



City of Bowling Green

Internal Auditor's Office

Fleet Technician Efficiency Follow-up Audit

Project# 2019-012

Issue Date: 4/18/19

Finalized: 07/15/19

Deborah Jenkins, CFE, CGAP, CICA

Transmittal Letter

TO: Jeffery B. Meisel, City Manager Ex-officio Member
Jeffrey Stein, Audit Committee Chair
Brian Dinning, Audit Committee Vice-Chair
Vivian Grise, Audit Committee Member
John Ward, Audit Committee Member
Joe Denning Commissioner and Audit Committee Member

CC: Greg Meredith, Public Works Director
Kris Crowe, Fleet Division Manager

Pursuant to the *Charter of the Internal Auditor's Office*, I hereby submit the follow-up report covering Fleet Technician efficiency. The objective of this follow-up report was to determine if the Fleet Division implemented the seven (7) recommendations made in an earlier report, *Fleet Technician Efficiency Audit* (Project# 2016-08, finalized on July 11, 2016). The results of the *Fleet Technician Efficiency Follow-up Audit* were discussed with management.

Results in Brief

Six of the seven recommendations are implemented and one recommendation is partially implemented. There have been multiple improvements within the Fleet Division. They have responded impressively to the recommendations and are making a great effort to improve the productivity and management of workloads. It has been a pleasure to work with them and I look forward to their additional improvements in the future.

Sincerely,

Deborah Jenkins, CFE, CGAP, CICA
City Internal Auditor

Objective

The objective of the Fleet Technician Efficiency follow-up was to determine if management implemented the seven (7) recommendations made in an earlier report, *Fleet Technician Efficiency Audit* (Project# 2016-08, finalized on July 11, 2016).

Scope and Methodology

The scope of this follow-up audit included records and transactions from January 1, 2018 through December 31, 2018. To determine the implementation status of prior recommendations, I performed the following:

- Interviewed Fleet Division personnel
- Reviewed the original audit report
- Performed test work to determine compliance with various recommendations
- Analyzed the results of the test work performed and discussed results with management

Conclusion

Six of the seven recommendations are implemented and one recommendation is partially implemented. There have been multiple improvements within the Fleet Division, They have responded impressively to the recommendations and are making a great effort to improve the productivity and management of workloads. It has been a pleasure to work with them and I look forward to their additional improvements in the future.

Previous Observation and Recommendation:

- 1. Management should standardize technician procedures and ensure that all labor hours are consistently and accurately entered so data can be relied upon by management and used to evaluate performance and staffing needs.**

Prior Auditor Recommendation

An old management proverb says, “You can’t manage what you can’t measure.” In order to determine actual operational efficiency and effectiveness of Fleet Technicians, reliable data must be available. When the analysis shown above was shared with Fleet Management, they were not surprised by the results and agreed that technician accuracy and productivity varied.

Management should take advantage of the pending software upgrade to fully review technician work order entries and related time to ensure that future processes are accurate and reliable. Technicians should not have the ability to go back into a work order and enter their time after the task is completed. After the technician entry of time is consistent and reliable, then management can use that data to assist in evaluating technicians, work load, productivity and staffing levels.

Prior Management Response

The nature of the automotive repair industry is not unlike any other industry in the fact that often times the individual has to juggle many tasks. Generally, the fleet technicians will have multiple work orders in many stages of completion, due to waiting on parts, waiting for the vehicle to return or various other reasons. The technicians are also regularly pulled from their current work order to troubleshoot an issue or make a quick repair on a drive up vehicle.

Due to the multiple tasks the technicians may complete in the day, they have developed the habit of posting their labor times at a later date. The delay in posted labor hours has resulted in inaccurate data.

Fleet management will emphasize to the technicians that maintaining accurate labor times is a requirement and not optional.

Management will begin performing daily labor audit reports for the previous day’s labor and compare them to the technician’s clock hours.

Management will take advantage of a pending software upgrade to review all work order processes. When any new processes are finalized, Fleet management will ensure all of the fleet staff is trained and held accountable for their portion of its implementation.

