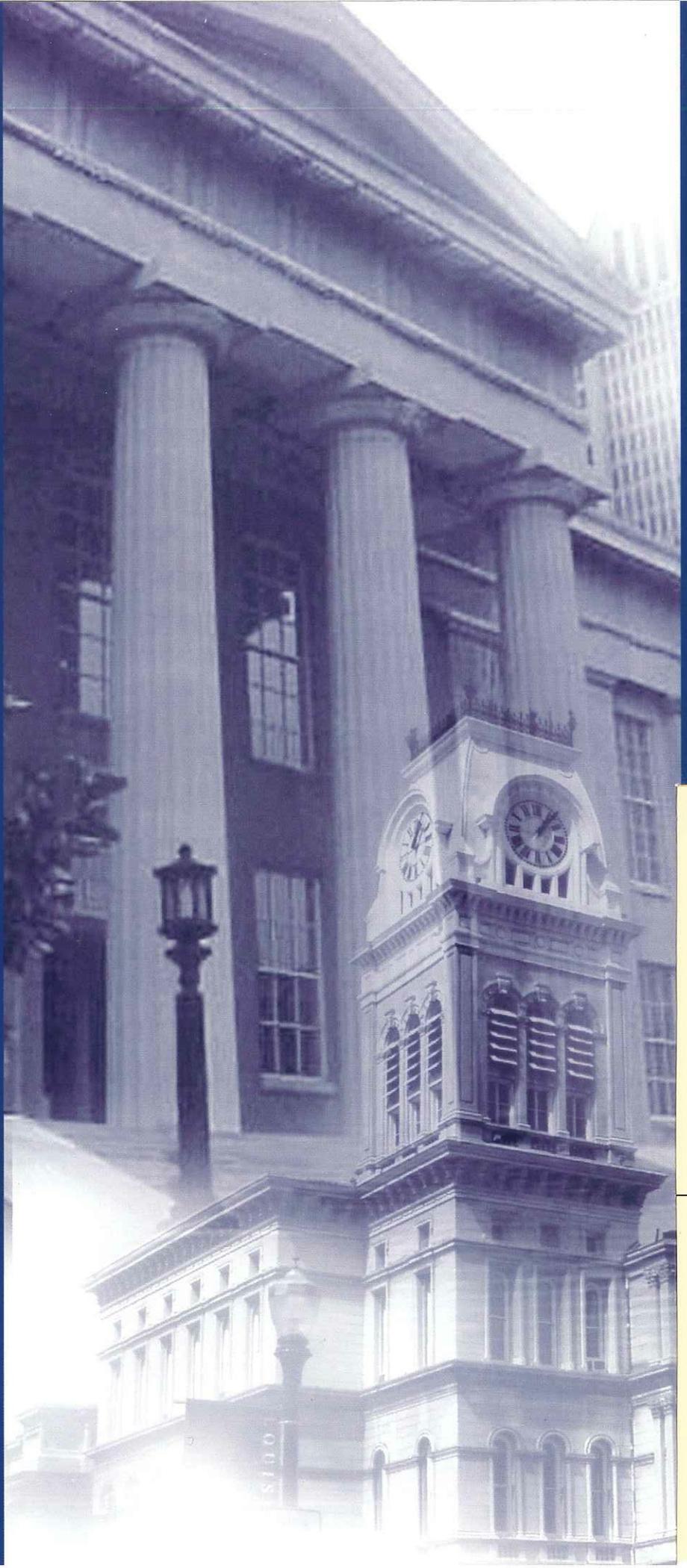




Jerry E. Abramson
Mayor
Louisville Metro Council

The Office of Internal Audit provides independent, objective assurance and consulting services that adds value to and improves Louisville Metro Government.



Office of Internal Audit

Emergency Medical Services

Fleet Repair Charges

Audit Report

Office of Internal Audit

Emergency Medical Services

Fleet Repair Charges

February 2010



Emergency Medical Services

Fleet Repair Charges

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OFFICE OF INTERNAL AUDIT
LOUISVILLE, KENTUCKY

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Transmittal Letter

February 12, 2010

The Honorable Jerry E. Abramson
Mayor of Louisville Metro
Louisville Metro Hall
Louisville, KY 40202

Subject: Audit of Emergency Medical Services' Fleet Repair Charges

Introduction

An audit of the Emergency Medical Services' (EMS) fleet repair charges was performed. The primary focus of the review was the operational and fiscal administration of the activity. This included how activity is processed, recorded, and monitored. The objective was to obtain assurance that risks are adequately mitigated through the internal control structure.

