas Boy fuel system. An update to the system was requested, as the current inventory list had not been updated for several years and the system was charging the police

Police Response: Fleet Study 1

department fees against cars that were not within our control or assigned to our cost center. It is believed that this has been rectified, but fuel management is something we feel is important to monitor in the future.

Police department staff fears that either the Central Garage or another element of the City staff will dictate what make and model of cars the police department are allowed to use or purchase. The police department currently conducts extensive research of available vehicles to determine what the best options for each vehicle/assignment is, taking into account: vehicle quality, price, existing equipment that may be reutilized in new models, maintaining uniformity in vehicle types, service history, and more. As a result, the police department has saved thousands of dollars in the process. Some vehicles, such as standard investigative or administrative vehicles, lend themselves well to fleet uniformity, while others, including undercover vehicles, must retain some variety in order to blend with surroundings. If proper consideration is not given toward reusing existing vehicle equipment (lights, sirens, prisoner transport units, plastic seating, electronics, etc.), significant costs may be incurred by the City from the need to purchase new equipment. We strongly feel that if our internal process of acquiring and evaluating our fleet is change, ultimately it will cost the City more money and will reduce the quality of the police vehicle fleet (which is responsible for responding to critical functions).

Police Response: Fleet Study 2

## **Appendix C: Public Works Director's Response**

# City of Independence

## MEMORANDUM

Public Works

DATE: December 11, 2012  
TO: Zach Walker, Management Analyst  
FROM: John Powell, Public Works Director  
SUBJECT: Fleet Management Audit

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Thank you for the opportunity to review the fleet management audit and your hard work on this project. The audit evaluates many aspects of the current issues in management of the Central Garage, such as fleet age, staffing, fuel stations, and computer management systems.

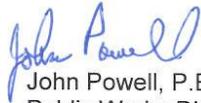
The audit provides several recommendations. The numbering and beginning sentence for each recommendation follow with our comments.

1. **The Central Garage Division should set additional goals related to the quality and timeliness of work and develop performance measures to assess progress.** It is agreed that discussions with users is appropriate to mutually develop goals and measurements.
2. **Management should strive to gradually reestablish a vehicle replacement program to address the aging fleet.** This is a recommendation dependent on available funds and priorities. Specific vehicle recommendations could then follow.
3. **The Central Garage Division and Public Works management should regularly seek the assistance of the Budget Office to enhance their understanding of the financial status of their customers.** The budgeting for the Central Garage Division as an internal service fund creates several unique management issues. The internal service fund budgeting began in 1984 and should be evaluated to determine if it remains the most appropriate method. It is agreed that coordination between the Central Garage and Budget Office is important to manage the program costs and revenues throughout the budget year.
4. **The Central Garage Division should develop itemized activity summary reports that can be provided to vehicle operators or fleet supervisors upon completing each work order.** There is a great need to improve the computerized fleet management system to collect and analyze data. The current fleet management system is outdated and does not provide the itemized reports

that are being recommended. A new computerized system would provide the recommended summary reports and should be a high priority.

5. **The Central Garage Division should develop an annual report that summarizes maintenance and repair expenses, performance measure targets and accomplishments, and target established for the next fiscal year.** Some information on all of these items is already prepared and distributed as part of the operating budget. New items related to targets and accomplishments can be added through the discussions with garage users from recommendation number 1.
6. **Management should revise its Administrative Policy for Vehicle Selection Criteria(AP-98-03) to increase standardization among the City's fleet by further narrowing each standard of vehicle to a limited number of allowable makes and models.** Vehicle standardization reduces inventory requirements and costs. It allows mechanics to be better familiar with vehicles and to be more productive. This recommendation is strongly supported.
7. **The Central Garage Division should revive its efforts to periodically survey users to assess their level of satisfaction with the cost, quality, and timeliness of maintenance and repairs.** There is agreement with this recommendation.
8. **Management should develop an administrative policy to define fleet management policies and procedures related to operator responsibilities, garage operations, and other guidelines.** The audit documents the benefits of having the policy along with more formal procedures and guidelines. There is agreement with this recommendation.
9. **Management should explore investing in improved fleet management software to improve and consolidate fleet reporting and tracking citywide.** This recommendation addresses one of the greatest fleet management needs. It would also further abilities to provide reports to the users from recommendation number 4.
10. **Management should pursue opportunities to evaluate the organization structure of the Central Garage to determine if further integration of the Fire Department fleet management function in to the Central Garage Division is appropriate.** There could be benefits from the integration. An amendment to the Service Employees International Union work agreement would be required to add a job classification. Certifications and training would need to be addressed.
11. **Management should evaluate Water Pollution Control fleet management responsibilities to determine the appropriateness of returning basic maintenance and repair services to the Central Garage Division based on the low cost and timeliness of service identified in this report.** This could benefit both operations and should be further evaluated.
12. **Management should consider implementing a second shift at the Central Garage Division similar to what is currently operated to provide snow-removal services as well as the model utilized by the Water Department and Power and Light Department garages.** A second shift could be added to increase access to garage services. A customer service improvement would