Current Status: IMPLEMENTED

Technicians clock in and out of the new updated software system by pressing start and stop on each task within their assigned work order as shown below.

Technician Portal DONNITA WEEKS (1839) @ SC1 - FLEET SERVICE CENTER


Work Order: SC1-2015-1713
 Task: 52 - ACCESSORIES ELECTRICAL [Modify]
 Equipment: 2235: 1S9A1BLD891003027 2009 SUTPHEN SHIELD RED SHIELD SERIES PUMPER. ENG 11

00h 04m Indirect Time
 Edit/Stop Task Today's Timesheet

Current Job | My Work

Priority: 1 - EXPEDITE REPAIR/SERVICE Service Status: Due: 08/17/2015 05:43 PM
 Asset No: License No: Unit In: 08/17/2015 03:43 PM

Work Order Tasks | Parts

 **Start** 52 - ACCESSORIES ELECTRICAL WAC:

Actions | Notes | Comments

View/Edit Detail Part Actions
 Equipment History Test Results
 Print Work Order
 Commercial Work Related Files
 Component Warranty Messages
 Start Delay Finish Work Order

Add / Manage SRs New Task Start Task

Search: Eq ID - License # - Asset # - VIN - Rebuild Part ID ... Go

There are also various tasks to track their indirect time for work not related to a specific work order.

Choose an indirect task ID for 1839 - DONNITA WEEKS

Location: SC1 - FLEET SERVICE CENTER
 Comment:

(FASUITE) FLEET SOFTWARE MAINTENANCE	(IND-10) INVENTORY TAKING	(IND-20) VAC/PERS/COMP/BONUS
(ICMA) COLLECT DATA FOR ICMA	(IND-11) FUELING EQUIP	(IND-21) PAID HOLIDAY
(IND-00) BREAK	(IND-12) WASHING EQUIP	(IND-22) FUNERAL LEAVE
(IND-02) FACILITY MAINT	(IND-13) EQUIP READ MTRS	(IND-23) CERTIFICATION
(IND-03) SHOP OPEN/CLOSE	(IND-14) TOOL TRUCK	(IND-31) OUTSIDE JOB / DIAGNOSIS FOR
(IND-04) SHOP CLEAN	(IND-15) YARD CHECK	(IND-32) JURY DUTY
(IND-05) SHOP EQ CLEAN	(IND-16) SAFETY COMPLNCE	(IND-33) OFFICE
(IND-06) SHOP EQ REPAIR	(IND-17) TIRE REPAIR	(IND-34) SCRAP/WASTE RECYCLE
(IND-07) PARTS PICKUP AND STORAGE	(IND-18) TECH TRAINING	(IND-IL) INDIRECT LABOR
(IND-08) MEETING	(IND-19) SICK	(WAR) WARRANTY WORK ORDER & CLA
(IND-09) MAIL		

Back

The Fleet Manager and Fleet Supervisor also receive a weekly-automated “Technician Labor Changes” report to review any adjustments to labor time from the prior week. The Office Associate uses this information and enters it into a monthly “Labor Tracking” worksheet so the Fleet Manager can keep track of each technician’s direct verses indirect time and overall production and utilization of the shop.

2. Management should evaluate current technician staffing levels. Audit calculations of industry standards indicate a possible need for two additional technicians.

Prior Auditor Recommendation

Management should re-evaluate the technician staffing levels. Since the labor data entered into the current Fleet Focus software cannot be fully relied upon, audit work conducted additional analysis based on industry standards. Industry standards indicate that additional technicians are needed; however, the skill level and specialization needed should be analyzed and determined by management to best fit the needs of the division.

Prior Fire Management Response

Based upon the VEU analysis, additional technicians are needed. However, other factors should be taken into consideration in determining how many.

