



January 27, 2009

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VICE PRESIDENT, CAPITAL METRO AREA OPERATIONS

SUBJECT: Audit Report – Vehicle Maintenance Facilities –
Scheduled Maintenance Service in the Capital Metro Area
(Report Number DR-AR-09-003)

This report presents the results of our self-initiated audit of Vehicle Maintenance Facilities (VMF) – Scheduled Maintenance Service in the Capital Metro Area (Project Number 08XG004DR000). The overall objectives were to assess whether the Capital Metro Area accomplished all required vehicle scheduled maintenance and whether they integrated both VMFs and local commercial resources for optimum efficiency. See [Appendix A](#) for additional information about this audit.

Conclusion

The Capital Metro Area completed nearly all required scheduled preventive maintenance (SPM¹) during fiscal year (FY) 2007 on their delivery vehicles. However, management could further optimize VMF efficiency through more effective use of VMF and local commercial resources. The Capital Metro Area could save an estimated \$17.9 million over 10 years by better optimizing its resources.

Scheduled Maintenance Performance

Capital Metro Area VMF units and local commercial vendors (LCVs) completed an average of 95 percent of all SPMs during FY 2007. Four of the VMF units completed all of their SPMs, and three VMF units completed between 93 and 97 percent of the required SPMs. The other two VMF units we reviewed completed only 85 and 89 percent of the required SPMs because:

- There was a shortage of assigned maintenance technicians.
- Some vehicle status indicators were changed from “maintenance not performed” (also called “maintenance in arrears”) to “maintenance performed” by adjusting the SPM schedule.

¹ An SPM usually includes a preventive maintenance inspection and any repairs needed to maintain the vehicle or meet safety and reliability standards.

Without completing all required scheduled maintenance and repairs, Postal Service vehicles are vulnerable to breakdowns, which could adversely impact timely mail delivery and potentially impact the well-being of employees and the public. Since the Postal Service does not plan to replace its current fleet of long life vehicles (vehicles that are more than 20 years old) until 2018, we believe it is critical that these vehicles timely receive SPM. See [Appendix B](#) for additional information about this issue.

We recommend the Vice President, Capital Metro Area Operations, direct district managers to:

1. Assess vehicle maintenance technician positions at individual vehicle maintenance facilities to ensure sufficient staff is available for maintenance service.
2. Require vehicle maintenance facility officials to immediately conduct all maintenance in arrears and properly record vehicle status if maintenance was not conducted.
3. Discontinue the practice of adjusting the vehicle maintenance schedules when they have vehicles in arrears balances to eliminate situations where maintenance was not performed.

Optimum Use of Resources

The Capital Metro Area did not always optimize its resources to ensure management spent maintenance and repair funds in the most efficient and cost effective manner. Specifically, VMF officials often used LCVs for vehicle maintenance and repairs when using VMF resources would have been more efficient and economical. Likewise, VMF officials often used VMF resources when it would have been more efficient and economical to use LCVs. Additionally, VMF officials used maintenance employees to shuttle vehicles between facilities for maintenance and repairs when more economical means existed. See [Appendix C](#) for additional information on the optimum use of resources.

Although VMF units had a vehicle maintenance plan, the plan did not fully consider:

- The optimal combination of VMF resources and LCVs for performing scheduled maintenance and repairs.
- The cost effectiveness of using LCVs instead of VMF resources to shuttle vehicles between facilities for maintenance and repairs.

As a result, the Capital Metro Area expended more resources than necessary to complete vehicle maintenance and repairs. By optimizing its resources, the Capital Metro Area could reduce the operating costs of the nine VMFs reviewed by about \$950,368 annually, or approximately \$17.9 million projected over 10 years for all 17 area VMFs. See [Appendix D](#) for our detailed analysis of the monetary impact.

We recommend the Vice President, Capital Metro Area Operations, direct district managers to:

4. Work with vehicle maintenance facility officials to:

- Maintain the most efficient combination of vehicle maintenance facility and commercial resources based on geographical location and costs.
- Make optimal use of the Postal Service’s national vehicle shuttle agreement or other local commercial shuttle services, when cost effective, for transporting vehicles to and from maintenance facilities.

