

Performance Audit

**FIRST VEHICLE SERVICES  
Fleet Management and Maintenance**

Report by the  
Office of City Controller

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## TABLE OF CONTENTS

Executive Summary .....	i-xii
Introduction and Overview .....	1
Scope .....	3
Objectives .....	4
Methodology .....	5
<b>FINDINGS AND RECOMMENDATIONS</b>	
<b>First Vehicle Services Contract</b>	
Defining Target and Non-Target Services .....	7
Contract Language .....	7
Plain Language Legislation .....	8
Target and Non-Target Actual Monthly and Yearly Expenditures .....	8
Target Services Budget .....	9
Yearly Target Service Incentive .....	10
Target Cost Overages .....	10
Reasons for Overages .....	11
Utility Payments .....	11
Utility Payment Test .....	11
Water and Sewage Payments .....	12
<b>Pittsburgh Water and Sewer Authority Vehicles .....</b>	<b>12</b>
<b>Role of the Equipment Leasing Authority .....</b>	<b>13</b>
<b>Non-Target Services</b>	
Work Approval Process .....	13
Monthly Reports .....	13
Category Definitions .....	14
Expenditures for Sample Years 2013 and 2014 .....	15
Costs by Department for Sample Years 2013 and 2014 .....	17
Repairs Compared to the Controller's Previous Audit .....	19
Shared Savings Credits/Non-Target Payments .....	19
<b>Work Orders</b>	
Repair/Work Order Process .....	20
Target Costs per Work Orders .....	20
<b>FVS Reports Reliability Test</b>	
First Test Sample .....	21
Second Test Sample .....	21

## TABLE OF CONTENTS CONT'D

Combined Test Sample Results .....	22
Target and Non-Target Labor Hour Calculation Analysis.....	23
Incorrect Non-Target Labor Hour Work Orders .....	25
<b>2013-2014 Fleet Inventory/Age of Fleet .....</b>	<b>25</b>
Older Vehicle Analysis .....	26
<b>FVS User Meetings .....</b>	<b>27</b>
<b>The ELA Purchase Schedule.....</b>	<b>28</b>
ELA Acquisition Plan .....	29
<b>Performance Standard Compliance</b>	
Contract Specifics .....	30
Turnaround Time Compliance .....	31
24 Hour Turnaround Time .....	32
48 Hour Turnaround Time .....	34
Turnaround Time over 48 hours.....	36
Reasons for Extended Repair Times .....	36
Turnaround Time Penalties and Incentives.....	37
Test for Crediting the City for Turnaround Time Penalties and Incentives .....	38
Receiving Penalty Credits or Incentive Deductions .....	38
Past Audit Comparisons .....	39
<b>Fleet Availability Compliance.....</b>	<b>40</b>
Fleet Availability Incentives and Penalties .....	42
<b>Preventive Maintenance (PM) and State Inspections (SI)</b>	
Preventive Maintenance .....	43
State Inspections.....	43
Preventive Maintenance and State Inspection Scheduling.....	43
PM and State Inspection No-Shows.....	44
<b>Preventive Maintenance Performance Standards .....</b>	<b>44</b>
Scheduled Preventive Maintenance Compliance by Department .....	46
Scheduled State Inspections Compliance.....	47
Prior Audit Comparisons.....	48
State Inspection Scheduling .....	48
Tracking No-Shows Next PM and State Inspections .....	49
Department Vehicles Missed by Years End .....	49
<b>Repair Quality (Reworks).....</b>	<b>50</b>
<b>Fuel System Concerns.....</b>	<b>50</b>

## TABLE OF CONTENTS CONT'D

<b>Parts Ordering .....</b>	<b>50</b>
<b>Future Cost Savings Considerations .....</b>	<b>51</b>

### **TABLES**

Table 1 - Actual Amounts Paid to FVS During Each Contract Year .....	8
Table 2 - Actual Target Services Operating Budget.....	10
Table 3 - 2013 and 2014 Non-Target Costs by FVS Categories w/ PWSA vehicles .....	15
Table 4 - 2013 and 2014 Non-Target Costs by FVS Categories w/o PWSA vehicles .....	16
Table 5 - 2013 and 2014 Non-Target Costs by Department.....	18
Table 6 - Number of Errors Between Work Orders and FVS's F450 Report.....	22
Table 7 - Fleet Composition 2008 and 2014.....	27
Table 8 - Vehicles Obtained by Department for years 2006 through 2015 .....	29
Table 9 - ELA Vehicle Acquisition Plan 2016-2020.....	29
Table 10 - Penalties and Incentives for Performance Outside of Turnaround Time Range .....	32
Table 11 - 2013 24-Hour Turnaround Time Compliance.....	33
Table 12 - 2014 24-Hour Turnaround Time Compliance.....	33
Table 13 - 2013 48-Hour Turnaround Time Compliance.....	35
Table 14 - 2014 48-Hour Turnaround Time Compliance .....	35
Table 15 - 2013 and 2014 Vehicles with Turnaround Times over 48 hours.....	36
Table 16 - Turnaround Time Percentage Comparison to Previous Controllers Audit.....	39
Table 17 - 2013 Fleet Availability .....	41
Table 18 - 2014 Fleet Availability .....	41
Table 19 - 2013 and 2014 Fleet Availability Incentives and Penalties.....	42
Table 20 - 2013 Preventive Maintenance Performance Standards .....	45
Table 21 - 2014 Preventive Maintenance Performance Standards .....	45
Table 22 - 2013-2014 Preventive Maintenance No-Shows by Department.....	46
Table 23 - 2013-2014 State Inspection No-Shows by Department.....	47
Table 24 - Days to Complete a Missed PM or SI Appointment. ....	49

### **CHARTS**

Chart 1 - Difference between Punched and Recorded Labor Hours for 2013 and 2014.....	24
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MICHAEL E. LAMB

CITY CONTROLLER

First Floor City-County Building • 414 Grant Street • Pittsburgh, Pennsylvania 15219

May 25, 2016

To the Honorable: Mayor William Peduto and  
Members of Pittsburgh City Council:

The Office of City Controller is pleased to present this performance audit of *First Vehicle Services Fleet Management and Maintenance* conducted pursuant to the Controller's powers under Section 404(c) of the Pittsburgh Home Rule Charter.

## EXECUTIVE SUMMARY

First Vehicle Services (FVS) is an organization based in Cincinnati that provides fleet maintenance services for public and private fleets across North America. FVS is responsible for maintaining all City owned vehicles as well as vehicles for the Pittsburgh Water and Sewer Authority (PWSA). Responsibilities include all repair work, preventive maintenance, and state inspections on the vehicles as well as preparations to new vehicles for service and to older vehicles for sale. Most work is conducted at the two garages owned by the City in the Strip District or, if needed, sub-contracted to an outside vendor.

The City of Pittsburgh has outsourced their fleet management services to First Vehicle Services (FVS) with since May 17, 2005. The current agreement between the City and FVS analyzed during this audit runs from November 21, 2010 to November 20, 2015.

## Findings and Recommendations

### *First Vehicle Services Contract*

FVS bills the City for target and non-target repairs. Target services are defined in the contract as "generally routine vehicle maintenance and repair activities that are reasonably predictable" such as preventive maintenance and state inspections. Non-target services are defined as repairs due to "accident repairs, life extension, vandalism, misuse, acts of God, directed work, acts of nature, snow emergency, capitalization, new equipment, theft, and operational damage.

## Contract Language

The FVS contract and corresponding legislation is written in “not to exceed” dollar amounts for each operational year for both target and non-target services. The dates for each operational year do not match the actual yearly contract dates.

**Finding:** The way the current legislation is written it is difficult to calculate the yearly costs of the contract. The legislation lists monies by calendar year and not FVS’s actual contract year.

## Plain Language Legislation

In July 2015 the City passed legislation that requires government documents meant for public use, including notices, forms, and websites, to be written in “Plain Language,” a clear, easy to read and understandable hand.

**Recommendation:** The FVS contract should be written in “Plain Language.” Additionally, the money encumbered should follow the years of the contract as well as the City’s fiscal year.

## Target and Non-Target Actual Monthly and Yearly Expenditures

The contract specified that the 5 year total of target services should not exceed the amount of \$26,915,000 and non-target services not to exceed \$8,500,000.00. During the contract term target service expenditures totaled \$26,913,644.00 and non-target expenditures totaled \$10,234,290.55.

**Finding:** The City increased non-target expenses by \$1,400,000 for the 5 year contract. This is a 16.5% increase over the original allocation of \$8,500,000.

## The Contracts Yearly Target Service Incentive

If the City’s actual target service expense for the contract year is lower than the agreed upon target service budget amount, the City will receive 80% of the cost savings and FVS will receive 20%.

**Finding:** There were no shared savings between FVS and the City in 2013 and 2014.

## Target Cost Overages

FVS absorbs all target expenses over the amount that is allocated in the contract.

**Finding:** In year 3 of the contract, FVS cost overages were \$78,213.00 (1.5%) and in year 4 of the contract, cost overages totaled \$251,024.00 (4.5%).

**Finding:** Fringe benefits and parts and supplies were reasons for cost overages for both 2013 and 2014.

**Recommendation:** Having FVS absorb any cost overages from target services saves the City money. It is a good idea and should be continued.

### Utility Payments

The contract states that FVS will be responsible for paying for heat, water, and electricity billed to the City for the maintenance facilities. Heat and electricity are first paid by the City and then FVS issues a credit to the City's non-target service bills as their form of payment. FVS receives and pays water bills directly from PWSA. The City received a utility credit of \$99,911.13 in 2013 and \$104,261.04 in 2014.

**Finding:** For 2013 and 2014 the correct dollar amount of utilities were paid and taken off the non-target service bills for 100% compliance.

**Finding:** FVS has done a much better job crediting utility charges to the City since the last City Controller's audit was conducted.

**Finding:** FVS has been paying the monthly water and sewage bill since the new contract was signed.

### *Pittsburgh Water and Sewer Authority (PWSA) Vehicles*

FVS is responsible for all repairs done to PWSA vehicles. The City is billed by FVS for all PWSA target and non-target vehicle repairs monthly. The City pays for all PWSA vehicle repairs and then, as per a PWSA agreement with the City, is reimbursed from PWSA.

**Finding:** The payment agreement between the City and PWSA is not explained in the contract but attachment A (Vehicle Inventory) of the contract lists all PWSA vehicles that are required to be maintained by FVS.

**Finding:** During the sample years, payments were not made quarterly but PWSA did pay off its obligation to the City within each calendar year.

### *Non-Target Services*

The FVS contract lists examples of non-target repairs that the contractor can charge to the City. FVS categorizes each non-target service repair/task in a report and a summary is broken

down by department. FVS codes each repair by one of ten categories. The ten categories are Abuse of Equipment, Accident Non-Reported, Accident Reported, Capital Improvement, Directed Work, Life Extension, Natural Causes, Operational Damage, Theft, and Vandalism.

**Finding:** FVS's non-target service monthly reports combine some of the categories listed in the contract in a logical way. For example Misuse is now recorded under Operational Damage etc.

The FVS contract does not define the non-target service categories that the contractor can charge to the City. The contract lists a few examples but no definitions.

**Recommendation:** The FVS monthly reports compiling of non-target service costs by department is an excellent reporting tool and should be continued. This is an efficient way to track the different number of reoccurring non-target repairs.

**Recommendation:** The next fleet maintenance contract should include definitions as well as examples of the non-target repair categories. The repair categories should be combined and separated as the current FVS monthly non-target reports.

#### Non-Target Expenditures for Sample Years 2013 and 2014

**Finding:** With or without PWSA vehicles, in both 2013 and 2014, Operational Damage had the largest amount of non-target service repairs charged to the City. This has not changed since the City Controller's last audit.

**Recommendation:** The City should continue to provide up to date training to vehicle operators to reduce Operational Damage.

**Finding:** In both sample years, the same five departments with the most non-target service repairs, in no particular order, were Department of Public Works, Environmental Services, Police, Fire and Emergency Medical Services.

The 2008 data for non-target repairs totaled \$1,315,720.71. Five years later in 2013 non-target costs had an 81.5% (\$2,387,990.35) increase and more than doubled in 2014 with a 104.86 % (\$2,691,794.60) increase.

**Finding:** Since the previous Controller's audit, non-target costs have greatly increased in 2013 and 2014. Factors causing this are the increase in the number of vehicles maintained, the number of work orders and the rate of inflation.

**Finding:** In 2013 and 2014, the top 5 departments with the most non-target expenses are the same as the Controller's audit released in 2010, but in a different order.

## Shared Savings Credits/Non-Target Payments

Shared savings credits are deducted from the City's non-target bills.

**Finding:** On the City's non-target bill from 3/31/2014, there was a shared savings deduction of \$58,850.00. This deduction is from shared savings credits for the contract years that began on 3/1/09 (interim contract) and 11/20/10. It took FVS as many as 5 years to issue the appropriate credit to the City.

**Recommendation:** The City gets billed for target and non-target services monthly. The City should require FVS to credit its shared savings within 6 months of the end of the year calculation. Amounts not credited within that time period should be charged interest for the City.

## *Work Orders Processed*

In 2013, FVS had a total of 17,977 work orders. The following year in 2014, FVS had an increase in work orders to 18,624.

**Finding:** The last performance audit conducted in 2010 said FVS had approximately 13,000 work orders processed in 2008. Since then there was a 27.7% increase in work orders in 2013 and a 30.2% increase in 2014.

## *FVS Reports - Reliability Test*

FVS's F450 report captures data from work orders. The report has 15 different entry categories taken from the work orders. They are unit, vehicle description, meter, open date, open time, closed date, closed time, status, charge code, downtime, labor hours, labor cost, parts costs, sublet (vendor) cost, and total cost. Two samples were taken to test the accuracy of data entry into these categories from the work orders they are generated from.

**Finding:** In the first sample from 2013, 147 out of 186 (79.0%) work orders had all corresponding fields match the provided F450 report. In 2014, 168 out of 198 (84.8%) work orders had all the fields match the F450 report.

**Finding:** In the second sample from 2013, 146 out of 205 (71.2%) work orders had all corresponding fields match the provided F450 report. In the second sample from 2014, 159 out of 208 (76.4%) work orders had all the fields match the F450 report.

**Finding:** The categories of labor hours, meter readings, and downtime were the type of errors that were found in both 2013 and 2014.

**Finding:** The majority of information found in FVS's reports is reliable.

**Finding:** For both 2013 and 2014, work order labor hours were the highest cause for discrepancies, with 58 instances (14.8%) in 2013 and 59 instances (14.5%) in 2014.

### ***Target and Non-Target Labor Hour Calculation Analysis***

The majority of the errors found in the two FVS reports reliability test samples were in the labor hour category. Some of technicians reported labor hours on the work orders did not match the labor hours reported on the F450 report. Some of the technicians' calculations were under the reported labor hours and some were over.

**Finding:** The majority of the time errors are between ½ hour undercharged and ½ hour over charged.

**Finding:** The labor hours included in computer reports are not entirely reliable when compared to the labor punch sheets.

For non-target repairs, if a technician records a time under the actual time spent repairing the vehicle, then FVS will undercharge the City. If a technician records a time over the actual time spent, then FVS will overcharge the City if it is a non-target repair.

**Finding:** Out of the 117 work orders with the incorrect labor hours, a total of 34 or 29.1% were non-target work orders. Thirteen (13) of these work orders were overestimated and 21 were underestimated.

**Recommendation:** FVS Management and the City's fleet contract manager should implement new practices to double check the accuracy of the labor hours inputted into the computer system.

### ***2013-2014 Fleet Inventory/Age of Fleet***

In 2014, the City had a fleet of 1089 vehicles compared 992 in the first contract renewal in 2008. In 2008, vehicles that were 5 years old or newer were 38.00% of the fleet compared to 33.52% in 2014. However, there is very little difference between vehicles 10 years old or newer in both years. The number of vehicles in 2008 that were 25 years old or older was 7 (since 1984). In 2014, the number of vehicles that were 25 years old or older was 24 (since 1990).

**Finding:** Overall, the distribution of vehicle ages did not change drastically from the 2008 contract renewal to 2014.

**Finding:** The majority of vehicles that were 25 years or older in 2014 were vehicles with long life spans such as trailers, rafts and boats.

### ***FVS User Meetings***

During a user meeting with the representatives from the Bureau of Police, officers expressed concern that a number of new Ford vehicles purchased to replenish patrol cars in 2013 were subject to recall and have been sitting on the dealer's lot resulting in vehicle shortages. All vehicles recall work is done at the dealer instead of FVS because of warranty issues.

**Finding:** Dealer recalls can hinder vehicle availability and FVS can do nothing about it.

### ***The ELA Purchase Schedule***

The ELA handles the purchasing of vehicles for the City. The plan is approved yearly by City Council.

**Finding:** The ELA has started to create a 5 year acquisition plan for purchasing City vehicles. Prior to this year, new vehicle budgets were created and approved on a year to year basis.

**Recommendation:** Having an acquisition plan that anticipates vehicle purchases is a good idea and should be continued. Constant vehicle purchases each year would help eliminate problems that can be associated with huge vehicle purchases if that batch of vehicles ended up being recalled.

**Recommendation:** City Council should guarantee a minimum amount for vehicle funding every year. This would aid the ELA in establishing a 5 year plan by knowing how much money is available to spend.

### ***Performance Standard Compliance***

The contract specifies performance measures for turnaround time, fleet availability, preventive maintenance and repair quality. The performance measures are listed as acceptable ranges. Financial incentives are given for exceeding the performance range and penalties are assessed for not reaching the performance range. No incentive or penalty is calculated if monthly repairs fall within the acceptable range.

Performance measure tracking for turnaround time and fleet availability is made easier by placing each vehicle in certain classes. Vehicle classes have different acceptable ranges and financial incentives. According to FVS management, all non-target repairs are excluded from performance measures. The auditors only found exclusions in the contract for turnaround time.

**Finding:** The recommendation from the 2010 audit was not implemented. The 2010 recommendation stated that "The contract should be amended to state that vehicles out of service because of non-target repairs are excluded from performance calculations".

**Recommendation:** The previous audit recommendation should be implemented. It should be better defined in the contract that all performance standards (turnaround time, fleet availability, PMs or re-work orders) should be excluded from non-target repairs.