During the years of the most recent economic downturn the City limited the number of replacement vehicles purchased, forcing vehicles that were due for retirement to remain in the fleet. Older vehicles require more maintenance which drastically increased the work load of the technicians. Over the last two years the City has resumed purchasing vehicles. The technicians still maintain a heavy work load, but have felt some relief due to the influx of newer vehicles.

As mentioned in the first recommendation of this report, the technicians are inconsistent when entering their labor hours, resulting in inaccurate data. In efforts to determine the number of additional technicians needed, accurate labor data will be required.

Management will utilize the data generated from future accurate reports to determine technician efficiency as well as their direct and indirect hours.

Management will utilize historical and current data to estimate future overall vehicle and equipment count, as well as determine the pattern of increased repairs based on the age of the fleet.

Current Status: IMPLEMENTED

Management reviewed staffing levels and added one part-time mechanic position in January 2017 to assist with entry-level jobs and duties and free up full-time technicians for other tasks. The tracking of time is also more reliable now than in the original audit so management is getting a better feel for workloads and productivity. In addition, the City has purchased newer equipment as the recession ended which has decreased some of the breakdowns and major repairs from maintaining old vehicles and equipment. Based on the updated vehicle equivalent units (VEU's), the demand has declined slightly as older units were surplus. The changes in VEU's are below:

Maintenance Class	VEU Value	Total City Units	Total VEU's Per Class	Unit Change since 2015	VEU Change
Light Vehicles	1.25	127	158.75	2	2.5
Police Patrol	2	102	204	-8	-16
Medium Duty Vehicles	3	24	72	-3	-9
Heavy Duty Vehicles	5	19	95	-1	-5
Fire Apparatus	10	14	140	-3	-30
Solid Waste Packers	6	3	18	1	6
Heavy Equipment	5	26	130	0	0
Light Equipment	0.5	129	64.5	35	17.5
Grand Total		444	882.25	23	-34

These numbers will change as the City purchases additional vehicles and equipment. For example, the City is opening a new fire station and is purchasing new fire apparatuses. In addition, the City purchases new police patrol vehicles each year to replace old units and outfit new officers. These future changes will affect the work demand as the City continues to grow in the future, but management can monitor much better with the tools and processes in place.

3. Management should decide what level of service should be provided, if any, to outside agencies. A written agreement should be approved by the Board of Commissioners so expected service levels are consistently performed as well as appropriate guidance provided for Fleet management.

Prior Auditor Recommendation

Management should work with Community Action and any other serviced agency to create a written and approved service level agreement. This will clarify expectations as well as amounts charged for services and provide adequate guidance to Fleet management going forward.

Depending on the level of service that senior management decides upon, staffing levels should be considered as well to ensure that the agencies vehicles can be properly maintained as expected.

Prior Management Response

Community Action makes up the majority of outside services provided by the Fleet Division. Fleet makes every effort to repair and service these vehicles in a timely manner. On occasion, Fleet has temporarily stopped or limited the services provided to outside agencies, due to an excessive work load with the City vehicles. Fleet management has not been able to obtain a written agreement with Community Action to use as a guide. Therefore, fleet has used best judgment and prioritized the City vehicles ahead of the outside agencies. Fleet Management will provide Senior Management and Community Action with all available information necessary to put together and formalize a comprehensive agreement for services.

Current Status: PARTIALLY IMPLEMENTED

Discussions between Community Action of Southern Kentucky and City staff did occur over the summer of 2018. E-mails were provided that documented the discussions, but a service agreement was not included in the approved Fiscal Year 2019 agreement. Fleet Management stated that they thought that it was included, however, upon reviewing the current contract, it was determined that the service agreement language was left out of the contract.

According to a July 23, 2018 e-mail from Neighborhood and Community Services (NCS) Director Brent Childers to internal staff:

There have been several meetings and discussion over the past few weeks related to Transit. From those there are some changes that have taken place.