The audit was conducted in accordance with Government Auditing Standards issued by the Comptroller General of the United States and with the International Standards for the Professional Practice of Internal Auditing issued by the Institute of Internal Auditors.

As a part of the review, the internal control structure was evaluated. The objective of internal control is to provide reasonable, but not absolute, assurance regarding the achievement of objectives in the following categories:

- Achievement of business objectives and goals
- Effectiveness and efficiency of operations
- Reliability of financial reporting
- Compliance with applicable laws and regulations
- Safeguarding of assets

There are inherent limitations in any system of internal control. Errors may result from misunderstanding of instructions, mistakes of judgment, carelessness, or other personnel

factors. Some controls may be circumvented by collusion. Similarly, management may circumvent control procedures by administrative oversight.

Scope

The procedures for the administration of EMS fleet repair charges were reviewed through interviews with key personnel. The focus of the review was the operational and fiscal administration of activity. Tests of sample data were performed on preventative maintenance / repair activity from the months of October 2008 and May 2009. Activity reviewed included Auto Service Repair Order forms, interagency billing forms and Louisville Metro financial system postings.

The review included assessing whether activity was processed, recorded, and monitored accurately and appropriately. The details of the scope and methodology of the review will be addressed in the Observations and Recommendations section of this report. The audit would not identify all issues because it was based on selective review of data.

Opinion

It is our opinion that the administration of the EMS fleet repair charges needs improvement. The internal control rating is on page 5 of this report. This rating quantifies our opinion on internal controls, and identifies areas requiring corrective action. Opportunities to strengthen the internal control structure were noted. Examples include the following.

- **General Administration.** There were issues noted with the general administration of the fleet repair charges.
 - *Documented Agreement.* There is no documented agreement between EMS and the Louisville Fire Department regarding the services provided by the Fire Garage, the cost of services, or the particular services that are obtained from an outside vendor. This impairs accountability.
 - *Standard Operating Procedures.* EMS does not have comprehensive standard operating procedures for the administration of fleet activity. This reduces accountability and may lead to inconsistencies in processing of activity.

- **Fleet Repair Operations.** There were issues noted with the fleet repair operations.
 - *Labor and Parts Charges.* The Fire Garage charges a \$50 per hour labor charge and a 10% mark up on all store room parts. There is no documentation on how either amount was determined. The lack of documentation makes it difficult to justify the amount of the charges.
 - *Preventive Maintenance Program.* The Preventive Maintenance (PM) Program is not in complete agreement with the manufacturer's recommendations from Ford Motor Company. There were several discrepancies between the Preventive Maintenance Program and Ford's Scheduled Maintenance Plan. For example, Ford recommends oil and filter changes every 3,000 miles while the PM Program has this at every 3,500 miles.

The implementation of the recommendations in this report will help improve the internal control structure and effectiveness of the administration of EMS' fleet repair activity.

Corrective Action Plan

Both Louisville Metro Emergency Medical Services and the Louisville Fire Department were asked to provide corrective action plans. This was done in order to ensure the Department responsible for the necessary corrective actions addressed the issues noted. This will ensure accountability for the corrective actions. The corrective action plans are included in the Observations and Recommendations section of this report. We will continue to work with EMS and Fire to ensure the actions taken are effective in addressing the issues noted.

It is important to note that the some of the recommendations may require assistance from resources outside of Louisville Metro Government. The expertise and experience necessary to analyze the most beneficial service arrangement may not be available internally.