## **Turnaround Time Compliance**

Turnaround time is the amount of time it takes to repair a vehicle and get it back in service. Turnaround time is calculated from the time the work order is generated until the work order is closed. There is a 24 hour and 48 hour turnaround time range that FVS has to comply to and the ranges are different according to vehicle class. A monthly incentive is rewarded if FVS completes the repairs above the desired range and a penalty is charged if the repairs fall below the range.

The 7 turnaround time vehicle classes that FVS uses are EMS, Police, Fire, Refuse, one ton or smaller, larger than one ton and others. The EMS, Fire, and Police vehicles are considered FVS priority repairs. Because of their priority status these vehicles are completed before any other vehicles are repaired.

**Finding:** The amount of incentive money that FVS is given to exceed the 24 hour and 48 hour turnaround time ranges is 25%, 35% or 50% of the penalty amount.

**Recommendation:** The incentive amount of 25% of the penalty is too low and does not provide enough incentive to FVS. The incentive amounts should be increased to at least 35% of the penalty amount.

### **24 Hour Turnaround Time**

**Finding:** The 24 hour turnaround time standard was never met for EMS and Police priority vehicles in sample years 2013 or 2014. Fire, the City's other priority department, only had their 24 hour turnaround time standard met in 2013.

**Finding:** In 2013, 24 hour turnaround time ranges were met or exceeded with Fire Department vehicles, refuse packers, vehicles one ton or smaller, vehicles larger than one ton and all other vehicles. In 2014, 24 hour turnaround time ranges were met or exceeded with refuse packers vehicles, vehicles one ton or smaller and vehicles larger than one ton.

### **48 Hour Turnaround Time**

**Finding:** The 48 hour turnaround times had similar results as the 24 hour turnaround times regarding priority vehicles in 2013 and 2014. EMS, Fire, and Police, on average did not meet the desired range of (94-96%) for both years.

**Finding:** In 2013 and 2014, on average, the 48 hour turnaround time repairs was only met or exceeded for one group of vehicles, the refuse packers.

**Finding:** In sample years 2013 and 2014, over 10 percent of the vehicles took more than 48 hours to repair.

FVS management explained that the majority of the extended turnaround times happen when a vehicle comes in for a PM or inspection and other things are found wrong. A new work order is created. These new work orders are called a PM follow up.

**Finding:** Of the vehicles needing over 48 hours to repair, more than half were for PM follow-ups.

**Recommendation:** All work orders that have turnaround times over 120 hours should be given an additional monetary penalty on top of the penalty that FVS already receives for not meeting the 48 hour turnaround time for target repairs. A week should be more than enough time to complete a target repair since labor and parts are predictable for these types of services, if the repair part is available. FVS should not be penalized if a part to repair a vehicle is on-order and not delivered in a timely manner.

#### Turnaround Time Penalties and Incentives

In 2013, FVS was assessed \$2,750 in penalties for not meeting the 24 hour turnaround time and \$11,260 for not meeting the 48 hour turnaround time for a total of \$14,010 in penalties. In 2014, FVS was assessed \$2,925 in penalties for not meeting the 24 hour turnaround time and \$12,210 for not meeting the 48 hour turnaround time for a total of \$15,135 in penalties.

**Finding:** In sample years 2013 and 2014, the overall results show that FVS was charged for more penalties than incentives for 24 and 48 hour turnaround times.

**Recommendation:** Along with the previous recommendation, increasing incentives, the administration should examine increasing penalty amounts each year of the contract. If performance standards do not improve the penalty amount increases. If performance standards improve then the penalty amount should be frozen at that contract year's amount that affects improvement.

All performance standard penalty credits are shown on the City's non-target bills. The auditors wanted to test the accuracy of the penalty credits given on the non-target bills by comparing them to their own calculations.

**Finding:** All turnaround time incentive and penalty amounts matched except the 48 hour turnaround time total in April 2013. The reported penalty for 48-hour turnaround compliance was -\$490, while the auditors calculated a penalty of -\$1,025, a difference of -\$535, a credit for which the City did not get.

**Recommendation:** The City needs to be credited the \$535 that was miscalculated in April 2013. The City representatives at the FVS location need to verify FVS's penalty/credit calculations.

There is no set time during the year that the City receives penalty credits or incentive deductions on their non-target bills. Some credits were given as early as 3 months later while other monthly penalty credits were given over 2 years later

**Finding:** FVS is inconsistent in the amount of time they take to issue credits or deductions for incentives or penalties.

**Recommendation:** FVS has exhibited that it can credit payments within a timely manner. The City should require all penalty and incentive credits be billed to the City quarterly. Failure to credit the City for penalties and incentives within 4 months should result in the dollar amount being charged interest if it is a credit to the City.

**Finding:** The previous audit recommended that penalties be increased for not meeting the 24 and 48 hour turnaround time ranges was followed.

**Finding:** For the 2013 and 2014 sample years, FVS has greatly improved 24 hour and 48 hour turnaround time in refuse packers, one ton or smaller vehicles, larger than one ton vehicles and all other vehicles over what was found in the last City Controller's Audit.

**Finding:** A comparison of the 2013 and 2014 sample years for the 24 hour and 48 hour turnaround time for priority vehicles, (EMS, Fire and Police) has varied; sometimes exceeding the previous audits percentages and sometimes below the previous audits percentages.

### **Fleet Availability Compliance**

Fleet availability is the total number of hours a vehicle fleet or a group of vehicles is available for service. FVS tracks fleet availability daily and is shown as a percentage. Like turnaround time, FVS has acceptable percentage ranges to meet for fleet availability. Vehicles are grouped into 8 different classes and there are different acceptable ranges for each class.

Vehicles that are out of service for several months waiting for repair parts or to be considered for decommissioning are still included in fleet availability calculations.

**Finding:** Vehicle repairs that are out of FVS's control are included in the fleet availability calculations.

**Recommendation:** It should be written in the contract that vehicles that are being considered for decommission or awaiting unavailable parts are not included in fleet availability calculations. The fleet contract manager should be required to sign off to confirm the exclusion of these vehicles from the fleet availability statistics.

**Finding:** For 2013 and 2014, the majority of departments met the minimum percent average for fleet availability.

**Finding:** For both 2013 and 2014, the Fire Department's 12 month average did not meet the minimum percentage standard.

**Finding:** In 2013 and 2014, FVS was assessed penalties of \$2,520 and \$3,270 respectively for fleet availability.

### ***Preventive Maintenance and State Inspections***

PMs and state inspections have the same scheduling process. All department supervisors are e-mailed a schedule two weeks in advance of the next full month, allowing departments up to six weeks notification before the appointment.

**Finding:** City departments are given from 2 to 6 weeks to call and reschedule a vehicle's PM. This should be ample time to reschedule the PM if there is a scheduling conflict.

**Recommendation:** City departments need to increase monitoring of a vehicle's PM schedule so it is not missed to save the City money. Missed PMs contribute to an increase in non-target repairs.

**Finding:** FVS management explained that departments that show up for unscheduled PMs can cause a backlog of unexpected repair work done during the course of the day.

FVS receives incentives and penalties for PMs just as they do for turnaround time and fleet availability.

**Finding:** In 2013 and 2014, FVS exceeded the performance standard every month for preventive maintenance and as a result received \$4,800 in incentives, \$2,400 for 2013 and \$2,400 for 2014.

**Finding:** For both 2013 and 2014 four departments, the Mayor's Office, Fire Administration, PWES and Public Safety Administration were included among the top five departments that had a high percentage of no-shows for PMs.

**Finding:** Three departments, PWES, DPW and PWSA were among the top five departments that had a high percentage of no-shows for state inspections in both 2013 and 2014.

**Finding:** Since 2008, departments are doing a much better job of showing up for scheduled PMs and state inspections.

**Finding:** FVS is doing a much better job of scheduling the entire fleet for state inspections since the City Controller's last audit.

**Recommendation:** Departments should strive to be at least 90% for PM compliance and 100% for state inspections. In order to do this each department's representative should monitor and track each individual car. Missed PMs and state inspections can result in higher non-target repair costs.

**Finding:** In 2013, 64.6 % of the missed PMs and state inspections were completed within 60 days and in 2014 the percentage was 69.1%.

### *Repair Quality (Reworks)*

FVS tracks and identifies if it is billing multiple repairs for the same deficiency on the same vehicle; this is titled a "rework." FVS will not charge the City for reworked vehicles if it falls within a time range specified in the contract.

**Finding:** FVS did not have any rework orders in 2013 and 2014

### *Future Cost Saving Considerations*

**Finding:** Switching to electric/hybrid vehicles would decrease overall maintenance costs but this would only apply to issues with the motor.

**Recommendation:** Before the current administration purchases electric, hybrid or alternative fuel vehicles, a long term study of overall costs and repairs should be conducted. City vehicles generally take a lot of abuse. The capability of EVs taking that abuse should be a major consideration.

Sincerely,

  
Michael E. Lamb  
City Controller

## INTRODUCTION

This performance audit of First Vehicle Service's Fleet Management and Maintenance was conducted pursuant to the Controller's powers under Section 404(c) of the Pittsburgh Home Rule Charter. This is the third audit conducted by the City Controller's Office the first being released in 2006 and the second in 2010. This audit focuses on the economy, efficiency, and effectiveness of the contracted fleet maintenance and to determine the status of previous audit recommendations.

## OVERVIEW

The City of Pittsburgh has had a contract with First Vehicle Services (FVS) since May 17, 2005 when the City administration decided to eliminate in-house vehicle repair work. FVS is an organization based in Cincinnati that provides fleet maintenance services for public and private fleets across North America. FVS is responsible for maintaining all City owned vehicles as well as vehicles for the Pittsburgh Water and Sewer Authority (PWSA). Responsibilities include all repair work, preventive maintenance, and state inspections on the vehicles as well as preparations to new vehicle for service and to older vehicles for sale. Most work is conducted at the two garages owned by the City in the Strip District or, if needed, sub-contracted to an outside vendor.

The current agreement between the City and FVS is 60 months which runs from November 21, 2010 to November 20, 2015. The contract provides an option for the City to extend it for two years provided fund availability, City approval and FVS's record of satisfactory performance. The City may terminate the agreement upon written notice being provided to FVS not less than 90 days prior to the termination date.

Payments are for two types of services, target and non-target. Originally the total 5 year cost of target services was not to exceed \$26,915,000 and non-target services was not to exceed \$8,500,000.

Target services are defined in the contract as "generally routine vehicle maintenance and repair activities that are reasonable predictable and therefore lend themselves to projection and estimation". Target services also include FVS wages and salaries, fringe benefits, parts and supplies, subcontractor services, overhead expenses, and corporate administrative and management fees. Target services are billed at a fixed monthly rate.

Non-target services are generally unpredictable repairs. Non-target services are listed in the contract as accident repairs, life extension, vandalism, misuse, acts of God, directed work (work directed by the City), acts of nature, snow emergency, capitalization, new equipment, theft, and operational damage. Every month the City is billed separately for non-target repairs and costs vary according to the amount of repair work being done.

The City currently has two full time employees stationed at the FVS garage to act as City representatives. They are the Fleet Contract Manager and Fleet Contract Administrator. The Fleet Contract Manager's job is to act on behalf of the City in all matters relating to the contract and to authorize all non-target work completed under the agreement. The Fleet Contractor Administrator assists the Contract Manager. The City's employees stated purpose is to keep FVS costs at a minimum.

## **SCOPE**

The scope of this performance audit is fleet maintenance services performed between January 1<sup>st</sup> 2013 and December 31<sup>st</sup> 2014. Expenditure and penalty expenses were reviewed from the beginning of the FVS contract, 11/21/10 to 11/20/2015.

## **OBJECTIVES**

1. To assess the accuracy of First Vehicle Services' database.
2. To assess compliance with contractual turnaround time, fleet availability, preventive maintenance and rework standards.
3. To review the contract terms.
4. To analyze current target and non-target costs.
5. To assess First Vehicle Services' compliance with the findings and recommendations from the past performance audit released in January 2010.
6. To make recommendations for improvement.

## METHODOLOGY

The auditors reviewed the previous audits of First Vehicle Services. The City's current contract with FVS was obtained and reviewed from the City of Pittsburgh's OnBase system.

The auditors had meetings and interviews with FVS's General Manager, Operations Manager, Administrative Manager, and Fleet Analyst to discuss the current contract and day to day operations at the FVS facilities. Also interviewed were the City's Fleet Contract Manager, Fleet Contract Administrator, representatives from the City's Office of Management and Budget and board members of the Equipment and Leasing Authority.

An audit entrance conference and tour of the FVS facilities in the Strip District was conducted with the general, operative, and administrative managers.

Monthly user meetings are held for every department to discuss non-target costs, preventive maintenance (PM) compliance and issues departments might have with FVS. Scheduling of user meeting varies by department. The auditors attended user meetings for Police, Fire, and Refuse. A review of non-target costs and preventive maintenance status was conducted. Explanations and details were given for five large non-target expenses for each department.

The auditors attended a quarterly performance meeting with all City department representatives and FVS. The auditors attended an Equipment Leasing Authority meeting that included an informational presentation concerning options to create a more environmentally friendly vehicle fleet.

The OnBase system was used to retrieve all copies of monthly target and non-target bills and payments to FVS throughout the current contract period, November 21, 2010 to November 20, 2015. The auditors used these bills to calculate the City's monthly target and non-target services and compare them to the budgeted yearly contract amounts.

FVS garage facility gas and electricity bills paid by the City in 2013 and 2014 were totaled and used to compare the accuracy of utility credits given on the City's non-target bills.

The 2013 and 2014 penalty charges located in not-target bills were checked against the auditor's performance standard calculations.

FVS water bill payments were verified by obtaining a copy of a water bill from FVS and calling PWSA to verify payments.

The budgeted amount for target work orders for 2013 and 2014 was divided by the number of target work orders completed in 2013 and 2014 to obtain the average cost per work order.

The auditors tested the accuracy of FVS reporting records. Copies of FVS summary of work performed by department reports (F450) were received for September 2013 and February

2014. From the report, the auditors took a random sample of 186 work orders from 1 month in 2013 and 199 work orders from 1 month in 2014. The auditors then compared the sample data to the actual work orders in FVS' filing cabinets. Further testing was warranted and the auditors requested another F450 report with a random sample selected throughout the whole year. This sample had 207 work orders from 2013 and 209 from 2014. The same testing process was repeated.

The Fleet Analyst supplied various reports generated by FVS for 2013 and 2014. This data was used to assess non-target expenses by categories and departments, age of fleet, preventive maintenance department no-shows/follow up and to see if FVS was meeting or exceeding contractual performance standards.

Office of Management and Budget and the Equipment Leasing Authority (ELA) supplied data that showed vehicle purchasing from the years 2006 to 2014 and anticipated vehicle purchases for the next 5 years.

A monthly breakdown of FVS's actual target costs for year 3 and 4 of the current contract was obtained from FVS management to analyze if there was a shared savings between the City and FVS.

The auditors read the January 2011 publication from the Institute for Automotive Research comparing electric vehicles (EV's) and hybrid vehicles to gas fuel vehicles. Manufacturer's websites for the purchase of an EV and corresponding parts were also researched.

Claims were made that FVS was delinquent in paying vendor bills. A list of vendors was obtained from FVS and calls were made to verify if bills were being paid.

## **FINDINGS AND RECOMMENDATIONS**

### **First Vehicle Services Contract**

The City of Pittsburgh currently has a five year contract with First Vehicle Services (FVS) that runs from 11/21/10 to 11/20/2015. (Since 11/20/15 the contract was renewed until 12/31/16.) Services, as explained in the contract, are divided into target or contract costs and non-target or non-contract costs. For purposes of this audit the terms target or non-target costs will be used.

#### **Defining Target and Non-Target Services**

Target services in the contract are defined as “generally routine vehicle maintenance and repair activities that are reasonably predictable and, therefore, lend themselves to projection and estimation”. Target costs include FVS wages & salaries, fringe benefits, parts and supplies, subcontractor services, overhead, corporate administrative /management fees and some capital expenditures. Some examples of repairs that fall under target costs include vehicle preventive maintenance, state inspections, tire changes and fluid refills.

Non-target services in the contract “include accident repairs, life extension, vandalism, misuse, acts of God, directed work, acts of nature, snow emergency, capitalization, new equipment, theft, operational damage; modifications to vehicles and equipment; and other work outside of the scope of services specified in this agreement that the Contractor may be directed to do”. All non-target repairs have to be approved by the City Fleet Contractor Manager prior to work being done. Non-target repairs exceeding \$10,000 must also be approved by the Equipment Leasing Authority.

#### **Contract Language**

The FVS contract and corresponding legislation is written in “not to exceed” amounts for each operational year for both target and non-target services. For target services, the 5 year contracts “not to exceed” amount is \$26,915,000. The non-target services “not to exceed” amount is \$9,400,000. City contracts include the legislation that authorizes and encumbers the money needed to pay the contract.

The FVS legislation allocates money in the first operational year that goes from November 21, 2010 through December 31, 2011; a 13 month span. The next 3 years monies are based on the calendar year with the last year’s allocation for the 11 months left in the contract. This does not follow the FVS contract; the contract is for 5 years based on the following: 11/21/10 to 11/19/2011, 11/20/11 to 11/24/12 and so on. Each year the payment to the contractor increases.

**Finding:** The way the current legislation is written it is difficult to calculate the yearly costs of the contract. The legislation lists monies by calendar year and not FVS’s actual contract year.

Plain Language Legislation

In July 2015 the City passed legislation that requires government documents meant for public use, including notices, forms, and websites, to be written in “Plain Language,” a clear, easy to read and understandable hand. While this legislation is intended for documents that will be used by the public, the application of plain language in other official documents can facilitate understanding of terms, money spent etc., including those of contracts.

**RECOMMENDATION NO. 1:**

The FVS contract should be written in “Plain Language.” Additionally, the money encumbered should follow the years of the contract as well as the City’s fiscal year.

Target and Non-Target Actual Monthly and Yearly Expenditures

The auditors totaled actual monthly invoices to determine the exact amount paid to FVS for target and non-target services for each contract year.

Table 1 shows the monthly payment for each contract year and yearly totals for target services. The expected 5 year cost for target services is \$26,913,644. This is \$1,356 under the contracts “not to exceed” amount of \$26,915,000.