- 1. City will no longer charge for maintenance or repair services for TRANSIT vehicles... Community Action vehicles that are non-transit will still be billed and work orders and summaries will be sent to Finance to develop bills.*
- 2. Fleet will send copies of TRANSIT work orders and summaries to Community Action and Nick at NCS for grant reporting purposes. Work orders and summaries for non-transit vehicles will be sent directly to Community Action for tracking.*
- 3. Fuel will continue to be provided in-kind and reports will be sent to Community Action and Nick.*

Wanted to make sure we are all on the same page moving forward with everything. This is effective starting for the month of July.

Follow-up will need to occur to ensure that the service agreement is included in the Fiscal Year 2020 contract, which is executed through Neighborhood and Community Services.

4. Management should implement the updated Fleet Focus software that was purchased in June 2012, but has never been implemented.

Prior Auditor Recommendation

Fleet management and staff should work with Information Technology staff to complete the long overdue implementation process for the software purchased in 2012, and use this implementation process as an opportunity to evaluate and streamline processes. This will be a time consuming project for the Fleet Supervisor since he is the key staff person needed to created tasks and framework so assistance should be provided to ensure the software is fully implemented and utilized to its full potential.

Prior Management Response

The need for industry specific software is a necessity in order to meet the needs of maintaining the data of the City's fleet. As the fleet grows in size and complexity, relying on the software

becomes even more of a necessity. The Fleet Focus software upgrade will update elements of the software fleet currently uses, along with adding elements to further assist in scheduling, inventory and technician efficiency.

Fleet staff, in conjunction with Information Technologies, is currently reviewing existing fleet processes to determine how the updated software can assist in the areas of concern.

Management will ensure all Fleet staff is trained on the software upgrades.

Current Status: IMPLEMENTED

The AssetWorks software was implemented in phases throughout the end of calendar year 2016 and the first quarter of 2017. The final module for a customer access portal was fully implemented by March 2017. The upgraded software is web-based so it does not have to be loaded onto various computer stations. The modules include a Parts module, Supervisor module, Technician portal and customer access portal.

- 5. The daily scheduling process should be improved to use the software and streamline the current manual process. Various sheets and e-mails are currently used to schedule which can lead to errors or missed items and is extremely time consuming. Improving this process would free up time for the Shop Supervisor to adequately oversee daily shop operations and technicians day to day work.**

Prior Auditor Recommendation

Management should consider implementing a check-in process for vehicles and equipment. This is the general standard in public service shops and doesn't require the shop supervisor to have to spend time walking the parking lot and potentially missing a vehicle entering or leaving the shop. There are some vehicles, such as police vehicles, that will arrive outside of the normal workday so proper accommodations would have to be made for those vehicles, but all other vehicles should be arriving during working hours.

As implementation begins on the new platform of Asset Works, special attention should be given to the current scheduling process so that it can be managed within the software as much as possible in order to free up the Shop Supervisor's time to supervise the daily shop and technicians. Customer access portals and the systems scheduling capabilities should be utilized to help free up time for other supervisory needs.

Prior Management Response

One of the greatest challenges for the Shop Supervisor is scheduling vehicle and equipment repairs and maintenance. The size and demands of the existing fleet has caused the current

process to become too time consuming. This leaves less time for the Shop Supervisor to perform his other duties. The pending software upgrade contains a module that will give all City departments the ability to schedule their vehicle online.