Management’s Comments

Management agreed with our findings and recommendations and stated they have been reviewing staffing at all VMFs within the area. Management has either increased or decreased staff based on comparative analysis of like-sized facilities throughout the country. Management will require each district reporting “maintenance in arrears” to submit an action plan to the area Vehicle Maintenance Programs Analyst (VMPPA) by January 30, 2009. The plan should detail how and when they will become current on their required scheduled maintenance. In addition, management will reissue the Postal Service’s *Vehicle Operations Guidelines* for clearing out scheduled maintenance in arrears to the districts. This will help ensure VMFs perform scheduled maintenance by the end of each fiscal year. Further, management stated district and vehicle maintenance managers will review their maintenance operations to determine the most cost effective and efficient combination of in-house and contract maintenance. Based on availability, cost, and relevant portions of Article 32 of the American Postal Workers Union’s National Labor Agreement, the vehicle maintenance manager will determine whether VMFs use the national vehicle shuttle contract or local shuttle services in lieu of vehicle maintenance personnel. VMFs will submit these determinations to the area VMPPA no later than February 27, 2009, for approval and implementation.

Finally, management stated they could not commit to the actual dollar amount specified in the audit report without having further quantitative data on how we derived the projected savings. However, in subsequent discussions, management agreed in principle with the potential monetary impact and capturing savings through improved efficiencies as they implement the recommendations. We have included management’s comments in their entirety in [Appendix G](#).


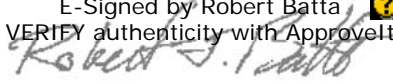
Evaluation of Management’s Comments

The U.S. Postal Service Office of Inspector General (OIG) considers management’s comments responsive to the recommendations and management’s corrective actions should resolve the issues identified in the report.

The OIG considers recommendation 4 significant and, therefore, requires OIG

concurrence before closure. Consequently, the OIG requests written confirmation when management has completed corrective actions. This recommendation should not be closed in the follow-up tracking system until the OIG provides written confirmation that it can be closed. We will report \$17,951,396 of funds put to better use² in our *Semiannual Report to Congress*.

We appreciate the cooperation and courtesies provided by your staff. If you have any questions or need additional information, please contact Rita F. Oliver, Director, Delivery, or me at (703) 248-2100.

E-Signed by Robert Batta 
VERIFY authenticity with ApproveIt


Robert J. Batta
Deputy Assistant Inspector General
for Mission Operations

Attachments

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² Funds that could be used more efficiently by implementing recommended actions.

APPENDIX A: ADDITIONAL INFORMATION

BACKGROUND

The Postal Service invested more than \$3 billion in vehicle assets to transport and deliver the mail. The vehicle inventory consists of 219,522 delivery, transport, and administrative vehicles, of which delivery and collection vehicles (see the examples in Figure 1) account for 195,211 (or about 89 percent) of the total fleet. The Postal Service acquired the majority of these vehicles between 1987 and 1994 and planned to maintain them for 24 years. About 7,700 of these vehicles purchased in 1987 are approaching the end of their useful life. However, the Postal Service recently stated that capital constraints now dictate that many of these vehicles must stay in service until 2018 – 7 years more than the planned lifespan.

Figure 1
Delivery and Collection Vehicles in VMFs for SPM



Source: Postal Service

Management established 190 main and 131 auxiliary VMFs to maintain these assets in a technically reliable, safe, clean, and neat condition for efficient mail transportation. Vehicle maintenance includes selecting and training maintenance technicians; providing garages, tools, and equipment; performing repairs; and monitoring and maintaining preventive maintenance standards. The geographic location of VMFs and auxiliary VMFs varies in each area as needed to support vehicle maintenance and reduce transportation costs. Management established auxiliary VMFs for situations where vehicle maintenance requirements exceed VMF resources or where shuttle time or geographical distances warrant use of an auxiliary VMF.

Area officials are responsible for validating staffing requirements for vehicle related positions and ensuring an adequate scheduled maintenance program. Vehicle maintenance managers have overall responsibility for oversight of all maintenance and repair services performed at VMF units, as well as any work contracted to commercial vendors. Although the VMF manager has overall responsibility for vehicle maintenance, vehicles are usually assigned to Vehicle Post Offices (VPOs). VPOs can be post offices, branches, stations, associated offices, or other delivery and support facilities. Officials at VPOs can also contract with LCVs for maintenance and repair services, but they are required to document the repairs and obtain the VMF manager's approval for repairs and services costing more than \$250.

The Postal Service developed Handbook PO-701, *Fleet Management*, to assist operating personnel in maintaining the vehicle fleet in the most economical manner possible. The handbook requires a maintenance plan that provides for regular examination and service of Postal Service-owned vehicles. VMF managers must prepare a vehicle maintenance plan designating where and when each vehicle will receive scheduled maintenance. The handbook also emphasizes that preventive or scheduled maintenance is preferable to reactive or unscheduled maintenance. See [Appendix F](#), "Scheduled Maintenance Process," for a flowchart.