**TABLE 1**  
**ACTUAL AMOUNTS PAID TO FVS DURING**  
**EACH CONTRACT YEAR**

<b>Contract Year</b>	<b>Monthly Amount Paid for Target Services</b>	<b>Cost of Target Services in each contract year</b>	<b>Cost of Non-Target Services in each contract year</b>
<b>1</b>	\$423,322.50	\$5,079,870.00	\$1,646,321.68
<b>2</b>	\$435,469.75	\$5,225,637.00	\$1,991,039.35
<b>3</b>	\$448,126.50	\$5,377,518.00	\$1,842,911.89
<b>4</b>	\$461,182.83	\$5,534,193.96	\$2,253,875.48
<b>5</b>	\$474,702.08	\$5,696,424.96	\$2,500,142.15
<b>TOTAL</b>	<b>\$2,242,804.16</b>	<b>\$26,913,644.00</b>	<b>\$10,234,290.55</b>

Source: FVS invoices

The FVS contract originally allocated the “not to exceed” amount of \$8,500,000.00 for non-target services. Since then, the contract has been amended 4 times for non-target services increasing the “not to exceed” amount to \$9,900,000.00.

In 2013, the 3<sup>rd</sup> year of the contract, funds were amended to increase the non-target service amount by \$200,000. In September 2015 there was a non-target service increase of \$400,000 for the 4<sup>th</sup> year and \$300,000 for the 5<sup>th</sup> year of the contract. When the FVS contract with the City was renewed for an additional year in December 2015, \$500,000 was added on to the 5<sup>th</sup> year of the previous contract. These additions total \$1,400,000 making the increased amount of money allocated to non-target repairs to \$9,900,000.

**Finding:** The City increased non-target expenses by \$1,400,000 for the 5 year contract. This is a 16.5% increase over the original allocation of \$8,500,000.

Table 1 shows non-target services to be \$10,234,290.55 as of the end of the contract on November 20, 2015. This exceeds the amount set aside for non-target services (\$9,900,000) by \$334,290.55. The difference in non-target repair monies is accounted for by credits to the City in the form of assessed penalties to FVS and utility payments.

#### Target Services Budget

The target service operating budget in attachment C of the contract lists the total target expense for each contract year. (Note: attachment C in the contract is from FVS’s submitted proposal. That is the only yearly break down of expenses in the contract.) The target services expense is broken down into 12 fixed monthly payments that run from December through November. For every new contract year there is approximately a 2.9% increase in target payments.

The auditors’ sample years were 2013 and 2014 or years 3 and 4 of the contract. The City of Pittsburgh’s monthly target service payments for 2013 or year 3 of the contract was \$448,126.50 or \$5,377,518.00 for the year. In 2014 or year 4 of the contract the monthly target service payments were \$461,182.83 or \$5,534,193.96 a year. The actual target service operating budget costs can be found in Table 2.

**TABLE 2**

<b>ACTUAL TARGET SERVICES OPERATING BUDGET</b> Sample years 2013 and 2014 (Contract Years 3 and 4)		
<b>CATEGORY</b>	<b>YEAR 3</b>	<b>YEAR 4</b>
<b>WAGES AND SALARIES</b>		
<b>Management/Administration Personnel</b>	\$390,991.00	\$400,761.00
<b>Mechanics</b>	\$1,419,411.00	\$1,461,895.00
<b>Parts Personnel</b>	\$127,982.00	\$131,164.00
<b>Other Personnel</b>	\$98,842.00	\$101,296.00
<b>FRINGE BENEFITS</b>	\$1,042,298.00	\$1,090,196.00
<b>PARTS AND SUPPLIES</b>		
<b>Parts and Supplies</b>	\$978,977.00	\$998,556.00
<b>Indirect Shop Supply</b>	\$33,920.00	\$34,598.00
<b>SUB-CONTRACTOR SERVICES</b>	\$229,637.00	\$234,229.00
<b>OVERHEAD</b>	\$546,215.00	\$557,415.00
<b>ADMINISTRATION &amp; MANAGEMENT COSTS</b>	\$509,246.00	\$524,084.00
<b>TOTAL TARGET BUDGET AMOUNT</b>	<b>\$5,377,519.00</b>	<b>\$5,534,194.00</b>

Source: FVS contract

Yearly Target Service Incentive

According to the contract, if the City's actual target service expense for the contract year is lower than the agreed upon target service budget amount, the City will receive 80% of the cost savings and FVS will receive 20%. The City of Pittsburgh's cost savings will be deducted from their monthly non-target service payments.

**Finding:** There were no shared savings between FVS and the City in 2013 and 2014.

Target Cost Overages

The contract states that if target service expenses are more than what is allocated in the contract, FVS cannot charge the City more money. Rather the corporation has to absorb any cost overages.

**Finding:** In year 3 of the contract, FVS cost overages were \$78,213.00 (1.5%) and in year 4 of the contract, cost overages totaled \$251,024.00 (4.5%).

## Reasons for Overages

In years 3 and 4 of the contract, FVS had cost overruns in the target expense categories of fringe benefits and parts/supplies. In year 3 of the contract, fringe benefits were over budget \$229,307 and part and supplies were over \$53,677. In year 4 of the contract, fringe benefits were over budget \$302,807 and part and supplies were over \$116,341.

For years 3 and 4 of the contract, FVS was at the budgeted amount or under the allocated budget amount in all the rest of the target service expenses: Wages & Salaries, Subcontractor Services, Overhead, and Corporate Administration and Management Fees.

**Finding:** Fringe benefits and parts and supplies were reasons for cost overages for both 2013 and 2014.

## **RECOMMENDATION NO. 2:**

Having FVS absorb any cost overages from target services saves the City money. It is a good idea and should be continued.

## Utility Payments

All gas, electric, and water utilities fall under target service costs in the contract. The contract states that the contractor will be responsible for paying for heat, water, and electricity billed to the City for the maintenance facilities. Each month the City sends FVS a bill for gas and electricity. FVS pays these utilities by giving credit off the City's non-target service bills. The City received a utility credit of \$99,911.13 in 2013 and \$104,261.04 in 2014.

The City Controller's 2010 audit found that FVS was crediting the City for utilities a year or sometimes 2 years later than when they were billed. The audit also found that FVS was not paying for water.

## Utility Payment Test

The Auditors obtained copies of all utility bills and non-target service invoices for sample years 2013 and 2014. A test was conducted to see if the correct utility amount was being paid and how often the payment was credited against non-target costs.

**Finding:** For 2013 and 2014 the correct dollar amount of utilities was paid and taken off the non-target service bills for 100% compliance.

This same test showed that utilities are now credited back in quarterly installments. The average time to receive the credit in 2013 was every 2.5 months and in 2014 every 3.25 months.

**Finding:** FVS has done a much better job crediting utility charges to the City since the last City Controller’s audit was conducted.

### Water and Sewage Payments

The current contract says “the contractor will pay its proportionate share of water as determined by the Pittsburgh Water & Sewer Authority (PWSA)”. FVS provided the auditors with a copy of a PWSA bill with an account number. The auditors e-mailed the PWSA customer service manager to verify that water and sewage payments are being paid.

**Finding:** FVS has been paying the monthly water and sewage bill since the new contract was signed.

### Pittsburgh Water and Sewer Authority Vehicles

FVS is responsible for all repairs for the City of Pittsburgh and Pittsburgh Water and Sewer Authority (PWSA) vehicles. FVS tracks PWSA repairs as a department listed in all its reports. The City is then billed by FVS for all PWSA target and non-target vehicle repairs monthly. The City pays for all PWSA vehicle repairs and then, as per a PWSA agreement with the City, is reimbursed from PWSA. These payments are used to cover PWSA vehicle repairs as well as other direct costs that the City pays for such as water main breaks, cleaning sewer systems, exoneration hearings, etc. The auditors found one document stating that the payment was for the second quarter. This implies that these payments are supposed to be paid quarterly.

In both 2013 and 2014, the City received four payments from PWSA in the amount of \$1,325,000 (\$5,300,000 a year) to cover PWSA vehicle repairs and other direct costs.

In 2013, the City received payments from PWSA on 5/15/13, 7/30/13, 11/12/13 and 12/19/13. In 2014, the City received payments from PWSA on 5/23/14, 8/25/14, 12/15/14 and 12/15/14. Two payments were made on the same day.

**Finding:** The payment agreement between the City and PWSA is not explained in the contract but attachment A (Vehicle Inventory) of the contract lists all PWSA vehicles that are required to be maintained by FVS.

**Finding:** During the sample years, payments were not made quarterly but PWSA did pay off its obligation to the City within each calendar year.

## **Role of the Equipment Leasing Authority**

The Equipment Leasing Authority (ELA) is responsible for all City vehicle purchases and to provide funding for extensive repairs as requested.

The Fleet Contract Manager, FVS management, and ELA will inspect a vehicle and decide if the cost to do a major vehicle overhaul is cheaper than purchasing new vehicles. If they agree that the cost to repair a vehicle will save the City money, ELA will absorb the cost of the repair. For example in May 2013, one work order for a fire engine truck had a capital improvement of \$247,049.96. According to FVS management, this was actually cheaper than the estimated \$1 million to purchase a new fire engine.

FVS bills ELA separately for the money required for these types of vehicle repairs. ELA has several funding sources; among these are City capital funds, operating funds, trust funds and third party grant funding for vehicle purchasing and repairs.

## **Non-Target Services**

### **Work Approval Process**

All non-target service work orders need City approval. Each workday non-target service work orders under \$500 are compiled in a summary list and have to be approved and signed by the FVS general manager. The list will then be presented to the fleet contract manager for review and authorization.

During the sample years all non-target service work orders over \$500 required a *FVS Non-Target Authorization Form*. The form gives the reason for service, description of the repairs, in house/vendor estimates, and requires three signatures. One signature is from the FVS General Manager, and the other two are from the City's Contract Manager and the Fleet Administrator. Conversations with City and FVS administration indicated that this dollar amount was increased to \$2,000 in 2016.

All work orders over \$10,000 have to be approved by the ELA before any action is taken.

### **Monthly Reports**

The FVS contract lists examples of non-target repairs that the contractor can charge to the City. Listed are: "Accident Repairs, Life Extension, Vandalism, Misuse, Operational Damage, Act of God, Directed Work, Snow Emergency, Act of Nature, Capitalization, New Equipment, Theft, Operational Damage, modifications to vehicles and equipment; and other demonstrated abnormal use, during the life of the Agreement."

FVS submits monthly non-target service expenditure reports that are reviewed by the fleet contract manager. FVS categorizes each non-target service repair/task in the report and a

summary is broken down by department. FVS codes each repair by one of ten categories. They are: Abuse of Equipment, Accident Non-Reported, Accident Reported, Capital Improvement, Directed Work, Life Extension, Natural Causes, Operational Damage, Theft, and Vandalism.

**Finding:** FVS's non-target service monthly reports combine some of the categories listed in the contract in a logical way.

Specific categories that are combined include: Misuse, recorded under Operational Damage; Act of God, recorded under Natural Causes; and New Equipment and Snow Emergency, recorded as Directed Work.

### Non-Target Category Definitions

The FVS contract does not define the non-target service categories that the contractor can charge to the City. The contract lists a few examples but no definitions. The current FVS contract lists examples for Operational Damage, Life Extension, Natural Causes, and Directed Work.

By utilizing conversations with FVS staff and reviewing past audits the auditors determined definitions of the non-target service categories as listed on the FVS non-target service report. They are as follows:

- **Abuse of equipment:** A diagnostics charge given when a vehicle shows up for a repair when they missed their preventive maintenance scheduled visit.
- **Accident non-reported:** This is when a driver does not inform FVS of any accident damage when the vehicle is brought to the garage. During repair FVS finds the damage.
- **Accident reported:** When a driver informs FVS of any accident damage when the vehicle is brought to the garage.
- **Capital improvement:** A single unit or group of vehicles selected for major component repairs. The contract gives the example of engine replacements for a group of three refuse trucks or camera upgrades for a group of police vehicles.
- **Directed work:** Work requested by City officials. The contract gives an example of a low mileage police vehicle selected for auction that was requested to be refurbished and reassigned to the fire division.
- **Life extension:** Major component repairs that are caused because the vehicle is beyond its contract vehicle life cycle. The contract has a life cycle attachment that groups vehicles into classes. Each vehicle class has a life cycle by miles and/or engine hours.
- **Natural causes:** Vehicle damage caused by rust or corrosion.
- **Operational damage:** Damage that occurs by designed day to day operations. An example would be a police vehicle that has major frame and tire damage from their involvement in a high speed chase.
- **Theft:** Damage caused when a vehicle is stolen.
- **Vandalism:** Deliberate destruction made to a City vehicle.

According to FVS management, Life Extension is a new category in the current contract and some of the repairs from the old Natural Cause category have shifted to Life Extension. Abuse of Equipment has a new definition, while the old repairs under this category have shifted to Operational Damage.

**RECOMMENDATION NO. 3:**

The FVS monthly reports compiling of non-target service costs by department is an excellent reporting tool and should be continued. This is an efficient way to track the different number of reoccurring non-target repairs.

**RECOMMENDATION NO. 4:**

The next fleet maintenance contract should include definitions as well as examples of the non-target repair categories. The repair categories should be combined and separated as the current FVS monthly non-target reports.

Non-Target Expenditures for Sample Years 2013 and 2014

The auditors asked for a breakdown of all non-target costs for sample years 2013 and 2014 by FVS categories. Table 3 shows the yearly costs by categories and the percent each category represents in that years expenditures. Table 3 includes repair costs for PWSA vehicles.

**TABLE 3**

<b>2013 AND 2014 NON-TARGET COSTS BY FVS ESTABLISHED CATEGORIES Including PWSA vehicles (Bolded Categories are the top 4 Costliest each Year)</b>				
<b>CATEGORY</b>	<b>2013</b>	<b>%</b>	<b>2014</b>	<b>%</b>
Abuse of Equipment	\$6,076.94	0.24%	\$7,679.50	0.27%
Accident, non-reported	\$11,360.90	0.46%	\$207.30	0.01%
<b>Accident Reported</b>	<b>\$313,749.95</b>	<b>12.63%</b>	<b>\$359,373.62</b>	<b>12.68%</b>
Capital Improvement	\$280,323.46	11.29%	\$0.00	0.00%
<b>Directed Work</b>	<b>\$307,591.80</b>	<b>12.38%</b>	<b>\$336,087.99</b>	<b>11.86%</b>
<b>Life extension</b>	<b>\$190,564.85</b>	<b>7.67%</b>	<b>\$562,692.87</b>	<b>19.86%</b>
<b>Natural Causes</b>	<b>\$408,551.55</b>	<b>16.45%</b>	\$253,537.71	8.95%
<b>Operational Damage</b>	<b>\$962,874.44</b>	<b>38.77%</b>	<b>\$1,312,924.78</b>	<b>46.34%</b>
Theft	\$0.00	0.00%	\$0.00	0.00%
Vandalism	\$2,733.84	0.11%	\$637.41	0.02%
<b>TOTALS</b>	<b>\$2,483,827.73</b>	<b>100.0%</b>	<b>\$2,833,141.18</b>	<b>100.0%</b>

Source: FVS F455 Report

In 2013 Operational Damage accounted for \$962,874.44 (38.77%) and in 2014, \$1,312,924.78 (46.34%) of the non-target repairs.

In 2013, the second highest category was Natural Causes totaling \$408,551.55 (16.45%) and the third highest was Accident Reported \$313,749.95 (12.63%).

In 2014, the second highest category was Life Extension totaling \$336,087.99 (19.86%) and the third highest was Accident Reported \$359,373.62(12.68%).

**Finding:** Including PWSA vehicles, in both 2013 and 2014, Operational Damage had the largest amount of non-target service repairs charged to the City.

Table 4 shows a breakdown of all non-target expenditures for sample years 2013 and 2014 by FVS categories minus the cost of all PWSA expenses. Table 4 also shows the percent each category represents in that years expenditures.

**TABLE 4**

<b>2013 AND 2014 NON-TARGET COSTS BY FVS ESTABLISHED CATEGORIES without PWSA Vehicles</b> (Bolded Categories are the top 4 Costliest each Year)				
<b>CATEGORIES</b>	<b>2013</b>	<b>%</b>	<b>2014</b>	<b>%</b>
Abuse of Equipment	\$5,304.47	0.22%	\$7,068.89	0.26%
Accident, Non-Reported	\$11,360.90	0.48%	\$207.30	0.01%
<b>Accident Reported</b>	<b>\$302,842.44</b>	<b>12.68%</b>	<b>\$341,901.91</b>	<b>12.70%</b>
Capital Improvement	\$280,323.46	11.74%	\$0.00	0.00%
<b>Directed Work</b>	<b>\$306,755.19</b>	<b>12.85%</b>	<b>\$334,148.43</b>	<b>12.41%</b>
<b>Life Extension</b>	<b>\$185,904.83</b>	<b>7.78%</b>	<b>\$519,727.36</b>	<b>19.31%</b>
<b>Natural Causes</b>	<b>\$370,032.72</b>	<b>15.50%</b>	\$228,323.14	8.48%
<b>Operational Damage</b>	<b>\$922,732.50</b>	<b>38.64%</b>	<b>\$1,259,780.16</b>	<b>46.80%</b>
Theft	\$0.00	0.00%	\$0.00	0.00%
Vandalism	\$2,733.84	0.11%	\$637.41	0.02%
<b>TOTAL</b>	<b>\$2,387,990.35</b>	<b>100.00%</b>	<b>\$2,691,794.60</b>	<b>100.00%</b>

Source: FVS F455 Report

Without the PWSA, vehicles the top non-target repair work for City Vehicles in 2013 and 2014 was Operational Damage; second most in 2013 was Natural Causes then Directed Work. In 2014 the second most was Life Extension followed by Accident Reported.

**Finding:** With or without PWSA vehicles, in both 2013 and 2014, Operational Damage had the largest amount of non-target service repairs charged to the City. This has not changed since the City Controller's last audit.

The Controller's last audit of FVS recommended working with vehicle operators to reduce Operational Damage, stating that additional training may be warranted. City administration indicated that additional training for operators was conducted.

**RECOMMENDATION NO. 5:**

The City should continue to provide up to date training to vehicle operators to reduce Operational Damage.

**Non-Target Costs by Department for Sample Years 2013 and 2014**

FVS tracks non-target costs by Department. In this report the ELA expenditures are reported as its own department. In 2013 the ELA had \$611,599 in non-target services and in 2014, \$563,192.35.

The auditors reviewed the repairs charged to the ELA and assigned the cost to repair each vehicle to the appropriate department. Vehicle repairs for the Fire department were ELA's biggest expenditure in 2013 and 2014. In 2013, the Fire department had \$484,497.76 out of the \$611,599 (79.2%) funds charged to the ELA and \$254,605.55 out of the \$563,192.35 (45.2%) charged in 2014.