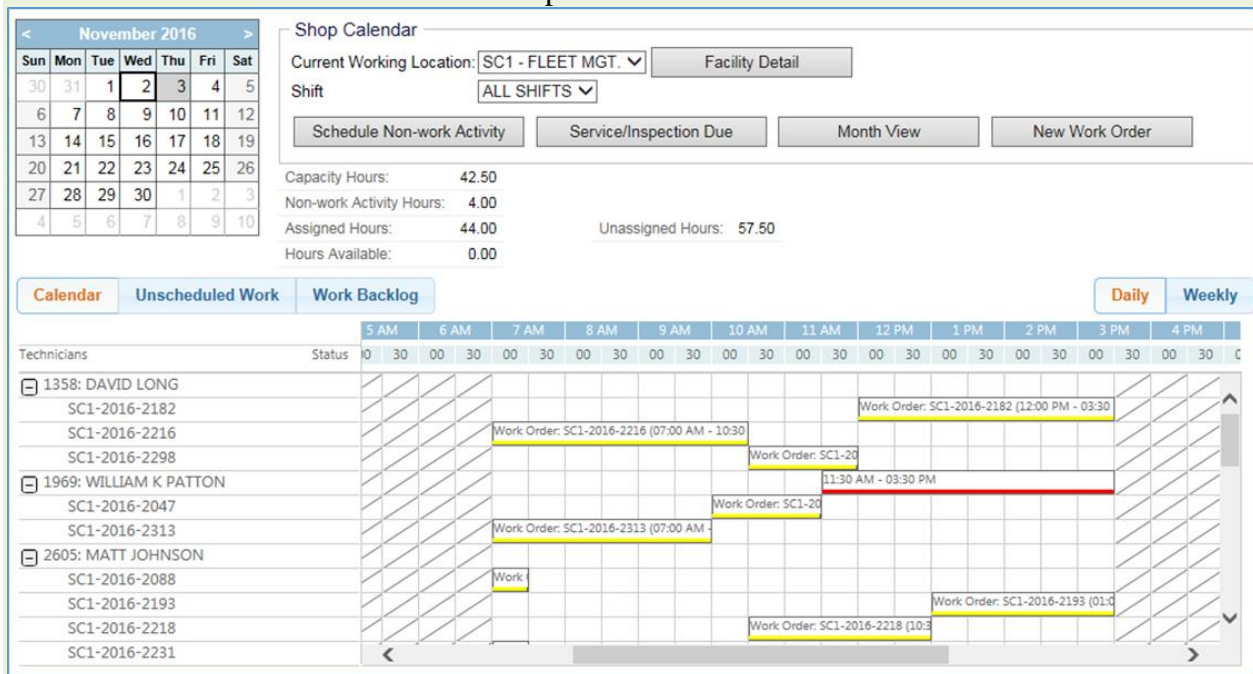
The software upgrade also has the ability to send automated service reminders to an individual e-mail address, limiting the number of e-mails the Shop Supervisor will have to manually send.

Fleet Management will work with Information Technologies and the department heads to determine the most user-friendly and efficient scheduling process.

The anticipated date the Fleet Division will begin using the updated system is October 1st, 2016. The anticipated date the scheduling module will be available for all City Departments is January 1st, 2017.


Current Status: IMPLEMENTED

The daily technician schedules are assigned using the calendar tool within AssetWorks. The Shop Supervisor does not send e-mails to assign tasks, but utilizes the calendar feature for each technician as shown on the calendar example below.



If work comes up that is unscheduled or backlogged, work is added to the calendar using the software. Each technician can add unscheduled work as needed.

Calendar
Unscheduled Work
Work Backlog


Work Order ID: SC1-2015-1596
Equipment ID: 3198: 2C3CDXAT4EH230540 2014 DODGE CHARG PUR BK WT 4 DOOR POLICE CRUISER

Tasks

Task	WAC	Priority
A - PM SERVICE A		3 - NORMAL PRIORITY

The new software includes a customer portal that allows various City employees the ability to submit a service request for a repair online.

Report a Problem Online

Use this form to report problems and safety concerns.

1

WHO are you?

2

WHERE is the problem?

3

WHAT is the problem?

Who are You?

Please identify yourself so that we can get back to you if we have any questions or need more information.

Employee

Employee ID 1839 ... DONNITA WEEKS

Operator

1

WHO are you?

2

WHERE is the problem?

3

WHAT is the problem?

Where is the Problem?

Please identify where the problem is and what asset or piece of equipment it affects.

Option A: Enter the Asset ID or Search for one.

Search for Asset ID 3075

Lookup

Clear

Asset Information

3075 2FAHP71W55X132499 2005 FORD CROWN VIC B&W POLICE CRUISER - CSP

Asset Type ASSET

Asset Category

Station Location POLICE - PUBLIC SAFETY POLICE DEPT.