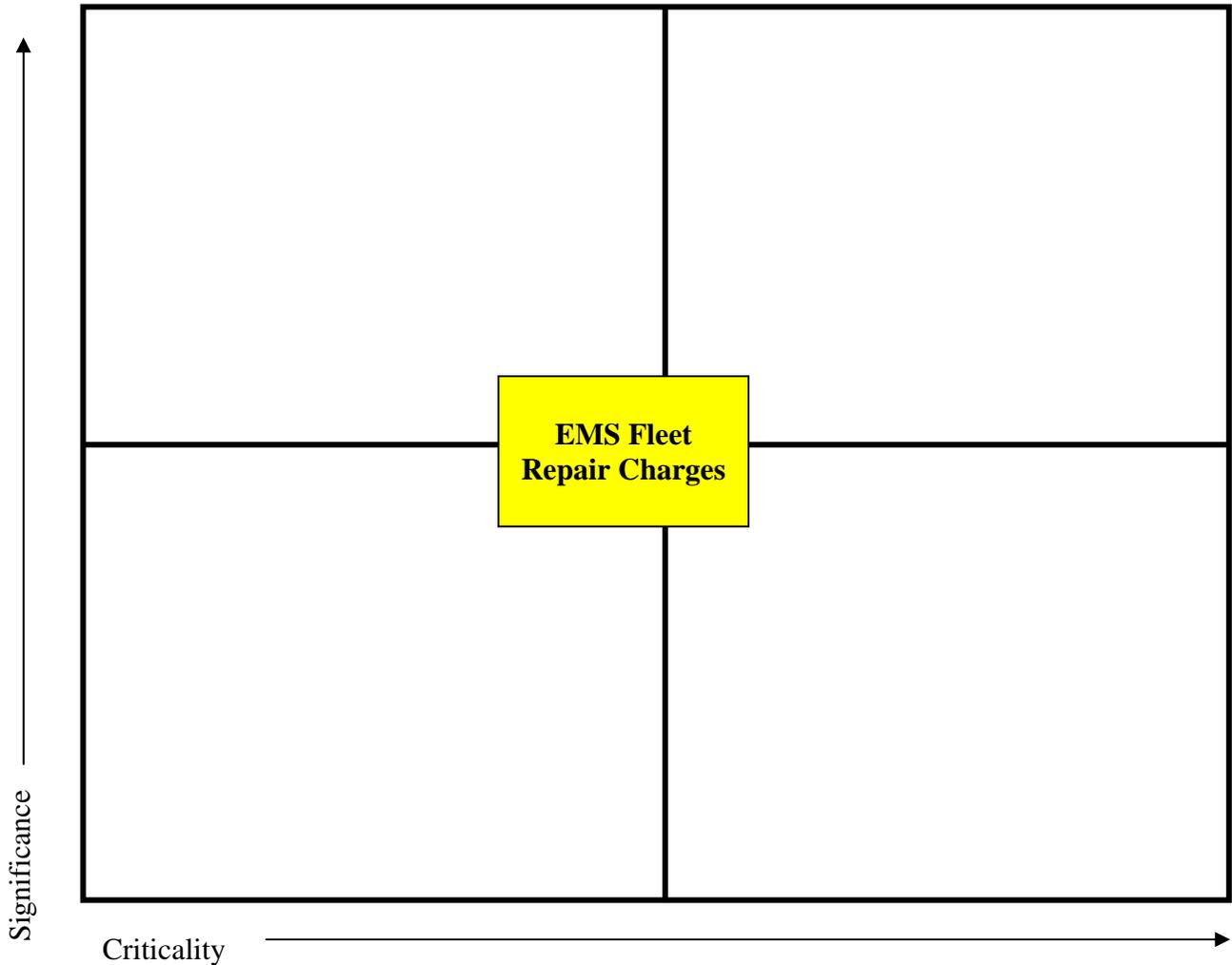
Sincerely,



Michael S. Norman, CIA, CFE, CGAP
Chief Audit Executive

cc: Louisville Metro Council Government Accountability and Oversight Committee
Louisville Metro Emergency Medical Services Director
Louisville Fire Department Chief
Louisville Metro External Auditors

Internal Control Rating



<u>Legend</u>			
<u>Criteria Issues</u>	Satisfactory Not likely to impact operations.	Needs Improvement Impact on operations likely contained.	Inadequate Impact on operations likely widespread or compounding.
Controls	Effective.	Opportunity exists to improve effectiveness.	Do not exist or are not reliable.
Policy Compliance	Non-compliance issues are minor.	Non-compliance issues may be systemic.	Non-compliance issues are pervasive, significant, or have severe consequences.
Image	No, or low, level of risk.	Potential for damage.	Severe risk of damage.
Corrective Action	May be necessary.	Prompt.	Immediate.