Table 5 shows the amount of non-target costs by each City department for 2013 and 2014. The auditors assigned the \$611,599 in 2013 and \$563,192.35 in 2014 that the ELA was billed to the department of the vehicle being repaired. The auditors were unable to determine ELA allocated funds for \$510 in 2013 and \$69,046.04 in 2014 while reviewing the non-target reports provided by FVS.

In 2014, two (2) City departments received name changes. The Bureau of Building Inspection (BBI) became the Department of Permits, Licenses and Inspections (PLI). The Office of Computer Information Systems (CIS) became the Department of Innovation and Performance (I&P). Table 5 lists both departments as per their respective years.

**TABLE 5**

**2013 AND 2014  
NON-TARGET COSTS BY DEPARTMENT  
(Bolded Departments are the Top 5 Costliest Departments)**

<b>DEPARTMENTS</b>	<b>2013 NON CONTRACT COSTS</b>	<b>%</b>	<b>2014 NON CONTRACT COSTS</b>	<b>%</b>
Bureau of Building Inspection (BBI) / Permits, Licenses and Inspections (PLI)	\$13,638.33	0.57%	\$8,042.57	0.30%
Computer Information Systems (CIS) / Department of Innovation & Performance (I&P)	\$121.52	0.01%	\$3,240.39	0.12%
<b>Department of Public Works (DPW)</b>	<b>\$450,111.12</b>	<b>18.85%</b>	<b>\$647,999.09</b>	<b>24.07%</b>
Emergency Management Agency (EMA)	\$50,706.08	2.12%	\$118,958.71	4.42%
<b>Emergency Medical Services (EMS)</b>	<b>\$163,233.55</b>	<b>6.84%</b>	<b>\$113,560.11</b>	<b>4.22%</b>
Department of Finance	\$55,098.40	2.31%	\$15,115.66	0.56%
<b>Fire</b>	<b>\$760,876.88</b>	<b>31.86%</b>	<b>\$594,361.78</b>	<b>22.08%</b>
Investigation	\$32,525.36	1.36%	\$47,298.53	1.76%
Mayor's Office	\$838.10	0.04%	\$13,339.76	0.50%
Office of Municipal Investigations (OMI)	\$1,452.54	0.06%	\$2,824.27	0.10%
Parks and Recreation	\$9,541.87	0.40%	\$10,835.89	0.40%
<b>Police</b>	<b>\$406,181.80</b>	<b>17.01%</b>	<b>\$402,008.03</b>	<b>14.93%</b>
Public Safety Administration	\$10,303.84	0.43%	\$16,624.48	0.62%
<b>Environmental Services (PWES)</b>	<b>\$418,135.98</b>	<b>17.51%</b>	<b>\$599,060.39</b>	<b>22.26%</b>
Unknown ELA costs	\$510.00	0.02%	\$69,046.04	2.57%
Snow Removal Equipment Services**	\$14,714.98	0.62%	\$29,478.90	1.10%
<b>SUB-TOTAL</b>	<b>\$2,387,990.35</b>	<b>100.00%</b>	<b>\$2,691,794.60</b>	<b>100.00%</b>
Water and Sewer Authority (PWSA)	\$95,837.38		\$141,346.58	
<b>TOTALS</b>	<b>\$2,483,827.73</b>		<b>\$2,833,141.18</b>	

Source: FVS F455 Report

\*\*costs incurred on off hours during winter months for vehicle snow removal

In 2013, the top five departments with the most non-target service repairs were Fire (\$760,876.88), Department of Public Works (\$450,111.12), Environmental Services (\$418,135.98), Police (\$406,181.80) and Emergency Medical Services (\$163,233.55).

In 2014, the top five departments with the most non-target service repairs were Department of Public Works (\$647,999.09), Environmental Services (\$599,060.39), Fire (\$594,361.78), Police (\$402,008.03), and Emergency Medical Services (\$113,560.11).

**Finding:** In both sample years the same five departments with the most non-target service repairs, in no particular order, were Department of Public Works, Environmental Services, Police, Fire and Emergency Medical Services.

#### Non-Target Repairs Compared to the Controller's Previous Audit

The 2008 data for non-target repairs totaled \$1,315,720.71. Five years later in 2013 non-target costs had an 81.5% (\$2,387,990.35) increase and more than doubled in 2014 with a 104.86 % (\$2,691,794.60) increase.

Even though the non-target repair costs saw a significant increase, a couple of factors have to be considered. First, more vehicles had to be maintained in 2013 and 2014. The total fleet in the previous audit had 992 vehicles in 2008 while the fleet examined for this audit has 1,132 vehicles in 2013. This is 140 more vehicles than in 2008 or a 15% increase. The number of vehicles had a slight decrease in 2014 with 1,089 vehicles. While less than the number of vehicles in 2013, it is still 97 more vehicles than in 2008 or 10% more.

The rate of inflation is also a factor in increased costs. The change in the consumer price index from 2008 to 2013 was 8.20% and 10.09% from 2008 to 2014 which could have an effect of parts and labor costs.

**Finding:** Since the previous Controller's audit, non-target costs have greatly increased in 2013 and 2014. Factors causing this are the increase in the number of vehicles maintained, the number of work orders and the rate of inflation.

In 2008, the departments with the most non-target repairs in descending order were PWES (\$346,913.35), Police (\$345,602.71), DPW (\$207,927.16), Fire (\$187,872.57) and EMS (\$103,102.05).

**Finding:** In 2013 and 2014, the top 5 departments with the most non-target expenses are the same as the Controller's audit released in 2010, but in a different order.

#### Shared Savings Credits/Non-Target Payments

As previously stated, the auditors found that there were no shared savings in sample years 2013 and 2014. However, the auditors found evidence that prior years and prior contracts years did have shared saving. Deductions from performance standards, shared savings or utility credits are taken from FVS bills to the City of Pittsburgh monthly for non-target services.

**Finding:** On the City's non-target bill from 3/31/2014, there was a shared savings deduction of \$58,850.00. This deduction is from shared savings credits for the contract years that began on 3/1/09 (interim contract) and 11/20/10. It took FVS as many as 5 years to issue the appropriate credit to the City.

## **RECOMMENDATION NO. 6:**

The City gets billed for target and non-target services monthly. The City should require FVS to credit its shared savings within 6 months of the end of the year calculation. Amounts not credited within that time period should be charged interest for the City.

### **Work Orders**

#### **Repair/Work Order Process**

The repair process begins when vehicles report to the FVS garage for a scheduled preventive maintenance, scheduled inspection, if the vehicle is damaged or a malfunction occurs. The service writer at the front desk will ask City employees various questions about the vehicle and fill out a triplet vehicle repair request form. The customer keeps the pink copy, the white copy gets filed with the future work order, and the yellow stays in the vehicle until it gets picked up. The service writer enters the request form information into the computer and assigns task codes for each vehicle repair, creating the work order of specific tasks for the technician's use. The work order is then given to the appropriate technician (mechanic) who specializes in the work being completed.

The technician will complete each task on the work order. Part requests and labor hours are tracked for each task. The labor hours are tracked by having the technician punch a time card located on the back of the work order. The technician clocks in a start and end time for each task. Once the repairs are complete, the technician will calculate the total labor hours from the punch card and enter them into the terminals stationed in the garage. Data entered in the terminal becomes the basis for billing and FVS performance reports, such as performance measures for turnaround time, fleet availability, preventive maintenance and repair quality.

#### **Target Costs per Work Orders**

In 2013, FVS had a total of 17,977 work orders of which 13,644 were target repairs and 4,333 were non-target repairs. In 2014, work orders increased to 18,624, which was an increase of 3.5%. Target repairs totaled 13,724 and non-target repairs were 4,900.

The target budgeted amount for 2013 and 2014 was divided by the number of target work orders respectively completed in 2013 and 2014. The average cost for target work orders increased from \$394.13 per work order in 2013 to \$403.25 in 2014.

The number of target work orders increased 3.5% from 2013 to 2014; the budget increased 2.91%. The increase in per work order cost has been proportional to the increase in target repair funding.

**Finding:** The last performance audit conducted in 2010 said FVS had approximately 13,000 work orders processed in 2008. Since then there was a 27.7% increase in work orders in 2013 and a 30.2% increase in 2014.

### **FVS Reports - Reliability Test**

FVS work orders generate different reports that are reviewed by management. The F450 is a report that captures data from the work orders. The report has 15 different entry categories taken from the work orders. They are unit, vehicle description, meter, open date, open time, closed date, closed time, status, charge code, downtime, labor hours, labor cost, parts costs, sublet (vendor) cost, and total cost. The auditors wanted to test the accuracy of the data entry into these categories from the work orders they are generated from.

#### **First Test Sample**

The auditors pulled a random sample of work orders from the F450 report which was provided by FVS. A total of 186 work orders were pulled from September 15-21<sup>st</sup> 2013 and 199 orders from February 9<sup>th</sup>-15<sup>th</sup> 2014. This yielded a 1% sample for each year. The sample was then examined against work orders pulled from FVS filing cabinets. One work order from the 2014 sample was not found (no folder existed) and excluded from calculations. All work orders were found in 2013.

**Finding:** In 2013, 147 out of 186 (79.0%) work orders had all corresponding fields match the provided F450 report. In 2014, 168 out of 198 (84.8%) work orders had all the fields match the F450 report.

The auditors found 39 work orders that had discrepancies in 2013 and 30 in 2014. Discrepancies between work orders and the report were found in the following entries: labor hours, meter (some vehicles had an odometer reading that was higher than the life meter reading), downtime, open date, and sublet cost. Some of the work orders had more than one of these errors; 2013 had 2 work orders with more than one error and 2014 had 1.

#### **Second Test Sample**

Because of the number of errors in the initial test results the auditors expanded the work order test to work orders throughout the sample years. This expanded sample included an average of four work orders from each week for years 2013 and 2014 minus the 2 weeks from the first sample. The sample included 207 work orders from 2013 and 208 work orders from 2014. Two work orders from 2013 were missing and excluded from the sample. The auditors were able to locate all the work orders in 2014. This second sample increased the sample size to 2% for each year.

**Finding:** In the second sample from 2013, 146 out of 205 (71.2%) work orders had all corresponding fields match the provided F450 report. In the second sample from 2014, 159 out of 208 (76.4%) work orders had all the fields match the F450 report.

The auditors found 59 work orders that had discrepancies in the second 2013 sample and 49 work orders that had discrepancies in the second 2014 sample. Discrepancies between work orders and the report were found in the following entries: labor hours, meter, downtime, no time sheet, and parts cost. Some of the work orders had more than one error; both 2013 and 2014 had 3 work orders with more than one error for a total of 6.

**Finding:** The categories of labor hours, meter readings, and downtime were the type of errors that were found in both 2013 and 2014.

Combined Test Sample Results

In total, the samples included 391 work orders from 2013 and 406 from 2014. In 2013, there were a total of 293 out of the 391 work orders (74.9%) that had all corresponding correct fields, and in 2014, a total of 327 out of 406 (80.5%).

The kind of discrepancies found in the 2013 and 2014 samples were for labor hours, no time sheet, downtime, meter readings, open date, parts cost and sublet costs. The number of errors divided by the total number of work orders and the corresponding percentages can be found in Table 6.

**TABLE 6**  
**NUMBER OF ERRORS BETWEEN WORK ORDERS**  
**AND FVS's F450 REPORT**  
**COMBINED SAMPLE GROUP FOR 2013-2014**  
 (Table Includes Work Orders with More Than One Error)

Type of Error	2013 - 391 work orders		2014 - 406 work orders	
	# of errors	% of work orders wrong	# of errors	% of work orders wrong
Labor hours	58	14.8%	59	14.5%
No timesheet	0	-	2	0.5%
Downtime	7	1.8%	2	0.5%
Meter readings	21	5.4%	19	4.7%
Open Date	0	-	1	0.2%
Part Cost	16	4.1%	0	-
Sublet Costs	1	0.3%	0	-
<b>TOTALS</b>	<b>103</b>		<b>83</b>	

Source: FVS work orders and F450 reports

**Finding:** The majority of information found in FVS's reports is reliable.

**Finding:** For both 2013 and 2014, work order labor hours were the highest cause for discrepancies, with 58 instances (14.8%) in 2013 and 59 instances (14.5%) in 2014.

#### Target and Non-Target Labor Hour Calculation Analysis

The majority of the errors found in the samples involved labor hours. A work order generated in the office when the vehicle comes in, tells the technician what tasks (mechanical problem) to complete. There are usually multiple tasks on every work order.

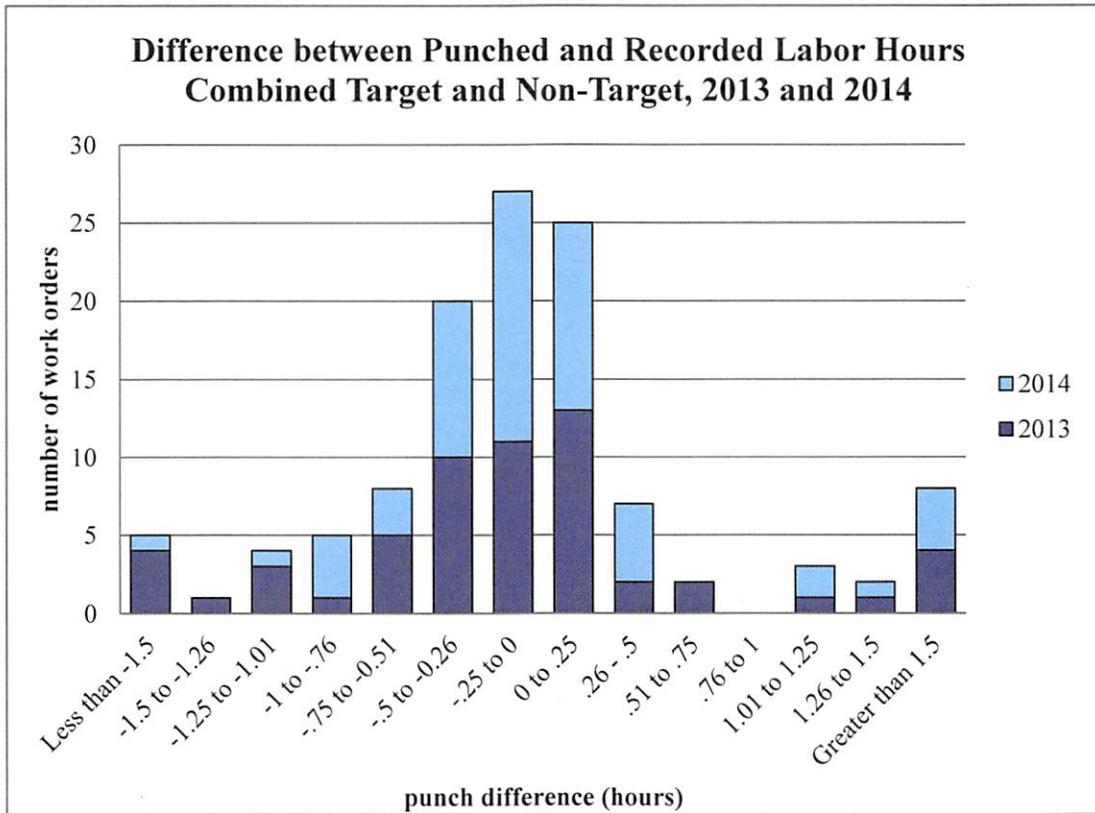
Technicians use a time clock punch to record start and end time of each work task. Time is punched down to the minute. For every task there are 2 times punched (start time and finish time). After the work order is completed, the time it took to complete each task is calculated by the technician and entered into the shop computer. The accuracy of the amount of time spent on a task is entirely dependent on the technicians' ability to calculate. This is how FVS tracks the amount of time spent on every task for billing purposes.

The auditors analyzed all the time calculations for the work orders in the sample. Some of the technicians' calculations were under the reported labor hours and some were over. Furthermore, some of the time punches were missing entirely from the work order. For non-target repairs, if a technician records a time under the actual time spent repairing the vehicle, then FVS will undercharge the City. If a technician records a time over the actual time spent, then FVS will overcharge the City if it is a non-target repair.

For target repairs, incorrectly recorded labor hours do not directly cost the City money. However, incorrect labor time may affect FVS's bottom line and may influence target charges in the future.

Chart 1 shows the number of labor hour discrepancies based on the difference between the reported labor hours and the punched labor hours. Negative time indicates instances where First Vehicle under charged the City for labor hours, while positive time indicates over charges.

CHART 1



**Finding:** The majority of the time errors are between ½ hour undercharged and ½ hour over charged.

The combined sample for 2013 and 2014 totaled 797 work orders. A total of 117 or 14.7% out of 797 work orders from the 2013 and 2014 sample had labor hours that were undercharged or overcharged. Out of the 117 work orders, 70 or 8.8% were undercharged and 47 or 5.9% were overcharged.

A total of 79 or 67.5% out of the 117 incorrectly recorded labor hours were within a half an hour (.5) under or over the punched time. However, there were 13 cases where the error in recording time was over an hour and a half either positively or negatively. This included one case where recorded hours were 8.88 hours over the punched time and a case with 6.38 hours under punched time.

**Finding:** The labor hours included in computer reports are not entirely reliable when compared to the labor punch sheets.

## Incorrect Non-Target Labor Hour Work Orders

As stated before, the City is charged for non-target repairs. Non-target repair costs vary according to the amount of work being done and FVS bills the City monthly for them. The total labor hours calculated on each non-target repair directly affects the total cost of the entire repair.

**Finding:** Out of the 117 work orders with the incorrect labor hours, a total of 34 or 29.1% were non-target work orders. Thirteen (13) of these work orders were overestimated and 21 were underestimated.

FVS management stated that, when looking at work orders that are captured in a weekly report, some punch times might be missing if the order was being completed late Friday afternoon. For example, technicians might be busy near the end of Friday and put the current week's labor hours in the following Monday. This will understate the past week's labor hours and overstate the following week.

Another reoccurring issue related to the labor work hours was the logging of technician breaks and different tasks on each work order. Some technicians punch in and out on the work order, using the time clock when taking breaks or changing to different tasks. Other technicians write in break or task information on the punch sheets after they are finished working when tallying total labor hours for the work order. This sometimes leads to mathematical errors in the labor hours reported.