The Postal Service also established a Model VMF Performance Review program. The review program is an integral part of VMF operations and a key tool for determining the efficiency of a unit at a given time and identifying areas that need corrective action. Districts must ensure VMFs perform self-reviews quarterly. A VMF must achieve a score of 85 or more to be certified. The area must certify or recertify each unit at least every 3 years.

The Postal Service uses the Vehicle Management Accounting System (VMAS) to code and track costs. VMAS is a computer-based support system designed to collect, process, store, present, and communicate vehicle maintenance data. The table below shows VMF expenses, including commercial vendors' expenses, for FY 2007.

Table 1. Maintenance Expenditures for FY 2007 by Area

Postal Service Area of Operation	VMF and Commercial Expenditures		
	Commercial Vendor Expenses in FY 2007	VMF Expenses in FY 2007	Total Expenses in FY 2007
Southeast	\$13,867,484	\$52,648,111	\$66,515,595
Great Lakes	15,152,866	46,536,525	61,689,391
Eastern	12,213,149	45,085,152	57,298,301
Western	10,382,055	45,808,493	56,190,548
Pacific	9,105,547	42,819,217	51,924,764
Northeast	10,821,346	37,860,317	48,681,663
New York Metro	12,433,942	36,814,803	49,248,745
Southwest	7,194,386	36,503,347	43,697,733
Capital Metro	7,643,667	32,808,458	40,452,125
Total	\$98,814,442	\$376,884,423	\$475,698,865

Source: Postal Service Category Management Center

OBJECTIVES, SCOPE, AND METHODOLOGY

The objectives of this audit were to assess whether the Capital Metro Area accomplished all required scheduled maintenance and whether they integrated both VMFs and local commercial resources for optimum efficiency.

To accomplish the objectives, we randomly selected and reviewed vehicle service files from nine³ of the 17 VMFs in the Capital Metro Area. We documented the scheduled maintenance and the amount of SPM required and whether it was conducted in a timely manner and reviewed work order files to document whether the SPM performed was actual SPM, based on the time required for maintenance. We reviewed the Web-Enabled Enterprise Information System (WebEIS) to analyze vehicles in “maintenance in arrears” status and compared the number of SPMs completed to the actual maintenance records. We also obtained data from Web Complement Information System (WebCOINS) on the number of vehicle maintenance technicians and other data from the Enterprise Data Warehouse (EDW) System.

We obtained a random sample of nine of the Capital Metro Area’s VMFs from all districts and reviewed FY 2007 VMAS data for schedule maintenance services for the selected VMFs. See [Appendix E](#) for more information. We identified the number of Preventive Maintenance Inspections (PMIs)⁴ to be performed at each auxiliary VMF, the VPOs where the vehicles were located, and the VPOs’ distance from the VMFs, and documented the number of vehicle maintenance technicians assigned to each VMF.

We identified expenditures for each VMF’s and LCV’s scheduled maintenance. In discussions with VMF managers and reviews of maintenance records, we documented the amount of SPM and number of SPM inspections required for each location on a yearly basis. Using the VMAS vehicle work order history, we analyzed the average time to perform an SPM for the nine VMF units reviewed in our sample.

We developed an optimization model using the above operational data to establish a baseline, standards, key characteristics, shuttle usage, and cost. Using this data, we established an optimum operating efficiency for each VMF. Based on the above analyses, assumptions, and constraints, we estimated the Capital Metro Area could increase overall VMF efficiency and we projected the cost savings for the Capital Metro Area’s universe of 17 VMFs. See [Appendix D](#), “Calculation of Cost Savings,” for the model and assumptions we used to compute monetary benefits.

We conducted this performance audit from October 2007 through January 2009 in accordance with generally accepted government auditing standards and included tests of internal controls that we considered necessary under the circumstances. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe the evidence obtained provides a reasonable basis for our

³ The random sample was reduced from ten to nine because we could not retrieve FY 2007 data from the VMAS for the [REDACTED] VMF.

⁴ A PMI is that portion of required scheduled maintenance a vehicle must receive to determine if mechanical and safety systems are functioning properly.

findings and conclusions based on our audit objectives. We relied on data from VMAS and WebEIS. We did not audit these systems, but performed a limited review of data integrity to support our reliance on the data. We discussed our observations and conclusions with management on October 30 and November 12, 2008, and included their comments where appropriate.