Repair Location SC1 - FLEET SERVICE CENTER

Problems Already Reported:

Date Reported	Problem Code	Problem Description	ID	Status
06/26/2014 03:28 PM	02	CHECK AND OR INSTALL UPDATED INSURANCE CARD	3075-26981	PENDING
05/27/2014 11:47 AM	02	KEY BROKEN OFF IN TRUNK LOCK	3075-26426	PENDING
03/11/2014 03:44 PM	56	TURN WI-FI INVERTER OFF	3075-25253	PENDING
01/07/2013 10:20 AM	00	DRIVER SIDE SAIL PANEL (VERY, VERY MINOR)	3075-18923	PENDING

1 WHO are you? ✓

2 WHERE is the problem? ✓

3 WHAT is the problem?

What is the Problem?

Please choose a symptom code that best fits the problem, and describe the problem in your own words.

Symptom Code ...

Priority Code ... NORMAL PRIORITY

Describe the Problem

(Optional) Photos/Files [Attach Photos and/or Files](#)

When it is time for routine maintenance, City employees can view available dates for preventive maintenance and schedule a drop off time online as shown below.

Service due

Equipment 1705: 1FMZU62K95UB06164 2005 FORD EXPLORER WHITE 4 DOOR SUV

Operator

Service Due B - PM SERVICE B

Work Order ID SC1-2015-2302

Est. Hours 2.00

[View Tasks](#)

Drop off location

SC1 - FLEET SERVICE CENTER
611 RAVEN AVE
BOWLING GREEN
KY 42101
Phone: 393-3201

1

Choose a date for your service appointment:

[CLICK HERE TO SEE AVAILABLE DATES!](#)

<February 2017>

Sun	Mon	Tue	Wed	Thu	Fri	Sat
29	30	31	1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25

2

Choose a drop-off time:

Tuesday, February 07, 2017

[7:00 AM](#)

[12:00 PM](#)

Each employee who has scheduled work will receive an automated e-mail as soon as the technician completes the work order. This frees up time for the Shop Supervisor by not having to notify employees as work is completed. It also provides real time updates for the employee on their maintenance or repairs. Below is a sample e-mail notification:

Subject: WO for Eq# 1702 COMPLETED 1/17/2017 1:47:00:00 PM

Message: This notification has been automatically generated by the Fleet Management system to inform you that the following REPAIR Work Order has been placed in WORK FINISHED status:

Work Order: SC1-2015-2289

Equipment ID: 1702

Desc: EXPRESS CARGO VAN

Year/Make/Mdl: 2002 CHEVROLET VAN

Technician: DONNITA WEEKS

- 6. Management should work to incorporate the fire fleet services within the general shop scheduling and supervision. The fire technician works separately from the rest of the technicians with limited supervision or oversight from fleet management.**

Prior Auditor Recommendation

Fleet Management should work with the Fire Department to improve how and what information is provided for the preventive maintenance and repair of fire trucks and equipment. The Shop Supervisor should become more active with the scheduling and work completed for the fire trucks and equipment the same way as all other departmental units serviced by the other technicians who also report to him.

Special attention should be given to the fire units to ensure that all work is being performed in a timely and efficient manner. Assistance may be needed to keep up with the needs of the department due to the specialized nature of the equipment, but Fleet Management should work to better incorporate the Fire Technician as a Fleet Division employee rather than thought of as an offsite Fire Department employee. The Fire Technician should ask for assistance when needed so more cross training can be performed and he should also be willing to assist with general fleet services when time allows or the need arises.

Prior Management Response

When Fleet assumed the repairs and maintenance of the Fire vehicles, it was done so with a little knowledge of the Fire Departments requirements and procedures. It was quickly determined the fire truck fleet was in poor condition. Due to the lack of familiarity with the fire equipment by the shop supervisor and the heavy work load with the rest of the city vehicles, it was determined the quickest way to bring the fleet up to an acceptable level was to allow the fire truck technician to oversee the scheduling and repairs.