According to the First Vehicle fleet manager, FVS will eventually implement a system that will allow technicians to punch in and out of work orders while at their stations by using electronic tablets. While FVS is implementing the new tablet system, they should train the technicians to record tasks as they are completed to reduce errors.

### **RECOMMENDATION NO. 7:**

FVS Management and the City's fleet contract manager should implement new practices to double check the accuracy of the labor hours inputted into the computer system.

## **2013-2014 Fleet Inventory/Age of Fleet**

As of 2014, the City fleet included 1,089 vehicles, compared to 992 vehicles at the time of the first contract renewal in 2008 (an increase of 9.78%). A breakdown of fleet vehicles by year from 2008 through 2014 can be found in Table 7.

The proportion of vehicles 5 years old or newer was greater in 2008 than in 2014, at 38.00% compared to 33.52%. However, there is very little difference between vehicles 10 years old or newer in 2008 and 2014. Percentages for these vehicles were 75.00% in 2008 and 74.56% in 2014.

**Finding:** Overall, the distribution of vehicle ages did not change drastically from the 2008 contract renewal to 2014.

The number of vehicles in 2008 that were 25 years old or older was 7 (since 1984). In 2014, the number of vehicles that were 25 years old or older was 24 (since 1990). See Table 7.

### Older Vehicle Analysis

There were 24 vehicles in 2014, that were 1990 models or older. The auditors wanted to see why these 25 year old vehicles were still included in the City's fleet. Descriptions of all these older aged vehicles were provided to the auditors by FVS. After review of the vehicle descriptions and a discussion with FVS management, 8 were found to either have been sold or decommissioned after 1/1/2015. The oldest vehicle, a 1973 bleacher trailer was sold as well as another show mobile trailer, and 2 fire trucks. A 3rd fire truck was donated to Pittsburgh Public Schools. Decommissioned vehicles include 2 pick-up/SUV type trucks and a trailer.

Eleven of the older model vehicles are used for a very specific purpose and have very limited use during a year. For example, 2 of the vehicles were water buffalo trailers that are used in situations to transport over 300 gallons of water and a Pierce lance fire truck is only used in situations when spray foam is needed. The rest of these specialty vehicles include an EMS rescue truck, stage trailer, heavy equipment trailer, crane truck, rescue raft, rescue boat, box truck and a boom truck. The remaining 5 vehicles included a recently bought used fire truck, 3 pick-up trucks and a City owned forklift stationed at FVS facility.

Fire truck/engines are extremely expensive at a cost of 1 million dollars each. It is often more cost effective to purchase a used fire vehicle or repair these vehicles than purchase newer ones. The same holds true for the EMS rescue truck. The rescue truck is much larger than a typical ambulance and carries additional specialty equipment. It is only used in the direst circumstances and it is cheaper to repair this vehicle than purchase a new one.

**Finding:** Since the last Controller's audit, the number of vehicles that are 25 years old or older has increased by 243%. The majority of these vehicles are specialty vehicles such as trailers, rafts and boats that are not always in use.

**TABLE 7**

FLEET COMPOSITION FEB 19, 2008 (First Contract Renewal)					FLEET COMPOSITION 2014			
YEAR	#	%	c%		YEAR	#	%	c%
2008	30	3.02%	3.02%		2014	32	2.94%	2.94%
2007	78	7.86%	10.89%		2013	133	12.21%	15.15%
2006	134	13.51%	24.40%		2012	60	5.51%	20.66%
2005	90	9.07%	33.47%		2011	65	5.97%	26.63%
2004	<b>45</b>	<b>4.54%</b>	<b>38.00%</b>	<b>5 Years Old</b>	<b>2010</b>	<b>75</b>	<b>6.89%</b>	<b>33.52%</b>
2003	61	6.15%	44.15%		2009	116	10.65%	44.17%
2002	108	10.89%	55.04%		2008	137	12.58%	56.75%
2001	29	2.92%	57.96%		2007	58	5.33%	62.08%
2000	87	8.77%	66.73%		2006	95	8.72%	70.80%
1999	<b>82</b>	<b>8.27%</b>	<b>75.00%</b>	<b>10 Years Old</b>	<b>2005</b>	<b>41</b>	<b>3.76%</b>	<b>74.56%</b>
1998	36	3.63%	78.63%		2004	31	2.85%	77.41%
1997	50	5.04%	83.67%		2003	39	3.58%	80.99%
1996	6	0.60%	84.27%		2002	62	5.69%	86.69%
1995	2	0.20%	84.48%		2001	13	1.19%	87.88%
1994	<b>20</b>	<b>2.02%</b>	<b>86.49%</b>	<b>15 Years Old</b>	<b>2000</b>	<b>44</b>	<b>4.04%</b>	<b>91.92%</b>
1993	36	3.63%	90.12%		1999	21	1.93%	93.85%
1992	6	0.60%	90.73%		1998	8	0.73%	94.58%
1991	14	1.41%	92.14%		1997	10	0.92%	95.50%
1990	18	1.81%	93.95%		1996	5	0.46%	95.96%
1989	11	1.11%	95.06%		1994	7	0.64%	96.60%
1988	8	0.81%	95.87%		1993	7	0.64%	97.25%
1987	17	1.71%	97.58%		1992	0	0.00%	97.25%
1986	14	1.41%	98.99%		1991	6	0.55%	97.80%
1985	3	0.30%	99.29%		1990	2	0.18%	97.98%
1984	2	0.20%	99.50%		1989	3	0.28%	98.26%
1983	1	0.10%	99.60%		1988	2	0.18%	98.44%
1982	3	0.30%	99.90%		1987	4	0.37%	98.81%
1973	1	0.10%	100.00%		1986	6	0.55%	99.36%
					1985	3	0.28%	99.63%
					1983	1	0.09%	99.72%
					1982	2	0.18%	99.91%
					1973	1	0.09%	100.00%
<b>TOTAL</b>	<b>992</b>	<b>100.00%</b>			<b>TOTAL</b>	<b>1,089</b>	<b>100.00%</b>	

Source: FVS records

### FVS User Meetings

The auditors attended three user meetings between FVS Fleet Administrator, the City Fleet Contract Manager, Police, Fire, and Environmental Service representatives. These meetings allow the Fleet Administrator to review vehicle maintenance issues and costs with City

department representatives, and the departmental representatives can express their concerns with vehicle maintenance services.

During a user meeting with the representatives from the Bureau of Police, officers expressed concern that a number of new Ford vehicles purchased to replenish patrol cars in 2013 were subject to recall, resulting in vehicle shortages. A large number of police cars were purchased in 2013 and they are being held on the dealer's lot until recalled parts are delivered and installed.

FVS reported to the auditors that Ford vehicles that require recalled or warranty service must have the work completed by an authorized Ford dealer. If FVS attempts to do any of the recall work the entire vehicle's warranty will become void.

Vehicle recalls and provisions of maintaining a vehicles warranty was verified by a call to the national Ford customer service hotline. Indeed the model car purchased for the police in 2013 was subject to several recalls including door springs and door handles. Dealers needed to inspect all interior door handles and replace the handles as needed.

**Finding:** Dealer recalls can hinder vehicle availability and FVS can do nothing about it.

Because such a large number of vehicles were being recalled by Ford, the manufacturer was unable to supply replacement parts within a timely manner. FVS stated that they made every attempt to have the vehicles repaired as quickly as possible. This included calling other Ford dealers in the Pittsburgh area to see which service center had the necessary parts and available time to complete the work. There is no charge for recall repair work completed by a dealer.

### **The ELA Purchase Schedule**

The ELA handles the purchasing of vehicles for the City. The plan is approved yearly by City Council which then appropriates funds for purchases. Table 8 shows the number of vehicles which were put in service for each department by year from 2006 through 2014. (These figures may not reflect the year a vehicle was purchased as it may take several weeks or months for a vehicle to be put in service after purchase.)

Several vehicles require additional outfitting prior to use, such as the addition of sirens, computer equipment, and decals for police vehicles. The addition of new vehicles can fluctuate greatly between years. For example, since 2006 the Bureau of Police has added a number of new vehicles from a high of 75 in 2008 to a low of 16 in 2011.

**TABLE 8**

**VEHICLES OBTAINED BY DEPARTMENT for YEARS 2006 through 2015**

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTAL
Police	42	58	75	62	31	16	39	67	38	33	461
PWES	13	6	8	8	10	2	7	2	6	8	70
DPW	23	36	22	11	5	12	13	23	23	12	180
Fire	2	4	17	9	0	1	6	10	3	2	54
EMS	8	15	9	6	2	8	1	16	2	6	73
EMA	0	10	5	6	2	8	1	16	2	0	50
PWSA	6	12	2	30	10	13	3	2	4	0	82
OMI	2	0	2	0	0	0	0	0	0	0	4
Investigations	6	5	23	10	3	0	1	20	4	0	72
PSA	2	1	0	1	0	0	0	2	0	1	7
DGS*	0	1	-	-	-	-	-	-	-	0	1
PR	0	2	1	2	4	1	0	2	2	0	14
Finance	0	2	1	3	2	0	0	0	0	0	8
BBI/PLI	0	0	0	24	22	0	0	0	0	0	46
Animal Ctrl	0	0	0	0	0	0	0	0	0	2	2
Citiparks	0	0	0	0	0	0	0	0	0	7	7
<b>TOTALS</b>	<b>104</b>	<b>152</b>	<b>165</b>	<b>172</b>	<b>91</b>	<b>61</b>	<b>71</b>	<b>160</b>	<b>84</b>	<b>71</b>	<b>1,131</b>

Source: FVS Records

\*Department of General Services was eliminated in 2006 but had its last car registered to the department in 2007. Car was then used by the Finance Department.

ELA Acquisition Plan

The ELA's current 5 Year Acquisition Plan adopted for years 2016 to 2020 can be found in Table 9.

**TABLE 9**

**ELA Vehicle Acquisition Plan 2016 - 2020**

	2016	2017	2018	2019	2020
Police	42	28	29	30	28
EMS	2	5	5	3	10
Fire	3	1	3	5	5
Animal Control	0	2	0	1	1
Public Safety Administration	0	0	0	0	1
PLI	0	6	6	6	6
Public Works Maintenance	30	8	10	7	-*
Public Works Environmental Services	3	4	5	4	8
Citiparks	0	2	3	2	3
I&P	0	1	0	0	1
<b>TOTALS</b>	<b>80</b>	<b>57</b>	<b>61</b>	<b>58</b>	<b>63</b>

Source: ELA \*Section was blank on acquisition plan

**Finding:** The ELA has started to create a 5 year acquisition plan for purchasing City vehicles. Prior to this year, new vehicle budgets were created and approved on a year to year basis.

It is necessary to purchase new vehicles regularly due to operational wear. However, purchasing large lots of similar vehicles in the same year runs the risk of those vehicles being out of service at the same time if there is a recall issue. Vehicle issues due to age may follow a more cyclical pattern as large vehicle batches age, rather than if vehicles were purchased at a more constant yearly rate.

According to the ELA 5 Year Vehicle Acquisition Plan, the number of vehicles purchased will be evenly distributed over the next five years. For example, the number of vehicles purchased for the Bureau of Police ranges from a high of 32 in 2015 to a low of 29 in 2017 and 2018.

**RECOMMENDATION NO. 8:**

Having an acquisition plan that anticipates vehicle purchases is a good idea and should be continued. If vehicle purchases remain constant each year it will help eliminate problems that can be associated with huge purchases of a particular vehicle that, if recalled for a problem, would hinder a department’s ability to do its job. First Vehicle should continue to work closely with the ELA in preparing the 5 year acquisition plan in case the plan needs adjusted. This would happen if a vehicle is destroyed beyond repair.

**RECOMMENDATION NO. 9:**

City Council should guarantee a minimum amount for vehicle funding every year. This would aid the ELA in establishing a 5 year plan by knowing how much money is available to spend.

**Performance Standard Compliance**

**Contract Specifics**

The contract specifies performance measures for turnaround time, fleet availability, preventive maintenance and repair quality. The performance measures are listed as acceptable ranges. Financial incentives are given for exceeding the performance range and penalties are assessed for not reaching the performance range. No incentive or penalty is calculated if monthly repairs fall within the acceptable range.

Incentive/penalties are based on daily fleet availability. Incentives/penalties for turnaround time, preventive maintenance and repair quality (based on the percent of rework work orders) are calculated monthly. Penalties for not meeting performance standards are deducted from the City’s monthly non-target payments.

Performance measure tracking for turnaround time and fleet availability is made easier by placing each vehicle in certain classes. Vehicle classes have different acceptable ranges and financial incentives.

For turnaround time, vehicles are grouped by EMS, Police, Fire, Refuse, one ton or smaller, larger than one ton and others. For fleet availability, vehicles are grouped by EMS, Police, Fire, Refuse, Public Works, PWSA, BBI, and Others. Preventive maintenance and repair quality performance measures are based on individual vehicles.

According to FVS management, all non-target repairs are excluded from all performance standards (turnaround time, fleet availability, PMs or re-work orders). The contract only specifies turnaround time allowing these exclusions: “accident or vandalism, vehicles awaiting repair authorization, major component overhauls or replacements, and vehicles exempt by City management” for various reasons. No exclusions are listed for fleet availability, PMs or re-work orders.

**Finding:** The recommendation from the 2010 audit was not implemented. The 2010 recommendation stated that “The contract should be amended to state that vehicles out of service because of non-target repairs are excluded from performance calculations”.

**RECOMMENDATION NO. 10:**

The previous audit recommendation should be implemented. It should be better defined in the contract that all performance standards (turnaround time, fleet availability, PMs or re-work orders) should be excluded from non-target repairs as well as any vehicles out of service due to recalls.

**Turnaround Time Compliance**

Turnaround time is the amount of time it takes to repair a vehicle and get it back in service. Turnaround time is calculated from the time the work order is generated until the work order is closed. Excluded from the calculations are vehicles that are returned for warranty repairs, recalls, and time lag over weekends and holidays.

There is a 24 hour and 48 hour turnaround time standard and the standards are different according to vehicle class.

A monthly incentive is rewarded if FVS completes the repairs above the desired range and a penalty is charged if the repairs fall below the range. No incentive or penalty is calculated if monthly repairs fall within the range.

For example, the repair work on 84-86% of all public safety vehicles has to be completed within 24 hours each month. They are rewarded \$25 monthly for going above the range and penalized \$100 if below the range. Table 10 lists the incentive and penalties by department and class of vehicles as written in the 2010-2015 FVS contract.

**TABLE 10**

<b>FVS CONTRACT (2010-2015)</b>				
<b>PENALTIES AND INCENTIVES FOR PERFORMANCE OUTSIDE OF</b>				
<b>TURNAROUND TIME STANDARD RANGE per month</b>				
	<b>24 Hour</b>		<b>48 Hour</b>	
<b>VEHICLE CLASS</b>	<b>INCENTIVE</b>	<b>PENALTY</b>	<b>INCENTIVE</b>	<b>PENALTY</b>
<b>EMS</b>	\$25	(\$100)	\$100	(\$300)
<b>Fire</b>	\$25	(\$100)	\$100	(\$300)
<b>Police</b>	\$25	(\$100)	\$100	(\$300)
<b>Refuse</b>	\$25	(\$100)	\$75	(\$150)
<b>One Ton or Smaller</b>	\$25	(\$100)	\$35	(\$100)
<b>Larger than One Ton</b>	\$25	(\$100)	\$35	(\$100)
<b>All others</b>	\$25	(\$100)	\$35	(\$100)

Source: FVS Contract

**Finding:** The amount of incentive money that FVS is given to exceed the 24 hour and 48 hour turnaround time ranges is 25%, 35% or 50% of the penalty amount.

**RECOMMENDATION NO. 11:**

The incentive amount of 25% of the penalty is too low and does not provide enough incentive to FVS. The incentive amounts should be increased to at least 35% of the penalty amount.

**24 Hour Turnaround Time**

The auditors calculated the 24 hour turnaround time for each vehicle class and tallied each month's incentives and penalties. Tables 11 and 12, show the 24 hour turnaround for the years 2013 and 2014 respectively. The charts are broken down by vehicle class, desired range, average monthly turnaround time and amount. A yearly average of each department is shown at the bottom of each table.

**TABLE 11**

2013 24-HOUR TURNAROUND TIME COMPLIANCE															
Dept. (desired range)	EMS (84-86%)		Fire Bureau (84-86%)		Police Bureau (84-86%)		Refuse Packers (79-81%)		One Ton or Smaller (79-81%)		Larger than One Ton (74-76%)		All other Vehicles (74-76%)		Monthly Total
	Month	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	
Jan-13	81.8	-100	93.2	+25	83.5	-100	94.8	+25	91.7	+25	83.3	+25	84.4	25	-75
Feb-13	89.7	+25	92.0	+25	83.0	-100	96.2	+25	75.0	-100	84.1	+25	79.6	25	-75
Mar-13	83.8	-100	91.5	+25	85.3	0	81.8	+25	77.4	-100	76.3	+25	81.8	25	-100
Apr-13	76.7	-100	82.2	-100	84.5	0	91.6	+25	87.0	+25	78.5	+25	77.6	25	-100
May-13	68.9	-100	79.8	-100	77.3	-100	93.9	+25	85.7	+25	76.8	+25	79.8	25	-200
Jun-13	80.2	-100	87.0	+25	74.4	-100	94.1	+25	85.4	+25	75.8	0	72.7	-100	-225
Jul-13	66.7	-100	84.3	0	76.4	-100	95.9	+25	86.0	+25	68.0	-100	76.2	25	-225
Aug-13	77.6	-100	76.5	-100	77.2	-100	96.0	+25	79.0	0	64.2	-100	76.2	25	-350
Sep-13	79.7	-100	84.5	0	73.7	-100	96.6	+25	76.4	-100	72.6	-100	73.7	-100	-475
Oct-13	70.3	-100	85.5	0	71.1	-100	95.5	+25	78.0	-100	80.0	+25	74.0	-100	-350
Nov-13	80.3	-100	83.8	-100	69.4	-100	92.1	+25	82.0	+25	71.1	-100	75.7	0	-350
Dec-13	65.8	-100	89.7	+25	70.8	-100	94.3	+25	76.5	-100	73.5	-100	74.6	0	-350
% Avg	76.8		85.8		77.2		93.5		81.7		75.3		77.2		
Total \$		-1,075		-275		-1,000		+300		-350		-350		-125	-2,750

Source: FVS report F910 – Turnaround time

**TABLE 12**

2014 24-HOUR TURNAROUND TIME COMPLIANCE															
Dept. (desired range)	EMS (84-86%)		Fire Bureau (84-86%)		Police Bureau (84-86%)		Refuse Packers (79-81%)		One Ton or Smaller (79-81%)		Larger than One Ton (74-76%)		All other Vehicles (74-76%)		Monthly Total
	Month	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	
Jan-14	68.1	-100	85.9	0	69.6	-100	92.8	+25	85.1	25	82.4	25	74.3	0	-125
Feb-14	76.0	-100	89.0	+25	75.8	-100	94.3	+25	84.0	25	80.8	25	69.8	-100	-200
Mar-14	74.7	-100	79.2	-100	75.3	-100	92.4	+25	81.8	25	77.1	25	73.0	-100	-325
Apr-14	74.3	-100	75.0	-100	72.0	-100	95.0	+25	80.0	0	80.7	25	73.6	-100	-350
May-14	75.3	-100	78.7	-100	67.8	-100	95.2	+25	74.2	-100	72.0	-100	71.4	-100	-575
Jun-14	79.2	-100	86.3	+25	73.6	-100	94.7	+25	79.1	0	76.2	25	76.6	25	-100
Jul-14	82.4	-100	84.7	0	80.1	-100	95.0	+25	83.3	25	79.5	25	67.3	-100	-225
Aug-14	68.3	-100	80.0	-100	79.5	-100	93.8	+25	85.1	25	75.7	0	75.9	0	-250
Sep-14	72.9	-100	79.5	-100	73.8	-100	96.4	+25	81.2	25	76.9	25	78.2	25	-200
Oct-14	86.7	+25	81.5	-100	75.1	-100	94.4	+25	84.6	25	76.2	25	78.6	25	-75
Nov-14	76.3	-100	85.3	0	74.1	-100	96.0	+25	85.2	25	74.3	0	73.6	-100	-250
Dec-14	84.5	0	84.5	0	74.5	-100	94.7	+25	74.2	-100	80.2	25	73.2	-100	-250
% Avg	76.6		82.5		74.3		94.6		81.5		77.7		73.8		
Total \$		-975		-550		-1,200		300		0		125		-625	-2,925

Source: FVS report F910 – Turnaround time

The EMS, Fire, and Police vehicles are considered FVS priority repairs. Because of their priority status these vehicles are completed before any other vehicles are repaired.