Background

Louisville Metro Emergency Medical Services (EMS) provides 24 hour-a-day, seven-day-a-week pre-hospital emergency medical services to those who live and work in the 386 square-mile city of Louisville. EMS provides both basic and advanced life support emergency medical care, ambulance transport and technical rescue to the sick and injured. EMS currently has a fleet of 63 ambulances, 14 (22%) of which are out of service waiting to be replaced or refurbished. These ambulances receive the majority of their preventive maintenance and repair work at the Louisville Fire Department Garage. EMS is charged for these services through the interagency billing process.

In Fiscal Year 2009, EMS expended approximately \$786,000 in fleet repair costs. This was a scheduled audit.

Summary of Audit Results

I. Current Audit Results

See Observations and Recommendations section of this report.

II. Prior Audit Issues

The Office of Internal Audit has not previously audited EMS fleet repair charges.

III. Statement of Auditing Standards

The audit was performed in accordance with Government Auditing Standards issued by the Comptroller General of the United States and with the International Standards for the Professional Practice of Internal Auditing issued by the Institute of Internal Auditors.

IV. Statement of Internal Control

An understanding of the internal control structure was obtained in order to support the final opinion.

V. Statement of Irregularities, Illegal Acts, and Other Noncompliance

The review did not disclose any instances of irregularities, any indications of illegal acts, and nothing was detected during the review that would indicate evidence of such. Any significant instances of noncompliance with laws and regulations are reported in the Observations and Recommendations section of this report.

VI. Views of Responsible Officials / Action Plan

A preliminary draft report was issued to both Louisville Metro Emergency Medical Services and the Louisville Fire Department on December 2, 2009. This was done in order to ensure the Department responsible for the necessary corrective actions addressed the issues noted.

A preliminary exit conference was held at the EMS administrative offices on December 11, 2009. Attending were Dr. Neal Richmond, Colonel Craig Rodgers, Kristen Miller, and Marlene Miles representing EMS; and Catina Hourigan and Michael Norman representing Internal Audit. Preliminary audit results were discussed.

A preliminary exit conference was held at the Fire administrative offices on December 17, 2009. Attending were Chief Greg Frederick, Colonel Doug Recktenwald, and Major Glen Gagel representing Fire; and Catina Hourigan and Michael Norman representing Internal Audit. Preliminary audit results were discussed.

A final draft report was issued to both Louisville Metro Emergency Medical Services and the Louisville Fire Department on January 8, 2010.

A final exit conference was held at the EMS administrative offices on January 20, 2010. Attending were Dr. Neal Richmond, Colonel Craig Rodgers, and Kristen Miller representing EMS; and Catina Hourigan and Michael Norman representing Internal Audit. Final audit results were discussed.

LMCO §30.36(B) requires Louisville Metro Agencies to respond to draft audit reports in a timely manner. It specifically states that

*“The response must be forwarded to the Office of Internal Audit within 15 days of the exit conference, or **no longer than** 30 days of receipt of the draft report.”*

- The views of EMS officials were received on February 8, 2010. The response was provided within this required timeframe. The response is included as corrective action plans in the Observations and Recommendations section of the report. The plans indicate a commitment to addressing the issues noted.
- The views of Fire Department officials were received on February 8, 2010. The response was provided within this required timeframe. The response is included as corrective action plans in the Observations and Recommendations section of the report. The plans indicate a commitment to addressing the issues noted.

Observations and Recommendations

Scope

The Louisville Metro Emergency Medical Services' (EMS) procedures for ambulance repair charges were reviewed through interviews with key personnel. The primary focus of the review was the operational and fiscal administration of the activity. This included assessing whether activity was processed, recorded, and monitored accurately and appropriately.

Tests of sample data were performed on transactions from the October 2008 and May 2009 billing periods.