result from the added hours that the garage would be opened. The fleet age and resulting increase in unscheduled maintenance activities will limit resources available for preventative maintenance.



John Powell, P.E.  
Public Works Director

jp

## **Appendix D: City Manager's Response**

# City of Independence

## MEMORANDUM

City Manager's Office

DATE: December 20, 2012  
TO: Zach Walker, Management Analyst  
FROM: Robert E. Heacock, City Manager  
SUBJECT: Review of Fleet Management Practices (12-01)



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Thank you for the opportunity to review the above report and to provide feedback. The report was very detailed and informative. It included a number of positive suggestions which may enhance the overall quality of the fleet services provided by the City while improving efficiency. In particular, the comments and recommendations related to fleet standardization would seem appropriate.

In reviewing the report, there were some areas which you might help clarify.

- 1) The report indicates a variety of approaches to record keeping are being employed by the City departments. This includes the use of different software programs and data base systems. Would it make sense, from a cost or functionality perspective, to move all fleet management to one record keeping platform?
- 2) Page 17 of the report indicates the various sales taxes for Fire, Police, and Parks and Recreation "have not fully satisfied these departments' fleet replacement needs". To what extent is that the case, and what is the funding gap?
- 3) The report speaks to the potential advantages of "pre-defined" replacement criteria. From the research performed for the report are there examples of recommended criteria? Also clarification of how such criteria are balanced with other factors would be helpful. For instance, mileage criteria could be helpful, but it would seem important to view that in context with other measures such as the maintenance costs of a particular vehicle.
- 4) A significant finding of the report relates to the age of the Independence fleet. In comparing Independence to the average vehicle and equipment time in-service, footnote 10 indicates that the age "ends when the vehicle is completely removed from service". This raises a question as to whether the fleet vehicles in Independence are not being replaced, or whether the existing vehicles are just not being completely taken out of service. To what degree are vehicles replaced, but either put in a reserve or back up status, or cycled from one department to another? That would potentially impact the perception of the viability of the fleet without necessarily impacting service or reliability.

- 5) In Exhibit 7, it would be helpful to know what percent each category of vehicle/equipment represents of the overall Independence fleet.
- 6) It would be interesting to know whether the research for the report revealed specific examples of ways that other cities have effectively increased the role of operators with respect to the maintenance of vehicles, and whether those approaches vary depending upon the type of vehicle or frequency of usage by a particular operator.

/lc  
Enc.

## **Appendix E: City Counselor's Response**

# City of Independence

## MEMORANDUM

Law Department

DATE: January 14, 2013

TO: Zach Walker, Management Analyst

FROM: Dayla Bishop Schwartz, City Counselor *DBS*



**SUBJECT: Draft Report for Report No. 12-01  
Review of Fleet Maintenance Practices**

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I have reviewed the draft for Report No. 12-01, Review of Fleet Maintenance Practices. I am of the opinion that there is nothing contained within the draft report that would expose the City to a lawsuit. Furthermore, it is my opinion that the draft report would not qualify for an executive session discussion before either the Council Audit and Finance Committee or the City Council.

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