**Finding:** The 24 hour turnaround time standard was never met for EMS and Police priority vehicles in sample years 2013 or 2014. Fire, the City's other priority department, only had their 24 hour turnaround time standard met in 2013.

Turnaround time for the other four vehicle classes had better results. In 2013, on average, the 24 hour turnaround time target was met or exceeded for refuse packers, vehicles one ton or smaller, vehicles larger than one ton, and all other vehicles. In 2014, on average, the 24 hour turnaround time target was exceeded for refuse packers, vehicles one ton or smaller, and vehicles larger than one ton.

**Finding:** In 2013, 24 hour turnaround time ranges were met or exceeded with Fire Department vehicles, refuse packers, vehicles one ton or smaller, vehicles larger than one ton and all other vehicles. In 2014, 24 hour turnaround time ranges were met or exceeded with refuse packers vehicles, vehicles one ton or smaller and vehicles larger than one ton.

#### 48 Hour Turnaround Time

The auditors calculated the 48 hour turnaround time and the monthly penalties/incentives for the seven different vehicle classes. The following two Tables, 13 and 14, show the 48 hour turnaround times for 2013 and 2014 respectively. Tables are depicted in the same format as the 24 vehicles turnaround times.

**TABLE 13**

2013															
48-HOUR TURNAROUND TIME COMPLIANCE															
Dept. (desired range)	EMS (94-96%)		Fire Bureau (94-96%)		Police Bureau (94-96%)		Refuse Packers (94-96%)		One Ton or Smaller (89-91%)		Larger than One Ton (89-91%)		All other Vehicles (89-91%)		Monthly Total
	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	
Jan-13	89.6	-300	94.5	0	92.8	-300	97.6	75	94.4	35	90.2	0	92.7	35	-455
Feb-13	93.8	-300	94.6	0	91.7	-300	97.1	75	89.6	0	88.6	-100	89.1	0	-625
Mar-13	86.5	-300	97.6	100	92.9	-300	96.9	-150	88.1	-100	84.2	-100	89.8	0	-625
Apr-13	<b>84.4</b>	<b>-300</b>	<b>88.9</b>	<b>-300</b>	<b>89.7</b>	<b>-300</b>	<b>96.2</b>	<b>75</b>	<b>89.1</b>	<b>0</b>	<b>84.6</b>	<b>-100</b>	<b>83.2</b>	<b>-100</b>	<b>-1,025*</b>
May-13	83.8	-300	86.9	-300	89.3	-300	96.1	75	89.6	0	90.2	0	86.1	-100	-925
Jun-13	87.5	-300	94.6	0	86.1	-300	96.0	0	91.3	35	84.2	-100	81.3	-100	-765
Jul-13	78.3	-300	89.9	-300	87.3	-300	96.8	75	92.5	35	88.5	-100	85.3	-100	-990
Aug-13	89.5	-300	83.5	-300	86.0	-300	97.2	75	80.7	-100	75.3	-100	83.9	-100	-1125
Sep-13	89.9	-300	87.6	-300	85.4	-300	97.5	75	84.3	-100	79.4	-100	81.0	-100	-1125
Oct-13	82.8	-300	89.5	-300	82.0	-300	96.5	75	85.7	-100	87.8	-100	79.8	-100	-1125
Nov-13	86.4	-300	88.8	-300	78.1	-300	93.9	-150	84.7	-100	85.1	-100	84.5	-100	-1350
Dec-13	83.6	-300	93.1	-300	82.0	-300	96.4	75	82.7	-100	86.4	-100	84.2	-100	-1125
% Avg	86.3		90.8		86.9		96.5		87.7		85.4		85.1		
Total \$		-3,600		-2,300		-3,600		600		-495		-1,000		-865	-11,260

Source: FVS report F910 – Turnaround time; \*Discrepancy in April 2013 in report and auditor calculations. See following.

**TABLE 14**

2014															
48-HOUR TURNAROUND TIME COMPLIANCE															
Dept. (desired range)	EMS (94-96%)		Fire Bureau (94-96%)		Police Bureau (94-96%)		Refuse Packers (94-96%)		One Ton or Smaller (89-91%)		Larger than One Ton (89-91%)		All other Vehicles (89-91%)		Monthly Total
	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	
Jan-14	83.0	-300	95.3	0	83.7	-300	95.3	0	89.6	0	89.1	0	83.2	-100	-700
Feb-14	84.0	-300	92.1	-300	85.0	-300	97.4	75	90.7	0	89.9	0	78.3	-100	-925
Mar-14	87.4	-300	85.0	-300	82.5	-300	96.1	75	84.1	-100	84.8	-100	83.7	-100	-1125
Apr-14	85.2	-300	84.2	-300	83.7	-300	96.6	75	90.7	0	84.2	-100	83.2	-100	-1025
May-14	90.9	-300	90.4	-300	78.9	-300	97.1	75	83.2	-100	80.5	-100	80.7	-100	-1125
Jun-14	81.8	-300	93.8	-300	82.1	-300	96.1	75	86.8	-100	82.0	-100	82.8	-100	-1125
Jul-14	87.8	-300	90.6	-300	86.8	-300	96.9	75	88.9	-100	92.3	35	76.2	-100	-990
Aug-14	79.4	-300	90.7	-300	85.2	-300	96.2	75	87.8	-100	80.0	-100	85.0	-100	-1125
Sep-14	82.9	-300	88.9	-300	86.4	-300	97.9	75	89.1	0	86.0	-100	91.0	35	-890
Oct-14	92.9	-300	83.1	-300	89.2	-300	97.8	75	93.6	35	88.1	-100	88.9	-100	-990
Nov-14	86.4	-300	88.0	-300	85.8	-300	97.9	75	93.5	35	81.6	-100	82.7	-100	-990
Dec-14	91.4	-300	91.8	-300	83.2	-300	95.4	0	82.8	-100	88.4	-100	85.5	-100	-1200
% Avg	86.1		89.5		84.4		96.7		88.4		85.6		83.4		
Total \$		-3,600		-3,300		-3,600		750		-530		-865		-1,065	-12,210

Source: FVS report F910 – Turnaround time

**Finding:** The 48 hour turnaround times had similar results as the 24 hour turnaround times regarding priority vehicles in 2013 and 2014. **EMS, Fire, and Police, on average did not meet the desired range of (94-96%) for both years.**

**Finding:** In 2013 and 2014, on average, the 48 hour turnaround time repairs was only met or exceeded for one group of vehicles, the refuse packers.

Turnaround Times over 48 hours

While examining the 24 and 48 hour turnaround times, the auditors noticed that some vehicles were sitting in the shop for long periods of time. Out of the 12,779 turnaround times examined in 2013, 1,295 (10.1%) had a turnaround time over 48 hours. In 2014, 13,090 turnaround times had 1,422 (10.9%) times over 48 hours.

**Finding:** In sample years 2013 and 2014, over 10 percent of the vehicles took more than 48 hours to repair.

Table 16 shows the breakdown of the 10 percent of the vehicles that took over 48 hours to repair in 2013 and 2014.

**TABLE 15**

2013 and 2014				
VEHICLES WITH TURNAROUND TIMES OVER 48 HOURS				
Turnaround time	2013		2014	
48-120 Hours	809	62.5%	897	63.1%
120.1-240 Hours	318	24.6%	360	25.3%
240.1-360 Hours	101	7.8%	78	5.5%
360.1-480 Hours	33	2.5%	31	2.2%
Over 480 Hours	34	2.6%	56	3.9%
<b>TOTALS</b>	<b>1,295</b>	<b>100%</b>	<b>1,422</b>	<b>100%</b>

Source: FVS report F910 – Turnaround time

In 2013, included in the over 480 hour totals, there were 8 vehicles repairs with turnaround times of greater than 1,000 hours. This includes one refuse packer with a turnaround time of 6,270.4 hours. In 2014, there were 18 vehicle repairs with turnaround times of greater than 1,000 hours. The longest turnaround time for a repair in 2014 was 2,649.2 hours.

Reasons for Extended Repair Times

FVS management explained that the majority of the extended turnaround times happen when a vehicle comes in for a PM or inspection and other things are found wrong that require FVS to create a new work order and schedule another service date for the vehicle. These new work orders are called PM follow up contracts and can keep the vehicle out of service for extended periods of time when repairs are necessary.

Over 50% or 750 (57.9%) of the work orders in 2013 and 820 (57.7%) of the work orders in 2014, with turnaround times of greater than 48 hours, were for target follow up repairs. That is repairs associated with PMs or state inspections.

The remaining work orders that had turnaround times over 48 hours, (42.1%) in 2013 and (42.3%) in 2014, were for a wide range of different vehicle target repairs not found during PMs of State inspections. Some examples were dashboard service light maintenance, grinding brakes, towing vehicles plus the repair, and fuel/hydraulic leaks.

**Finding:** Of the vehicles needing over 48 hours to repair, more than half were for PM follow-ups.

### **RECOMMENDATION NO. 12:**

All work orders that have turnaround times over 120 hours should be given an additional monetary penalty on top of the penalty that FVS already receives for not meeting the 48 hour turnaround time for target repairs. A week should be more than enough time to complete a target repair since labor and parts are predictable for these types of services, if the repair part is available. FVS should not be penalized if a part to repair a vehicle is on-order and not delivered in a timely manner.

### Turnaround Time Penalties and Incentives

It is generally accepted that losses or penalties influence behavior more than incentives. This does not seem to be the case with FVS. Perhaps the penalties are not high enough.

In 2013, FVS was assessed \$2,750 in penalties for not meeting the 24 hour turnaround time and \$11,260 for not meeting the 48 hour turnaround time for a total of \$14,010 in penalties.

In 2014, FVS was assessed \$2,925 in penalties for not meeting the 24 hour turnaround time and \$12,210 for not meeting the 48 hour turnaround time for a total of \$15,135 in penalties.

**Finding:** In sample years 2013 and 2014, the overall results show that FVS was charged for more penalties than incentives for 24 and 48 hour turnaround times.

### **RECOMMENDATION NO. 13:**

Along with recommendation number 12, increasing incentives, the administration should examine increasing penalty amounts each year of the contract. If performance standards do not improve the penalty amount increases. If performance standards improve then the penalty amount should be frozen at that contract year's amount that affects improvement.

## Test for Crediting the City for Turnaround Time Penalties and Incentives

All penalty credits are shown on the City's non-target bills. All non-target bills with penalty credits have back up documentation from FVS with a monthly breakdown of incentives or penalty dollar amounts for each performance standard.

The auditors wanted to test the accuracy of the penalty credit dollar amounts on the non-target bills. Tables 11 through 14 show the auditors' incentive and penalty calculations. Vehicle class percentages in the tables were taken from the F910 monthly turnaround time reports supplied by FVS. The auditors then awarded each vehicle category percentage a monetary value according to the contract (depicted in Table 10). Monetary values were then totaled for each month. The monthly dollar figures the auditors calculated were compared to the monthly totals shown on the City's non-target bills.

**Finding:** All turnaround time incentive and penalty **amounts matched except the 48 hour turnaround time total in April 2013**. The reported penalty for 48-hour turnaround compliance was -\$490, while the auditors calculated a penalty of -\$1,025, a difference of -\$535, a credit for which the City did not get.

### **RECOMMENDATION NO. 14:**

The City needs to be credited the \$535 that was miscalculated in April 2013. The City representatives at the FVS location need to verify FVS's penalty/credit calculations.

## Receiving Penalty Credits or Incentive Deductions

There is no set time during the year that the City receives penalty credits or incentive deductions on their non-target bills. A penalty credit or incentive deductions for the full contract years of 2012 and 2013 was issued in February 2014 (2 years and 1 month later, and 1 year and 1 month later, respectively); December 2013, January and February 2014 were issued in May 2014 (5, 4 and 3 months later respectively); the months of March-November 2014 were not issued until October 2015. This is as much as 19 months later.

**Finding:** FVS is inconsistent in the amount of time they take to issue credits or deductions for incentives or penalties.

### **RECOMMENDATION NO. 15:**

By submitting penalty credits and incentive deductions to the City for December 2014, January 2015 and February 2015, within 3 to 5 months, FVS has exhibited that it can credit payments within a timely manner. The City should require all penalty and incentive credits be billed to the City quarterly. Failure to credit the City for penalties and incentives within 4 months should result in the dollar amount being charged interest if it is a credit to the City.

Past Audit Comparisons

The previous audit recommended that penalties be increased for not meeting the 24 and 48 hour deadlines ranges which was implemented. For 24 hour turnaround time, penalties went from \$25 to \$100. For 48 hour turnaround time, penalties went from \$50 to \$300 for priority vehicles, for refuse vehicles \$40 to \$150 and all other vehicles from \$35 to \$100.

Only incentives increased for the 48 hour turnaround time since the last contract. Priority vehicles 48 hour turnaround time incentives went from \$50 to \$100 and refuse went from \$40 to \$75. All the rest of the vehicle categories stayed at \$35. Twenty-four (24) hour turnaround time incentives were not changed.

**Finding:** The previous audit recommended that penalties be increased for not meeting the 24 and 48 hour turnaround time ranges was followed.

Overall turnaround time averages have increased from the previous audit but are still below the required desired range. Table 15 shows a comparison of the old contracts 2008 turnaround time averages for each vehicle category, to the 2013 and 2014 turnaround time averages.

**TABLE 16**

TURNAROUND TIME PERCENTAGE COMPARISON TO PREVIOUS CONTROLLERS AUDIT						
Department	24 Hour Turnaround Time			48 Hour Turnaround Time		
	2008 % average	2013 % average	2014 % average	2008 % average	2013 % average	2014 % average
EMS	77.4	76.8	76.6	86.8	86.3	86.1
Fire Bureau	77.8	85.8	82.5	86.0	90.8	89.5
Police Bureau	76.1	77.2	74.3	85.7	86.9	84.4
Refuse Packers	79.6	93.5	94.6	89.0	96.5	96.7
One Ton or Smaller	63.9	81.7	81.5	61.7	87.7	88.4
Larger than One Ton	50.5	75.3	77.7	62.3	85.4	85.6
All Other Vehicles	55.8	77.2	73.8	67.9	85.1	83.4

Source: FVS report F910 – Turnaround time and Controller’s 2010 FVS Audit

**Finding:** For the 2013 and 2014 sample years, FVS has greatly improved 24 hour and 48 hour turnaround time in refuse packers, one ton or smaller vehicles, larger than one ton vehicles and all other vehicles over what was found in the last City Controller’s Audit.

**Finding:** A comparison of the 2013 and 2014 sample years for the 24 hour and 48 hour turnaround time for priority vehicles, (EMS, Fire and Police) has varied; sometimes exceeding the previous audits percentages and sometimes below the previous audits percentages.

## **Fleet Availability Compliance**

Fleet availability is the total number of hours a vehicle fleet or a group of vehicles is available for service. FVS tracks fleet availability daily and is shown as a percentage. The fleet availability percentage is calculated by dividing all vehicle fleet downtime (repairs, road call, etc.) by the total available hours of the whole fleet.

Similarly to turnaround time, FVS has acceptable percentage ranges to meet for fleet availability. Vehicles are grouped into 8 different classes and there are different acceptable ranges for each class. These are shown at the top of tables 17 and 18. If the availability is above the acceptable range for EMS, Police, Fire, and PWES vehicles, the incentive is \$15 a day and if they are below the desired range, they are penalized \$35 daily. The other 4 vehicle groups have a \$10 incentive and \$25 penalty. No incentive or penalty is given if fleet availability falls within the desired range.

According to FVS, a vehicle may be out of availability for several months based on various factors that may be beyond FVS control, such as if parts for repair are not available or if the vehicle is under consideration for decommissioning; however, these vehicles are still included in the fleet availability calculations.

**Finding:** Vehicle repairs that are out of FVS's control are included in the fleet availability calculations.

### **RECOMMENDATION NO. 16:**

It should be written in the contract that vehicles that are being considered for decommission or awaiting unavailable parts are not included in fleet availability calculations. The fleet contract manager should be required to sign off to confirm the exclusion of these vehicles from the fleet availability statistics.