- Auto Service Repair Order forms and Monthly Repair Cost sheets were reviewed for accuracy and compared with entries made in Louisville Metro's financial system.
- All charges listed on the Auto Services Repair Order forms were reviewed for accuracy.
- The Preventative Maintenance program was compared with the manufacturer's recommendations from Ford Motor Company.
- The Fire Garage's service prices were compared with the prices advertised at a local vendor to determine if the prices were similar.

The review would not reveal all issues because it was based on selective review of data.

Observations

Issues were noted with the administration of EMS' fleet repair charges. As a result, the effectiveness of the internal control structure is impaired and needs improvement. Opportunities noted to strengthen the controls are as follows.

#1 General Administration

#2 Fleet Repair Operations

Details of these begin on the following page.

#1 – General Administration

Issues were noted regarding the general administration of EMS' fleet repair charges.

- **Documented Agreement.** The Louisville Fire Department Garage provides preventive maintenance and repair work for EMS' ambulances. EMS is charged for these services through the interagency billing process. There is no documented agreement between EMS and Fire to address this service.
 - There are no documented agreements regarding what services will be provided by Fire, the cost of services, or the particular services that will be obtained from an outside vendor. This weakens accountability as services may not be processed as intended.
- **Standard Operating Procedures.** EMS has some standard operating procedures regarding fleet activities (e.g., general vehicle inspection). However, there is not a documented, comprehensive standard operating procedure for the day-to-day general administration of fleet activity. This may be the result of the lack of a documented agreement with Fire regarding the fleet activity, and may create inconsistencies in how the procedures are performed.
- **Inventory Management.** Neither the EMS Vehicle Facility (Brook Street) nor the Fire Garage has an adequate inventory management system.
 - There is not a documented inventory of the parts and supplies at the EMS Vehicle Facility. The inventory consists of items such as lights, fluids, wipers, and tires. The lack of an inventory system increases the risk of unauthorized use and may impair efficiency and accountability.
 - The Fire Garage does not use the Chevin Fleet computer system for its activity. The Chevin system was purchased as a tool for the Fire Garage to monitor inventory, process work orders, record parts used, etc. According to Fire personnel, they have been unable to get the assistance needed to address the issues that have prevented implementation of the system.
- **Billing Process.** The Fire Garage submits ambulance repair costs to EMS monthly. This monthly billing process makes it difficult for EMS to adequately monitor fleet activity. Monitoring is a critical component of an effective internal control structure.
 - The copy of the Auto Service Repair Order form that goes to EMS with the ambulances does not list the storeroom parts used or their cost. EMS does not know what parts were replaced or their cost.
 - At the end of the month, Fire Garage personnel manually enter the total cost of repairs from the Auto Service Repair Order forms into an Excel spreadsheet to send to EMS. Because all information is manually entered from the handwritten forms, there is a greater risk of error. In addition, the process is inefficient.
 - The monthly Excel spreadsheet that EMS receives from the Fire Garage lists each ambulance that was serviced and the total cost, but does not list what parts were used or what repairs were made.

Recommendations

Appropriate EMS / Fire personnel should take corrective actions to address the issues noted. Specific recommendations include the following.

- ✓ An analysis should be performed to determine the most beneficial service arrangement for the EMS fleet. This analysis should include determining the feasibility of obtaining services from other providers instead of, or as a compliment to, the Fire Garage. This analysis could include all services, or be segregated by preventive maintenance and unscheduled services. It should also include consideration of one single point of service for fleet activity. Additional resources may be needed in order to obtain the services necessary to perform this analysis since the expertise, and historical usage data, may not be available within Louisville Metro Government.
- ✓ A service level agreement between EMS and Fire should be created. This agreement should be specific as to services, costs, formatting of invoices, and the process for obtaining services from an outside vendor. The timing of this is dependent upon the analysis of the service arrangement. It may not be feasible, nor beneficial, to develop the service level agreement before the completion of the analysis.
- ✓ Comprehensive standard operating procedures should be developed to help EMS in the day-to-day administration of fleet activity. The procedures should help ensure activity is in compliance with the service level agreement between EMS and Fire. The procedures should be updated as needed.
- ✓ EMS should consider implementing an inventory management system to track parts and supplies at the EMS Vehicle Facility. An inventory management system will help ensure that the parts and supplies are accounted for and used appropriately. This should include a cost / benefit analysis to ensure the functionality of the inventory system is justified based on the parts and supplies maintained.
- ✓ The Fire Garage should contact Metro Technology for assistance in completing the implementation of the Chevin system. If Metro Technology does not possess the necessary expertise, Fire should obtain the necessary assistance from external sources. Doing so may require additional resources. The implementation of the Chevin system should decrease the amount of man-power and time it takes to manage the inventory of parts and process the Auto Service Repair Order forms. In addition, it will reduce the risk of error and increase accountability. It will also provide a means to track data that can be analyzed for operational trends and issues.
- ✓ Until the Chevin system is implemented, the feasibility of the Fire Garage sending a photocopy of storeroom parts used and their costs to EMS should be considered. This will allow EMS to monitor the repairs and the associated costs more effectively.