PRIOR AUDIT COVERAGE

The OIG has issued nine reports related to our objectives in the last several years.

Report Title	Report Number	Final Report Date	Monetary Impact
<i>Vehicle Maintenance Facilities – Scheduled Maintenance Service in the Northeast Area</i>	DR-AR-09-001	December 9, 2008	\$14,817,650
<i>Vehicle Maintenance Facilities – Scheduled Maintenance Service in the New York Metro Area</i>	DR-AR-08-011	September 30, 2008	\$25,287,093
<i>Vehicle Maintenance Facilities – Scheduled Maintenance Service in the Pacific Area</i>	DR-AR-08-010	September 30, 2008	\$21,580,236
<i>Vehicle Maintenance Facilities – Scheduled Maintenance Service in the Great Lakes Area</i>	DR-AR-08-009	September 29, 2008	\$28,224,843
<i>Vehicle Maintenance Facilities – Scheduled Maintenance Service in the Western Area</i>	DR-AR-08-008	September 29, 2008	\$14,251,384
<i>Vehicle Maintenance Facilities – Scheduled Maintenance Service in the Southeast Area</i>	DR-AR-08-007	September 16, 2008	\$27,620,773
<i>Vehicle Maintenance Facilities – Scheduled Maintenance Service in the Southwest Area</i>	DR-AR-08-006	August 14, 2008	\$34,522,159
<i>Maintenance and Repair Payments to Commercial Vendors Using Postal Service Form 8230, Authorization for Payment</i>	DR-MA-07-005	September 21, 2007	\$1,571,517
<i>Management of Delivery Vehicle Utilization</i>	DR-AR-06-005	June 14, 2006	\$22,796,487

The previous 2008 audits, like this one of the Capital Metro Area, are part of a series of audits on this topic. Similar to these prior audits, the Capital Metro Area did not complete SPMs on all vehicles and did not always integrate both VMF and LCV resources for optimum efficiency. Management agreed with our findings, recommendations, and, in principle, with the monetary impact.

The 2007 audit concluded that using the Postal Service (PS) Form 8230, Authorization for Payment, process to pay commercial vendors for maintenance and repair services was not cost effective and did not include controls to reconcile payments and ensure

repair costs were reasonable. Management agreed with our findings, recommendations, and monetary impact.

The 2006 audit concluded that Postal Service officials made significant strides in reducing costs associated with delivery vehicle expenditures over the previous 3 years. However, delivery management officials could further improve the use of vehicles that support delivery operations. Management agreed with our findings, recommendations, and monetary impact.

APPENDIX B: SCHEDULED MAINTENANCE PERFORMANCE

The Capital Metro Area completed 95 percent of their required SPM during FY 2007. Four VMF units completed all of their required SPM and three VMF units completed between 93 and 97 percent of their required SPM. Additionally, two VMF units completed only 85 and 89 percent of their required SPM. See Table 2.

Table 2. Scheduled Preventive Maintenance Performed in FY 2007

VMF Location	Required in FY 2007	Performed	Percentage Performed
██████████	3,361	2,856	85
██████████	1,731	1,613	93
██████████	1,733	1,733	100
██████████	1,308	1,308	100
██████████	1,314	1,251	95
██████████	920	920	100
██████████	2,316	2,316	100
██████████	2,713	2,400	89
██████████	1,010	983	97
██████████	Not Verified	Not Verified	N/A
Total/Average	16,406	15,380	95

Source: VMAS and OIG optimization model

Staffing Shortage. VMF officials stated they did not complete all of their required SPM due to a shortage of assigned maintenance technicians. Officials determine their technician staffing requirements based on either the “rule of thumb” or SPM-per-technician ratio.⁵ Officials stated they used the ratio concept because the Postal Service has not established a formal policy for staffing VMF maintenance technician positions.

WebCOINS showed the Capital Metro Area with 70 full-time maintenance technician vacancies. OIG’s Optimization model analysis showed a decrease of two maintenance technicians was necessary for the first year savings. See Table 3.

⁵ The “rule of thumb” ratio showed a need for 13 additional positions, while the SPM-per-technician scenario showed an excess of 13 positions.