Table 17 shows that in 2013, the Fire and Refuse departments had the most months where minimum availability was not met. Fire did not meet the minimum percentage availability 9 out of the 12 months and Refuse did not meet the minimum percentage availability 7 out of the 12 months.

TABLE 17

2013 FLEET AVAILABILITY*								
DEPT. (% range)	PLI (91%- 93%)	EMS (95%- 97%)	FIRE (95%- 97%)	MOTOR POOL & ALL OTHERS (90%)	POLICE (95%- 97%)	PUBLIC WORKS (93%-95%)	PWSA (93%- 96%)	REFUSE (91%-93%)
Jan-13	99.7	96.6	95.1	98.1	97.4	96.5	98.3	93.4
Feb-13	99.7	96.5	<b>93.9</b>	97.1	96.9	95.5	96.7	<b>90.8</b>
Mar-13	99.4	96.9	<b>93.7</b>	97.4	97.6	96.5	98.0	<b>86.9</b>
Apr-13	99.3	95.2	<b>91.2</b>	97.4	97.5	95.9	97.0	<b>88.1</b>
May-13	97.2	96.2	<b>92.1</b>	97.4	97.0	95.6	96.3	<b>89.3</b>
Jun-13	97.9	96.0	<b>92.8</b>	97.3	96.5	95.9	96.1	91.6
Jul-13	99.1	<b>94.7</b>	<b>93.1</b>	95.7	95.8	95.2	96.4	93.7
Aug-13	98.5	96.0	<b>93.9</b>	95.8	96.4	94.5	95.2	<b>90.9</b>
Sep-13	97.5	97.1	95.1	94.9	96.3	94.9	96.3	91.6
Oct-13	98.7	96.2	<b>93.0</b>	95.4	96.2	93.7	96.5	<b>90.1</b>
Nov-13	98.8	96.6	<b>92.2</b>	95.5	96.7	93.6	96.9	<b>90.3</b>
Dec-13	98.4	<b>94.4</b>	95.5	96.8	96.0	95.0	97.0	91.8
Averages	98.7	96.0	<b>93.5</b>	96.6	96.7	95.2	96.7	<b>90.7</b>

Source: FVS Records

\***BOLDED** percentages are months that do not meet minimum availability requirements.

TABLE 18

2014 FLEET AVAILABILITY								
DEPT. (% range)	PLI (91%- 93%)	EMS (95%- 97%)	FIRE (95%- 97%)	MOTOR POOL & ALL OTHERS (90%)	POLICE (95%- 97%)	PUBLIC WORKS (93%- 95%)	PWSA (93%- 96%)	REFUSE (91%- 93%)
Jan-14	99.0	96.4	95.2	95.5	95.7	95.6	97.0	92.9
Feb-14	98.9	96.2	<b>94.1</b>	92.9	<b>94.2</b>	96.5	<b>92.3</b>	<b>89.4</b>
Mar-14	96.8	<b>94.4</b>	<b>94.0</b>	95.0	96.2	93.4	96.4	92.6
Apr-14	93.5	<b>92.2</b>	<b>93.4</b>	96.9	95.9	93.7	96.8	<b>90.6</b>
May-14	97.4	97.1	<b>94.7</b>	96.5	95.4	94.7	94.7	92.8
Jun-14	97.4	94.8	97.6	94.3	95.1	95.6	93.8	93.6
Jul-14	97.7	95.5	95.1	92.3	95.2	95.7	95.1	93.7
Aug-14	98.6	95.0	95.5	94.2	95.5	95.4	96.2	92.2
Sep-14	97.7	96.5	<b>93.9</b>	97.9	96.9	95.5	97.6	92.4
Oct-14	99.0	96.2	<b>94.4</b>	96.7	97.3	95.1	97.4	<b>89.9</b>
Nov-14	96.3	97.8	95.0	96.5	95.7	94.4	97.8	<b>89.2</b>
Dec-14	98.1	98.3	96.2	94.8	96.1	96.2	97.3	<b>88.9</b>
Averages	97.5	95.9	<b>94.9</b>	95.3	95.8	95.1	96.0	91.5

Source: FVS Records

\***BOLDED** percentages are months that do not meet minimum availability requirements.

Table 18 shows that in 2014, the Fire and Refuse departments still had the most months where minimum availability was not met. Fire did not meet the minimum percentage availability 6 out of the 12 months and Refuse did not meet the minimum percentage availability 5 out of the 12 months. Both departments average percentages improved since 2013. The Refuse department average percentage met the minimum percentage availability requirement.

In both 2013 and 2014, the priority departments of EMS and Police met the acceptable range while FVS did not meet the acceptable range for the Fire Department. Average availability for BBI, Motor Pool, Public Works, and PWSA exceeded the acceptable range in 2013 and BBI, Motor Pool, and Public Works exceeded the acceptable range in 2014.

**Finding:** For 2013 and 2014, the majority of departments met the minimum percent average for fleet availability.

**Finding:** For both 2013 and 2014, the Fire Department’s 12 month average did not meet the minimum percentage standard.

Fleet Availability Incentives and Penalties

FVS sent the auditors a spreadsheet of the daily fleet availability percentages in all 8 vehicle categories for the entire years of 2013 and 2014. The auditors assigned each percentage a monetary value according to the desired ranges specified in the FVS contract. That is, a \$15 incentive and \$35 penalty was assigned for the EMS, police, fire, and PWES vehicle categories. The other 4 vehicle categories had a \$10 incentive and \$25 penalty. Monthly and yearly totals were then calculated. Table 19 shows the 8 vehicle categories daily fleet availability total incentive and penalties for 2013 and 2014.

**TABLE 19**

<b>2013 AND 2014 FLEET AVAILABILITY INCENTIVES AND PENALTIES</b>		
	<b>2013</b>	<b>2014</b>
BBI/PLI	\$2,490	\$2,360
EMS	-\$800	-\$1,955
<b>Fire</b>	<b>-\$6,660</b>	<b>-\$4,045</b>
Motor Pool	\$2,500	\$2,315
Police	\$1,045	-\$1,115
Public Works	\$1,115	\$525
PWSA	\$1,640	\$1,115
Refuse	-\$3,850	-\$2,470
<b>TOTALS</b>	<b>-\$2,520</b>	<b>-\$3,270</b>

**Finding:** In 2013 and 2014, FVS was assessed penalties of \$2,520 and \$3,270 respectively for fleet availability.

FVS had the most penalties assessed for Fire vehicles for both 2013 and 2014 (bolded). Police, Fire and EMS are priority vehicles yet the only time FVS received an incentive for fleet availability was for Police vehicles in 2013. All the other times FVS was penalized for not meeting the percentage of fleet availability.

## **Preventive Maintenance and State Inspections**

### Preventive Maintenance

FVS performs routine preventive maintenance on vehicles to inspect and correct small problems so they do not turn into major repair and costs in the future. FVS performs three different types of PM services: the APM, Basic Preventive Maintenance (BPM) and Comprehensive Preventive Maintenance (CPM). The APM is used for police motorcycles and is done every month.

BPM involves a safety checklist, vehicle lubrication, oil and filter change, and an inspection and service if needed on a vehicle's starter and cooling system, physical appearance, hoses, belts, brakes, and air cleaners. These services are completed once a month to once every 6 months, depending on the type and use of the vehicle.

The CPM performs all the elements of a BPM with the addition of a tire rotation and balance, engine scope/tune, automatic transmission service, front wheel bearing service, and fuel filter change. All vehicles receive a comprehensive PM once every 12 months except for a Paddy Wagon, which is completed every 6 months.

### State Inspections

All vehicles registered in Pennsylvania require mandatory vehicle inspections. FVS performs safety and emission inspections on vehicles either annually or semi-annually. State law requires vehicles over 17,400 pounds, such as garbage trucks, to receive an inspection every six months. All other vehicles are done once a year. Inspections can be done two months prior to their due date.

### Preventive Maintenance and State Inspection Scheduling

PMs and state inspections have the same scheduling process. **All department supervisors are e-mailed a schedule two weeks in advance of the next full month, allowing departments up to six weeks notification before the appointment.** This e-mail notifies the supervisor of upcoming PMs and inspections scheduled for vehicles in their fleet that month.

The Department of Public Works receives another notification on Thursdays for the upcoming week of scheduled PMs and state inspections. All other departments are reminded by either a phone call or an email one day prior to the scheduled service. If a PM or state inspection is missed, the same department supervisor receives an additional notification by either email or phone. It is then the responsibility of the department to reschedule the appointment.

## PM and State Inspection No-shows

If departments do not reschedule a PM or state inspection within the same month as originally scheduled, the PM or state inspection is documented by FVS as a “no-show” or a missed PM. FVS keeps a report of all no-shows for each department. Missed PMs are discussed at user and quarterly meetings. The purpose of a preventive maintenance program is to identify problems that can be corrected before the problems become major repair issues. Missed PMs can cause further damage to vehicles.

Vehicles scheduled in a month and brought in by the end of that month are not counted as a missed PM. However, a common complaint by departments is that if a vehicle is brought in one day into the following month, it is counted as a missed PM. This is true whether the vehicle was originally scheduled the first week or the last week of the month. For example, a vehicle that misses a scheduled PM the first day of the month has the entire month to reschedule without being counted as a no-show. Conversely, a vehicle scheduled the last week of the month only has at most a week to reschedule before the PM is counted as a no-show.

**Finding:** City departments are given from 2 to 6 weeks to call and reschedule a vehicle’s PM. This should be ample time to reschedule the PM if there is a scheduling conflict.

### **RECOMMENDATION NO. 17:**

City departments need to increase monitoring of a vehicle’s PM schedule so it is not missed to save the City money. Missed PMs contribute to an increase in non-target repairs.

### **Preventive Maintenance Performance Standards**

FVS receives incentives and penalties for PMs just as they do for turnaround time and fleet availability. State inspections are also grouped in with PMs and are documented as an entire group in the preventive maintenance performance standard. Scheduled PMs have to be completed 94-96% of the time monthly. FVS receives a \$200 incentive a month for exceeding the goal and \$500 penalty for not reaching the goal.

PM performance standards are calculated by taking the total number of scheduled PMs in a month subtracted by the no-shows. The total vehicles scheduled minus the no-shows will give you the adjusted scheduled. The total PMs completed that month are then divided by the adjusted schedule, resulting in the total completed percentage.

As shown in Tables 20 and 21, the auditors were told that the total number of vehicles completed is usually higher than the adjusted schedule. This situation happens because vehicles can show up anytime for PMs that are missed from a previous month even if they are not on the current monthly PM schedule. Further, a PM can be performed on vehicles that have been brought in for another service that missed a prior scheduled PM.

**Finding:** FVS management explained that departments that show up for unscheduled PMs can cause a backlog of unexpected repair work done during the course of the day.

The following two charts show FVS preventive maintenance performance standards for 2013 and 2014.

**TABLE 20**

<b>2013 PREVENTIVE MAINTENANCE PERFORMANCE STANDARDS</b>					
<b>MONTH</b>	<b>SCHEDULED</b>	<b>NO-SHOWS</b>	<b>ADJUSTED SCHEDULED</b>	<b>NUMBER COMPLETED</b>	<b>PERCENT COMPLETED (94%-96%)</b>
<b>JAN</b>	264	79	185	281	152%
<b>FEB</b>	312	100	212	281	133%
<b>MAR</b>	282	95	187	304	163%
<b>APR</b>	289	76	213	335	157%
<b>MAY</b>	335	93	242	324	134%
<b>JUN</b>	303	95	208	305	147%
<b>JUL</b>	303	81	222	320	144%
<b>AUG</b>	317	106	211	326	155%
<b>SEP</b>	292	104	188	250	133%
<b>OCT</b>	303	127	176	320	182%
<b>NOV</b>	283	93	190	274	144%
<b>DEC</b>	260	98	162	253	156%
<b>TOTALS</b>	<b>3,543</b>	<b>1,147</b>	<b>2,396</b>	<b>3,573</b>	<b>149%</b>

Source: FVS Records

**TABLE 21**

<b>2014 PREVENTIVE MAINTENANCE PERFORMANCE STANDARDS</b>					
<b>MONTH</b>	<b>SCHEDULED</b>	<b>NO-SHOWS</b>	<b>ADJUSTED SCHEDULED</b>	<b>NUMBER COMPLETED</b>	<b>PERCENT COMPLETED (94%-96%)</b>
<b>JAN</b>	300	123	177	244	138%
<b>FEB</b>	304	126	178	262	147%
<b>MAR</b>	280	103	177	325	184%
<b>APR</b>	327	97	230	348	151%
<b>MAY</b>	294	105	189	289	153%
<b>JUN</b>	314	118	196	332	169%
<b>JUL</b>	291	87	204	353	173%
<b>AUG</b>	316	65	251	352	140%
<b>SEP</b>	315	85	230	326	142%
<b>OCT</b>	363	66	297	365	123%
<b>NOV</b>	291	82	209	259	124%
<b>DEC</b>	282	79	203	307	151%
<b>TOTALS</b>	<b>3,677</b>	<b>1,136</b>	<b>2,541</b>	<b>3,762</b>	<b>148%</b>

Source: FVS Records

**Finding:** In 2013 and 2014, FVS exceeded the performance standard every month for preventive maintenance and as a result received \$4,800 in incentives, \$2,400 for 2013 and \$2,400 for 2014.

Scheduled Preventive Maintenance (PM) Compliance by Department

The auditors analyzed all the PM scheduled reports that are sent out to the departments each month and compared them to the vehicle PM no-show report for each department. The department vehicle PM no-show report lists the number of vehicles that did not show up for their scheduled visit within that month.

This does not mean that the vehicle is not receiving a PM. The vehicle could show up at a later date. The auditors separated the State Inspection data from the PM reports. This is because findings and recommendations from the previous audit noted that in 2008 state inspection no-shows were 57.2% with only 44% of the total fleet even scheduled for a state inspection. **The departments that are bolded had the highest percentage of no-shows.**

**TABLE 22**  
**2013-2014**  
**PREVENTIVE MAINTENANCE NO-SHOWS**  
**BY DEPARTMENT**  
**(Bolded Departments have the Highest Percentages per Year)**

DEPARTMENT	2013				2014			
	NUMBER OF VEHICLES	2013 SCHEDULED PM	# OF NO-SHOWS	% MISSED	NUMBER OF VEHICLES	2014 SCHEDULED PM	NO-SHOWS	% MISSED
BBI / PLI	47	94	2	2.1%	47	84	4	4.8%
CIS / I&P	2	3	0	0.0%	2	4	1	25.0%
CITY PARKS	0	0	0	0.0%	1	2	0	0.0%
CONTROLLER	2	1	0	0.0%	0	0	0	0.0%
<b>DPW</b>	261	541	173	32.0%	<b>266</b>	<b>540</b>	<b>184</b>	<b>34.1%</b>
EMA	33	37	9	24.3%	34	43	11	25.6%
EMS	59	136	39	28.7%	68	164	48	29.3%
FINANCE	22	45	8	17.8%	21	39	8	20.5%
<b>FIRE</b>	<b>87</b>	<b>128</b>	<b>65</b>	<b>50.8%</b>	<b>87</b>	<b>159</b>	<b>64</b>	<b>40.3%</b>
INVESTAGATIONS	42	124	29	23.4%	70	160	32	20.0%
<b>MAYORS OFFICE</b>	<b>4</b>	<b>8</b>	<b>6</b>	<b>75.0%</b>	<b>4</b>	<b>5</b>	<b>2</b>	<b>40.0%</b>
OMI	5	8	0	0.0%	4	8	0	0.0%
PARKS/REC	19	38	11	28.9%	20	28	9	32.1%
POLICE	296	911	235	25.8%	231	1,000	186	18.6%
<b>PUBLIC SAFETY ADMIN</b>	<b>9</b>	<b>20</b>	<b>7</b>	<b>35.0%</b>	<b>9</b>	<b>21</b>	<b>12</b>	<b>57.1%</b>
<b>PWES</b>	<b>112</b>	<b>179</b>	<b>73</b>	<b>40.8%</b>	<b>101</b>	<b>152</b>	<b>83</b>	<b>54.6%</b>
<b>PWSA</b>	<b>132</b>	<b>263</b>	<b>91</b>	<b>34.6%</b>	124	245	82	33.5%
<b>TOTALS</b>	1,132	2,536	748	29.5%	1,089	2,654	726	27.4%

Source: FVS PM Monthly Schedule and the FVS F120 PM No-show Report

The top five departments that had the highest percentage of PM no-shows in 2013 in descending order were the Mayor’s Office (75.0%), Fire Administration (50.8%), PWES (40.8%), Public Safety Administration (35.0%), and PWSA (34.6%).

The top five departments that had the highest percentage of PM no-shows in 2014 in descending order were Public Safety Administration (57.1%), PWES (54.6%), Fire Administration (40.3%), the Mayor’s Office (40.3%), and DPW (34.1%).

**Finding:** For both 2013 and 2014 four departments, the Mayor’s Office, Fire Administration, PWES and Public Safety Administration were included among the top five departments that had a high percentage of no-shows for PMs.

Scheduled State Inspections Compliance

The auditors conducted the same analysis for state inspection no-shows as with the PM no-shows as shown in Table 23.

**TABLE 23**  
**2013-2014**  
**STATE INSPECTION NO-SHOWS**  
**BY DEPARTMENT**

DEPARTMENT	2013				2014			
	NUMBER OF VEHICLES	2013 SCHEDULED INSPECTION	# OF NO-SHOWS	% MISSED	NUMBER OF VEHICLES	2014 SCHEDULED INSPECTION	# OF NO-SHOWS	% MISSED
BBI / PLI	47	35	1	2.9%	47	41	7	17.1%
CIS / I&P	2	0	0	0.0%	2	1	1	100.0%
CITY PARKS	0	0	0	0.0%	1	1	0	0.0%
CONTROLLER	2	0	0	0.0%	0	0	0	0.0%
<b>DPW</b>	<b>261</b>	<b>287</b>	<b>141</b>	<b>49.1%</b>	<b>266</b>	<b>294</b>	<b>136</b>	<b>46.3%</b>
EMA	33	25	8	32.0%	34	26	11	42.3%
EMS	59	44	7	15.9%	68	61	12	19.7%
FINANCE	22	17	4	23.5%	21	21	8	38.1%
FIRE	87	69	28	40.6%	87	85	32	37.6%
INV	42	60	14	23.3%	70	94	11	11.7%
<b>MAYORS OFFICE</b>	<b>4</b>	<b>4</b>	<b>2</b>	<b>50.0%</b>	4	3	1	33.3%
OMI	5	5	0	0.0%	4	4	0	0.0%
PARKS/REC	19	15	5	33.3%	20	20	6	30.0%
POLICE	296	157	37	23.6%	231	244	40	16.4%
<b>PUBLIC SAFETY ADMINISTRATION</b>	<b>9</b>	<b>5</b>	<b>4</b>	<b>80.0%</b>	9	8	2	25.0%
PWES	112	156	94	60.3%	101	150	83	55.3%
PWSA	132	128	54	42.2%	124	137	60	43.8%
<b>TOTALS</b>	1,132	1,007	399	39.6%	1,089	1,190	410	34.5%

Source: FVS PM Monthly Schedule, F120 PM No-show Report

The top five departments that had the highest percentage of state inspection no-shows in 2013 in descending order were Public Safety Administration (80.0%), PWES (60.3%), the Mayor's Office (50.0%), DPW (49.1%), and PWSA (42.2%).