Emergency Medical Services Corrective Action Plan

- Following the creation of Louisville Metro EMS (LMEMS), the Louisville Fire Department (LFD) asked to be responsible for managing all ambulance fleet services. Metro officials agreed and gave that responsibility to LFD as requested. Given that these functions were essentially consistent with work that was already being performed by LFD, no further agreement was drafted. However, it has become

apparent that service requirements have outgrown LFD's current capabilities. As a result, there has been a compelling need to outsource much of this work.

- LMEMS agrees with the service arrangement recommendation and would be glad to participate in any such analysis. However, we feel strongly that this agency currently lacks the resources and expertise in fleet management analysis necessary to conduct the study. We would encourage utilization of specialized resources – whether internal or external to Metro Government – for the proper implementation of this recommendation.
- LMEMS would eagerly participate in the creation of a service-level agreement with Fire, provided that it is based off the results of the aforementioned analysis and the outcome of other information requested in succeeding recommendations.
- LMEMS agrees with the standard operating procedures recommendation, again provided that the standard operating procedures are developed from the results of the aforementioned analysis, service-level agreement, and the outcome of other information requested in succeeding recommendations. Additionally, LMEMS does not currently have the resources or expertise in fleet management to develop these procedures independently, so we would encourage the utilization of specialized resources for the implementation of the recommendation.
- LMEMS is already in the process of implementing a barcode scanning system for tracking inventory in our medical supply and equipment operation; we will add the limited fleet inventory we keep in stock to this process.
- As the Chevin Fleet system recommendation is for Fire, LMEMS has no official response. However, we would encourage the implementation of the Chevin system to allow us the ability to accurately track vehicle repair histories and use that information in fleet planning activities.
- LMEMS would welcome and encourage the forwarding of the detailed listing of parts and costs for each repair to assist us in appropriate tracking and record-keeping.

Fire Department Corrective Action Plan

The Louisville Division of Fire will implement the following corrective action in accordance with Metro Policy. The Division of Fire currently provides fleet service on the ambulance fleet assigned to Louisville Metro Emergency Medical Services (LMEMS) and these recommendations are based on the continuation of that model.

- The Division of Fire will provide data on documented fleet repairs and service to LMEMS to assist them in evaluating alternative providers for their fleet services. Any personnel hours utilized for this purpose will be documented and charged to LMEMS.
- The Division of Fire will ascertain the needs and improvement to remain as the service provider for the LMEMS ambulance fleet, preferably as the single point of service.
- The Division of Fire will work in conjunction with LMEMS to develop and implement a Service Level Agreement specific to services, costs, invoices, and the

process for utilizing outside vendors. This will be conducted after the decision is made as to the fleet service delivery model.

- The Division of Fire will review the Standard Operating Procedures established by LMEMS for the day to day management of fleet services. The Division will provide input if requested on the process of drafting the policies and abide by the policies after implementation. Consideration shall be made for ensuring that the policies do not contradict current safety standards.
- The Division of Fire is committed to implementation and use of the electronic fleet maintenance management system (Chevin Roadbase); as well as evaluating opportunities to provide data entry into the system for startup.
- In the interim, the LFD Automotive Service Facility will evaluate the photocopy of parts that are ordered and installed on LMEMS ambulances to provide a cost estimate for repairs.

#2 – Fleet Repair Operations

Issues were noted with the fleet repair operations. Examples include the following.