**Table 3. Estimated VMF Staffing Increase/Reduction
Needs Based on OIG Optimization Model**

VMF Location	Assigned Vehicles	Technicians Assigned	Staff Increase (Reduction) per OIG Optimization Model for the First Year
Charlotte	1,393	28	-1
Columbia, MD	808	9	0
Columbia, SC	691	15	0
Fayetteville	631	11	0
Greenville	595	13	0
Hampton	390	7	0
Norfolk	961	30	-1
Suburban Gaithersburg	1,232	20	0
Winston Salem	427	12	0
Total	7,128	145	-2

Source: VMAS, VMF management, and OIG optimization model

“Maintenance in Arrears” and Schedule Adjustment. The Capital Metro Area VMFs sometimes changed vehicle status from “maintenance not performed” (also called “maintenance in arrears”) to “maintenance performed.” For example, one VMF had 335 vehicles reflected as “maintenance in arrears” on August 31, 2007, in WebEIS. The location also had a consistent number of vehicles in arrears every month during FY 2007 (approximately 31 to 335 vehicles per month). However, on September 30, 2007, this location had no vehicles in arrears recorded in WebEIS. VMF management could not show whether the vehicles received the proper scheduled maintenance.⁶ Officials stated that they adjusted the SPM schedule to prepare the annual maintenance plan for the next fiscal year.

Without completing all required scheduled maintenance and repairs, Postal Service vehicles are vulnerable to breakdowns, which may cause mail delays and service problems. Further, performing the required SPM could decrease the number of vehicle accidents, thereby lowering costs and preventing injury to employees and the public. Since the Postal Service does not plan to begin replacing its current fleet of long life vehicles (vehicles more than 20 years old) until 2018, we believe it is critical that these vehicles receive the required maintenance.

⁶ The “vehicle in arrears” status is a performance measure for VMFs.

APPENDIX C: OPTIMUM USE OF RESOURCES

The Capital Metro Area did not always optimize its resources to ensure it expended maintenance and repair funds in the most efficient and cost effective manner. Specifically, maintenance officials sometimes used LCVs for vehicle maintenance and repairs when using VMF resources would have been more efficient and economical. Likewise, management sometimes used VMF resources when it would have been more efficient and economical to use LCVs. Additionally, VMF officials used maintenance employees to shuttle vehicles from the VPO to the VMF when more economical means existed.

Several factors contributed to these conditions.

- Optimum Use of VMF and Commercial Resources. The vehicle maintenance plan did not consider an optimum combination of both VMF and commercial resources.⁷ Generally, it is more cost effective⁸ for VMFs to perform SPM on vehicles stationed within 50 miles of the VPO. However, we concluded a LCV should perform SPM on vehicles when the VPO is more than 50 miles from the nearest VMF. We determined that 2,302 SPMs should have been performed at the other site – either the VMF or the commercial facility. See Table 4.

Table 4. VMF and Local Commercial Vendor Resources

VMF Location	FY 2007 SPMs Performed by		Total SPMs Performed	Sites SPMs Were Performed		Total SPMs That Could Have Been More Optimally Performed by Either VMF or Local Vendors
	VMF	Local Vendors		VMF	Local Vendors	
Charlotte	2,679	177	2,856	145	65	210
Columbia, MD	568	1,045	1,613	12	12	24
Columbia, SC	1,259	474	1,733	438	113	551
Fayetteville	1,019	289	1,308	324	11	335
Greenville	1,145	106	1,251	143	73	216
Hampton	920	0	920	80	0	80
Norfolk	2,279	74	2,316	668	0	668
Suburban Gaithersburg	2,197	203	2,400	0	48	48
Winston Salem	983	0	983	170	0	170
Total	13,049	2,368	15,380	1,980	322	2,302

Source: VMAS data and OIG optimization model

⁷ VMAS does not track the number of SPMs accomplished. The OIG's efficiency and optimization model estimated the number completed by analyzing all work orders assigned to code 22 (scheduled maintenance) and, with some adjustment, considered all work of at least 2 hours as an SPM.

⁸ We base cost effectiveness on the overhead costs to transport vehicles between the VMF and the VPO using vehicle maintenance technicians or other VMF personnel.

- Vehicle Shuttling. In most cases, we found that the Postal Service’s national vehicle shuttle agreement or local commercial shuttling services were more cost effective than using VMF maintenance technicians. The Capital Metro Area used about 14,357 workhours for vehicle maintenance technicians to shuttle vehicles rather than perform maintenance. The shuttle workhours related to SPMs were equivalent to eight vehicle maintenance technician positions at a cost of \$617,925.⁹ See Table 5.