The demands of the Fire Department are different than other departments in the fact that they are emergency response and are limited to few back up vehicles. Working within their schedule is difficult and requires timely and accurate communication.

When a more efficient scheduling process is implemented, it is anticipated the shop supervisor will have more time to learn the intricacies of the Fire Apparatus' and the Fire Department needs.

Fleet management will evaluate the current system and consult with the Fire Department to determine the most efficient process to service their fleet.

Current Status: IMPLEMENTED

The Fire Fleet services are integrated within the Fleet Division. The Shop Supervisor works with the Fleet Fire Technician and the Fire Department to schedule repairs and preventive maintenance of Fire apparatus. The Fire Department has implemented a new Halligan Software package that the Fleet Fire Technician can access. This allows Fire employees to enter tickets for requests for service and maintenance and allows Fleet staff to create work orders based on the departmental requests. This process does utilize two independent software systems, but it meets the needs of both the Fire Department and the Fleet Division.

Cross training is also in place and fire apparatus specific training to ensure that fleet is meeting Fire Department's needs.

- 7. The City Manager should work with management to decide how to balance adequate authority levels to service responsibility. Each department differs in how they provide service requests for items that are not a repair or general maintenance to fleet services; however, fleet management has limited authority on approving the services that they are responsible for installing or maintaining.**

Prior Auditor Recommendation

The City Manager should work with management to establish key departmental authority within each department who is the coordinator and approver of additional service requests above general maintenance and repair. This will assure that each request is approved at the appropriate departmental level and provide consistency and appropriate communication with fleet services.

The authority level should be clearly defined within the role of Fleet Management as the expert in service and repairs of vehicles. Fleet is responsible for maintaining the fleet and equipment, but currently do not have clearly defined authority as to what service requests they have the ability to deny when deemed appropriate. The designated departmental staff in each department

should work with fleet when they are searching for new and improved items for their vehicles and equipment. This would allow them the ability to ensure that the products purchased would work on the City's equipment.

Prior Management Response

The Fleet Division makes every effort to assure each vehicle is repaired, serviced or up-fitted according to the department's requests. On occasion one of these services will be requested that the Fleet Division, based on expertise, determines is not necessary or there is a more cost effective alternative.

The Fleet Division recognizes and agrees with the various departments need for back-up vehicles. The vehicles used for back-ups are vehicles that are kept after they have exceeded the replacement criteria. The problem with this method is it extends the life of a vehicle that has been deemed past its usefulness, resulting in the Fleet Division continuing maintenance of an old vehicle in addition to the new replacement. Also, with an additional vehicle available, sometimes the back-ups are used along with the primary vehicles rather than when a primary vehicle is temporarily out of service.

Fleet Management will collaborate with the individual departments to develop a process in which all relevant divisions are consulted when requests are made not concerning general maintenance and repair.

Fleet Management will work with the individual departments in efforts to obtain a back-up vehicle plan that minimizes the use of the vehicle along with providing vehicles that have not exceeded the replacement criteria.

Current Status: IMPLEMENTED

The City Manager approved the following instructions to address any related issues and distributed it to senior managers as his approved directive moving forward:

In order to provide consistency throughout all City Departments, only Senior Managers have the authority to provide vehicle requests, equipment up-fitting requests, or to request the retention of old vehicles as a back-up or as an additional pool vehicle from the Fleet Manager. To clarify, these are requests that are outside the normal processes of repair and maintenance. The Fleet Manager will be involved in the equipment/up-fitting selection process in the early stages (at all times before any equipment/up-fitting purchases are made) and will provide his/her expertise to assist in those selections. If the Senior Manager and the Fleet Manager cannot agree on a solution that fits the needs of the requesting Department, the Public Works Director will work with the team to try and arrive at the most appropriate solution to the equipment, up-fitting, or equipment retention need. If the requesting Senior Manager, the Fleet Manager, and the Public Works Director cannot reach a consensus, the City Manager will be included in the discussions and will make the final decision relating to the particular request.