- **Labor Charges.** The Fire Garage charges EMS a \$50 per hour labor charge. There is no documentation regarding how this amount was determined. Furthermore, these charges are not billed to EMS consistently. According to Fire Garage personnel, the hourly labor charges are not billed to EMS consistently because the actual time spent working on the ambulances is not always documented accurately. As a result, charges for similar services may differ.
- **Parts Costs.** The Fire Garage charges EMS a 10% markup on all storeroom parts used on ambulances. There is no documentation regarding how this amount was determined or how it is used (e.g., miscellaneous supplies, training for mechanics, disposal of waste oil).
- **Preventative Maintenance Program.** The Preventive Maintenance (PM) Program is not in complete agreement with the manufacturer's recommendations from Ford Motor Company. There were several discrepancies between the Preventive Maintenance Program and Ford's Scheduled Maintenance Plan. For example, Ford recommends oil and filter changes every 3,000 miles while the PM Program has this at every 3,500 miles. There may be operational reasons for the discrepancies, or it may be that the PM Program needs to be updated.
- **Preventative Maintenance Charges.** The costs for a sample of six Preventative Maintenance services provided by the Fire Garage were compared to the costs a local vendor would have charged for the same services. For all six, the Fire Garage charged more than the local vendor.
 - It should be noted that the local vendor would not have performed the emergency vehicle specific inspections that the Fire Garage performed. The Fire Garage's higher price may be attributed to the higher labor costs associated with the extra time needed to perform the emergency vehicle related inspections.

Recommendations

Appropriate EMS / Fire personnel should take corrective actions to address the issues noted. Specific recommendations include the following.

- ✓ The Fire Garage should review the charges (\$50 per hour labor, 10% parts mark-up) to ensure they are appropriate. There should also be consideration of overhead costs (e.g., waste oil, recycled cores). This review may result in an increase or decrease in the charges. Regardless of the outcome, the review should be documented so that there is justification for the charges.
- ✓ The Fire Garage should begin accurately recording all hours spent repairing ambulances so that the costs for similar services will be consistent and all activity is captured. This includes minor "drive-up" services.

- ✓ The feasibility of using a standard cost for services should be determined. This would help with consistency in charges for services.
- ✓ Appropriate personnel should compare the Preventive Maintenance Program with the recommendations from Ford Motor Company. The need for making adjustments should be determined once the comparison is completed.

Emergency Medical Services Corrective Action Plan

- As the labor and parts charges recommendation is for Fire, LMEMS has no official response. We would, however, encourage such a review.
- As the recording of time recommendation is for Fire, LMEMS has no official response. We would, however, encourage such a reporting mechanism, and perhaps the implementation of standard charges for typical preventative maintenance activities based on the job, not on the time allotted.
- As the standard cost recommendation is for Fire, LMEMS has no official response. We would, however, encourage consistent pricing for all services performed on LMEMS vehicles by the Fire garage to assist in budgeting for the agency's repair needs.
- LMEMS Fleet personnel would gladly participate in the process of aligning the current Preventative Maintenance Program to that recommended by the manufacturer, provided that such a project is conducted in conjunction with other appropriate outside fleet personnel with experience in developing preventative maintenance programs for emergency vehicles.

Fire Department Corrective Action Plan

The Louisville Division of Fire will implement the following corrective action in accordance with Metro Policy. The Division of Fire currently provides fleet service on the ambulance fleet assigned to Louisville Metro Emergency Medical Services (LMEMS) and these recommendations are based on the continuation of that model.

- The Division of Fire will evaluate the hourly charge for fleet services, including ancillary costs associated with parts, inventory and operation of the facility.
- The Division of Fire will evaluate the charge assessed on all store room parts including any ancillary costs required to maintain those parts including, delivery, returns, recycling, inventory, etc.
- The Division will review the Ford Motor Company Preventive Maintenance Program to ensure that compliance with those requirements is met.
- The Division will evaluate the services and associated costs of fleet services with comparable service providers in both the public and private sector. This will take into consideration the required Emergency Vehicle Technician standards and any additional standards that are required.

- The Division of Fire will begin documenting all repairs as accurately as possible, including the establishment of a minimum charge for non-scheduled "drive-up" repairs.

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