The top five departments that had the highest percentage of state inspection no-shows in 2014 in descending order were I&P (100%), PWES (55.3%), DPW (46.3%), PWSA (43.8%) and the Emergency Management Agency (EMA) (42.3%).

**All departments with the highest percentage of state inspection no-shows are bolded in Table 23.**

**Finding:** Three departments, PWES, DPW and PWSA were among the top five departments that had a high percentage of no-shows for state inspections in both 2013 and 2014.

#### Prior Audit Comparisons

The total percent of preventive maintenance no-shows in 2013 and 2014 were 29.5% and 27.4% respectively. In the previous audit PM no-shows in 2008 were 41.6%. This is a decrease of 12.1% in 2013 and 14.2% in 2014.

The total percent of state inspections no-shows in 2013 and 2014 were 39.6% and 34.5% respectively. In the previous audit state inspection no-shows in 2008 were 57.2%. This is a decrease of 17.6% in 2013 and 22.7% in 2014 for state inspections no-shows.

**Finding:** Since 2008, departments are doing a much better job of showing up for scheduled PMs and state inspections.

#### State Inspection Scheduling

The previous audit noted that state inspections were not being scheduled for the entire fleet. In 2008, only 432 out of the 992 vehicles or 44% of the entire fleet had a state inspection scheduled. In 2013 and 2014 this increased to 90% and 100% respectively.

**Finding:** FVS is doing a much better job of scheduling the entire fleet for state inspections since the City Controller's last audit.

#### **RECOMMENDATION NO. 18:**

Departments should strive to be at least 90% for PM compliance and 100% for state inspections. In order to do this each department's representative should monitor and track each individual car. Missed PMs and state inspections can result in higher non-target repair costs.

## Tracking No-shows Next PM and State Inspections

The auditors wanted to see how long it took for the vehicles to have their PM or state inspection completed once they were flagged as a no-show (missed their appointment). The auditors took the FVS PM and state inspection no-show reports for January 2013 and January 2014 and tracked when every vehicle on the report finally received the PM or state inspection it missed.

Table 24 shows the number of days it took for the vehicle to have the PM or state inspection completed after it was originally missed. (Note: the FVS report that contains data for both PMs and state inspections is called the F120 PM no-show report.)

**TABLE 24**

<b>DAYS TO COMPLETE A MISSED PREVENTIVE MAINTENANCE OR STATE INSPECTION APPOINTMENT</b>				
	<b>JANUARY 2013</b>		<b>JANUARY 2014</b>	
<b>DAYS LATE</b>	<b>COUNT</b>	<b>PERCENT</b>	<b>COUNT</b>	<b>PERCENT</b>
1-30	38	48.1%	48	39.0%
31-60	13	16.5%	37	30.1%
61-90	6	7.6%	13	10.6%
91-120	6	7.6%	9	7.3%
121-150	8	10.1%	10	8.1%
179 in 2013 and 185 in 2014	1	1.2%	1	0.8%
Not done before 12/31 of that same year	7	8.9%	5	4.1%
<b>TOTALS</b>	<b>79</b>	<b>100.0%</b>	<b>123</b>	<b>100.0%</b>

Sources: F120 PM No-show Reports and F140 PM Reports Work Orders Completed

**Finding:** In 2013, 64.6 % of the missed PMs and state inspections were completed within 60 days and in 2014 the percentage was 69.1%.

### Department Vehicles Missed by Years End

In 2013, the 7 PM or state inspections that were not rescheduled by years end were 2 from the Department of General Services (DGS), 1 DPW, 1 Fire and 3 Police. Four (4) out of these 7 were high priority vehicles.

In 2014, the 5 PM or state inspections that were not rescheduled by years end were 1 from EMS, 1 DPW, 2 Fire, and 1 Police vehicle. Again, 4 out of these 7 were high priority vehicles.

After a discussion with the FVS fleet analyst, the auditors found out that 6 out of the 7 vehicles that missed a PM or state inspection throughout 2013 ending up becoming a retired vehicle during the course of that year. The 1 vehicle that was still active in 2013, a DGS forklift was not serviced again until over a year later on 5/7/14. The auditors also found out that 3 out of the 5 vehicles that did not receive a PM or state inspection in 2014 were also retired that same year. The two remaining active vehicles that did not receive a PM or state inspection throughout 2014 were a fire truck and an EMS boat. The firetruck ended up becoming retired on 11/5/15.

### **Repair Quality (Reworks)**

FVS tracks and identifies if it is billing multiple repairs for the same deficiency on the same vehicle; this is titled a “rework”. FVS will not charge the City for reworked vehicles if it falls within a time range specified in the contract. Time frames vary for engine and transmission overhauls, brake overhauls, tune ups, general repairs and parts. FVS is penalized \$200 a month if they exceed the range of 0-2% of all rework orders.

**Finding:** FVS did not have any rework orders in 2013 and 2014

### **Fuel System Concerns**

The City of Pittsburgh has a fueling station for all City vehicles located behind FVS building #1. The City also has five other fueling stations: DPW’s 1<sup>st</sup>, 2<sup>nd</sup>, 4<sup>th</sup>, 5<sup>th</sup> divisions and a location at PWSA. The City’s current fuel contract is with Petroleum Technical Services (PTS) that started on 9/10/13 and lasts for 36 months. PTS uses a system called Fuel Master’s that they installed and maintain at all 6 fuel islands. Representatives from City departments can express their concerns about the fueling system with the fleet contract manager during FVS and City user meetings.

While conducting interviews and observing user meetings at the FVS facility, the auditors came across 2 problem areas associated with fueling the vehicles. First, the physical condition of the fueling station itself located at the FVS facility; the second problem is with the Fuel Master’s automotive information modules (AIM) installed in police vehicles.

Fuel system concerns are outside the scope of this audit. The City Controller’s Office is performing a separate audit to understand and explore the fuel system and the contract with Petroleum Technical Services.

### **Parts ordering**

Conversations with a local subcontractor indicated that he had problems ordering parts after FVS gave them a vehicle to repair. The auditors were told by the subcontractor that their part shipments from the vendors were often delayed or stopped permanently because of the

relationship FVS had with these vendors. According to the subcontractor FVS's had frequent delinquent payments to these vendors for vehicle parts.

To verify these accusation the auditors requested a parts and service vendor list from FVS and contacted some the vendors billing department regarding FVS's payments. The auditors called 5 companies from the list who requested to be anonymous; 2 were non-responsive, 1 said they would not release this information and 2 said payments were usually late because payments came from the corporate headquarters in Cincinnati, OH.

### **Future Cost Saving Considerations**

In January 2011, the Institute for Automotive Research released a comparative analysis of electric and hybrid vehicles. They concluded that cost savings for vehicle maintenance and emission reduction could be achieved through the procurement of electric (EV) and hybrid fuel vehicles. EVs are cheaper to "refuel" and have very few of the components that are found on internal combustion vehicles. This would eliminate the need for maintenance for oil changes, spark plugs, filter, etc. Similar components, such as brakes, tend to last longer as well. Switching fleet vehicles away from internal combustion will also help reduce greenhouse gas emissions and particulate matter.

During discussions with personnel from the City's Office of Management and Budget, it was learned that there are currently plans to update the Department of Permits Licenses and Inspections (PLI) vehicles to electric within the next five years. Further discussion revealed plans that refuse and recycling vehicles could be replaced with electric or diesel alternative fuel vehicles within the next 10-15 years.

The auditor's researched manufacture websites and concluded that EV's and their replacement parts cost more especially the battery. However, theoretically part replacement would be needed less often.

**Finding:** Switching to electric/hybrid vehicles would decrease overall maintenance costs but this would only apply to issues with the motor.

### **RECOMMENDATION NO. 19:**

Before the current administration purchases electric, hybrid or alternative fuel vehicles, a long term study of overall costs and repairs should be conducted. City vehicles generally take a lot of abuse. The capability of EVs taking that abuse should be a major consideration.

First Vehicle Services  
1903 Chamberlayne Ave  
Richmond, VA 23222  
Tel 804-306-9857  
Fax 775-806-1370



May 3, 2016

Mr. Michael E. Lamb  
Controller  
City of Pittsburgh  
414 Grant Street  
Pittsburgh PA 15219

Mr. Lamb:

We appreciate the City's efforts to conduct an audit of the contract between First Vehicle Services and the City of Pittsburgh. We realize that your team dedicated numerous hours to accomplish this task. The following are responses to specific findings and the recommendations as directed in the audit. Please include these as our formal response.

If you have any questions or would like to discuss any of our responses, please call me at 804-306-9857.

Sincerely,

A handwritten signature in black ink that reads "Jason Stack".

Jason Stack  
Region Vice President  
First Vehicle Services

C: Jennifer Presutti, Assistant Director - Capital, City of Pittsburgh  
Chuck O'Neill, Fleet Contract Manager, City of Pittsburgh  
John Pucci, General Manager, First Vehicle Services  
Jake Harvey, General Manager, First Vehicle Services

**RECOMMENDATION NO. 1:**

*The FVS contract should be written in "Plain Language." Additionally, the money encumbered should follow the years of the contract as well as the City's fiscal year.*

FVS agrees with this recommendation.

***Finding:*** *The City increased non-target expenses by \$1,400,000 for the 5 year contract. This is a 16.5% increase over the original allocation of \$8,500,000.*

FVS agrees with this finding. However, non-target expenses are out of the control of FVS and approved by the City.

**RECOMMENDATION NO. 2:**

*Having FVS absorb any cost overages from target services saves the City money. It is a good idea and should be continued.*

FVS agrees with this recommendation.

**RECOMMENDATION NO. 3:**

*The FVS monthly reports compiling of non-target service costs by department is an excellent reporting tool and should be continued. This is an efficient way to track the different number of reoccurring non-target repairs.*

FVS agrees with this recommendation.

**RECOMMENDATION NO. 4:**

*The next fleet maintenance contract should include definitions as well as examples of the non-target repair categories. The repair categories should be combined and separated as the current FVS monthly non-target reports.*

FVS agrees with this recommendation.

**RECOMMENDATION NO. 5:**

*The City should continue to provide up to date training to vehicle operators to reduce Operational Damage.*

FVS agrees with this recommendation.

**RECOMMENDATION NO. 6:**

*The City gets billed for target and non-target services monthly. The City should require FVS to credit its shared savings within 6 months of the end of the year calculation. Amounts not credited within that time period should be charged interest for the City.*

Historically, FVS have issued credits at the City's discretion. We can issue shared savings credits within 30-45 days after the completion of a contract year. We will issues credits as directed by the Contract Manager.

**RECOMMENDATION NO. 7:**

*FVS Management and the City's fleet contract manager should implement new practices to double check the accuracy of the labor hours inputted into the computer system.*

FVS agrees with this recommendation. We have implemented processes to correct inconsistencies in labor calculations.

**RECOMMENDATION NO. 8:**

*Having an acquisition plan that anticipates vehicle purchases is a good idea and should be continued. If vehicle purchases remain constant each year it will help eliminate problems that can be associated with huge purchases of a particular vehicle that, if recalled for a problem, would hinder a department's ability to do its job. First Vehicle should continue to work closely with the ELA in preparing the 5 year acquisition plan in case the plan needs adjusted. This would happen if a vehicle is destroyed beyond repair.*

FVS agrees with this recommendation.

**RECOMMENDATION NO. 9:**

*City Council should guarantee a minimum amount for vehicle funding every year. This would aid the ELA in establishing a 5 year plan by knowing how much money is available to spend.*

FVS agrees with this recommendation.

**RECOMMENDATION NO. 10:**

*The previous audit recommendation should be implemented. It should be better defined in the contract that all performance standards (turnaround time, fleet availability, PMs or re-work orders) should be excluded from non-target repairs as well as any vehicles out of service due to recalls.*

FVS agrees with this recommendation.

**RECOMMENDATION NO. 11:**

*The incentive amount of 25% of the penalty is too low and does not provide enough incentive to FVS. The incentive amounts should be increased to at least 35% of the penalty amount.*

While an increased incentive amount seems advantageous to FVS, we do not believe that it would significantly impact our ability to improve 24 and 48 hour turnaround times. The most significant issues that impact turnaround time is PM's being delivered on-time and vehicle age. Improvement in these areas will result in improved turnaround time.

**RECOMMENDATION NO. 12:**

*All work orders that have turnaround times over 120 hours should be given an additional monetary penalty on top of the penalty that FVS already receives for not meeting the 48 hour turnaround time for target repairs. A week should be more than enough time to complete a target repair since labor and parts are predictable for these types of services, if the repair part is available. FVS should not be penalized if a part to repair a vehicle is on-order and not delivered in a timely manner.*

We do not agree that additional penalties will improve turnaround time. While target repairs are somewhat predictable, we cannot predict how late a vehicle may show up for scheduled PM or how long the City will choose to keep a vehicle beyond its life cycle. PM compliance and vehicle age are the two most significant issues that impact turnaround time. Commitment to meeting PM compliance from both the City and FVS, and improving vehicle replacements will help to improve turnaround times.

**RECOMMENDATION NO. 13:**

*Along with recommendation number 12, increasing incentives, the administration should examine increasing penalty amounts each year of the contract. If performance standards do not improve the penalty amount increases. If performance standards improve then the penalty amount should be frozen at that contract year's amount that affects improvement.*

We do not agree that additional penalties will improve turnaround time. PM compliance and vehicle age are the two most significant issues that impact turnaround time. Commitment to meeting PM compliance form both the City and FVS, and improving vehicle replacements will help to improve turnaround times.

**RECOMMENDATION NO. 14:**

*The City needs to be credited the \$535 that was miscalculated in April 2013. The City representatives at the FVS location need to verify FVS's penalty/credit calculations.*

Agreed, this credit will be issued on the April 2016 non-target invoice.

**RECOMMENDATION NO. 15:**

*By submitting penalty credits and incentive deductions to the City for December 2014, January 2015 and February 2015, within 3 to 5 months, FVS has exhibited that it can credit payments within a timely manner. The City should require all penalty and incentive credits be billed to the City quarterly. Failure to credit the City for penalties and incentives within 4 months should result in the dollar amount being charged interest if it is a credit to the City.*

FVS agrees with this recommendation and will issue credits quarterly moving forward.

**RECOMMENDATION NO. 16:**

*It should be written in the contract that vehicles that are being considered for decommission or awaiting unavailable parts are not included in fleet availability calculations. The fleet contract manager should be required to sign off to confirm the exclusion of these vehicles from the fleet availability statistics.*

FVS agrees with this recommendation.

**RECOMMENDATION NO. 17:**

*City departments need to increase monitoring of a vehicle's PM schedule so it is not missed to save the City money. Missed PMs contribute to an increase in non-target repairs.*

FVS agrees with this recommendation.

**RECOMMENDATION NO. 18:**

*Departments should strive to be at least 90% for PM compliance and 100% for state inspections. In order to do this each department's representative should monitor and track each individual car. Missed PMs and state inspections can result in higher non-target repair costs.*

FVS agrees with this process but we believe the goal should be 95% for PM compliance. Missed PM's increase downtime and non-target costs to the City.

**RECOMMENDATION NO. 19:**

*Before the current administration purchases electric, hybrid or alternative fuel vehicles, a long term study of overall costs and repairs should be conducted. City vehicles generally take a lot of abuse. The capability of EVs taking that abuse should be a major consideration.*

FVS agrees with this recommendation.



# CITY OF PITTSBURGH

## *Office of Management and Budget*

*William Peduto, Mayor*

*Sam Ashbaugh, Director*

May 4, 2016

Mr. Michael Lamb  
City Controller  
City of Pittsburgh  
Pittsburgh, PA 15219

Dear Controller Lamb:

We have received the performance audit of the First Vehicle Services (FVS) contract for fleet maintenance services. Our proposed changes to the draft audit have been incorporated into the final draft. FVS has prepared a response to the audit findings and recommendation which has been attached and should be incorporated into the official audit.

On behalf of the administration, I would like to highlight that the City has implemented a number of initiatives to strengthen management and oversight of the FVS contract and improve the overall management of the City's fleet. These initiatives include, but are not limited to the following:

- Hiring a new Fleet Contract Manager with financial management, contract management, and operations management experience.
- Developed a five-year vehicle acquisition and disposition strategy that will be updated every year.
- Implemented the GovDeals on-line auction to facilitate the disposition of vehicles.
- Implemented improvements to the automated fuel system and added a technician resource to support troubleshooting and repair.
- Collaborated with FVS, outside vendors, and departmental fleet liaisons to address capacity issues for warranty work.
- Streamlined the non-contract work order approval process which allows FVS to begin work on low-dollar repairs instantly to reduce turnaround time.
- Implemented on-going monitoring of internal preventative maintenance compliance to stress the importance of timely preventative maintenance for all fleet user departments.
- Initiated work on a fleet management system dashboard to provide OMB contract management staff and departmental fleet liaisons with more information about the City's fleet.

- Initiated more frequent meetings between OMB, FVS, and departmental fleet liaisons to improve communication and discuss city-wide fleet issues.
- Launched a feasibility study to evaluate options for relocating the City's fleet maintenance facility.

With the term of the FVS contract set to expire later this year, OMB recently issued a request for Proposals for fleet maintenance services. Through this competitive procurement process, the City will evaluate vendor proposals to identify a highly qualified service provider that can meet its operational needs in the most efficient and effective manner. We look forward to further evaluating your recommendations for incorporation into a new contract once a service provider has been identified.

Thank you for working collaboratively on this effort. If you have any questions, please contact me or my staff at any time.

Sincerely,



Sam Ashbaugh  
Director