Table 5. Vehicle Maintenance Technician Hours Used for Shuttling

VMF Location	Number of Vehicle Maintenance Technicians Assigned	Estimated Scheduled Maintenance Hours Available	Total Shuttle Hours Used in FY 2007	Percentage of Direct Maintenance Hours Used for Shuttling	Shuttle Hours Used for Scheduled Maintenance	Equivalent Maintenance Technician Positions	Cost of Shuttle Hours Used by Maintenance Technicians
Charlotte	28	39,290	7,337	19	4,428	2.52	\$190,581
Columbia, MD	9	12,629	2,226	18	689	.39	29,655
Columbia, SC	15	21,048	3,607	17	1,195	.68	51,433
Fayetteville	11	15,435	2,705	18	1,232	.70	53,025
Greenville	13	18,242	3,735	20	1,959	1.12	84,315
Hampton	7	9,822	2,070	21	1,275	.73	54,876
Norfolk	30	42,096	2,872	7	950	.54	40,888
Suburban Gaithersburg	20	28,064	6,252	22	2,461	1.40	105,921
Winston Salem	12	16,838	420	2	168	.10	7,231
Total/Averages	145	203,464	31,224	15	14,357	8.18	\$617,925

Source: VMAS and OIG optimization model

We found the Capital Metro Area VMF Managers and VMPA to be proactive in managing vehicle maintenance and receptive to the intent of our audit and recommendations. Management officials did express concern that:

- VMFs may not always find cost effective shuttle alternatives.
- The possibility of union concerns with using contractors instead of VMF personnel.
- The new policies restricting the ability to fill existing vacancies caused by attrition and a reduction or elimination of overtime could compromise the VMFs’ ability to capture cost savings.
- The Capital Metro Area faces unique challenges due to the large and diverse geographical area they cover.

The OIG acknowledges the issues and concerns management raised and the challenges the Postal Service faces regarding VMF operations. Notwithstanding these concerns and challenges, in our opinion opportunities exist to become more efficient and save money. Specifically, the Capital Metro Area could lower overall operating

⁹ This estimate of equivalent technician positions applies only to the hours used for shuttling. It does not relate to any actual reductions in this report.

costs for the nine VMFs reviewed by an average of \$950,368 annually. These efficiencies, when projected for the 17 VMFs in the Capital Metro Area, could save an estimated \$17.9 million over a 10-year period. See [Appendix D](#) for more information.

APPENDIX D: OIG CALCULATION OF COST SAVINGS

The OIG identified \$17,951,396 in funds put to better use over the next 10 years for the Capital Metro Area’s 17 VMFs.¹⁰

Savings in Dollars

VMF Location	Average Annual Savings	Estimated Savings Over 10 Years
Charlotte	\$37,067	\$370,666
Columbia, MD	187,239	1,872,394
Columbia, SC	146,387	1,463,873
Fayetteville	81,254	812,540
Greenville	22,298	222,975
Hampton	3,682	36,821
Norfolk	351,156	3,511,557
Suburban Gaithersburg	57,952	579,523
Winston Salem	63,333	633,331
Totals	950,368	9,503,680
Projected Potential Savings Over 17 VMFs in Capital Metro Area		\$17,951,396

Source: OIG optimization model

We calculated the savings based on the following methodology and assumptions.

- Each VMF has a list of VPOs for which it is responsible for vehicle maintenance. Each VPO has a number of Postal Service vehicles that require regular SPM. Management determines the amount of SPM a vehicle requires at the beginning of the year based on the demands the assigned route places on the vehicle. All SPM for a given year must be performed on each vehicle; however, the VMF may delegate some of this workload to commercial vendors that are near the VPO. We refer to this contract labor as LCVs.
- The purpose of this audit was to determine the optimal use of the SPMs to be performed by the VMFs’ LCVs. We took into consideration the mechanics’ labor costs and all relevant shuttling costs. As with the SPMs, VMFs may contract out shuttling. The Postal Service has a national vehicle shuttle agreement and the OIG used that rate in the analysis. However, VMFs can use a less expensive local shuttle contractor if one can be identified.

¹⁰ At a 95 percent confidence level, the OIG estimates the 10-year savings amount to range between \$8.2 and \$27.7 million. We used the mid-point estimate of \$17.9 million in our statistical projection.

- We developed the optimization model to find a least-cost solution based on performing all required SPMs. We used the VMFs' FY 2007 operational data. Any SPMs not performed by VMFs were considered to be completed by LCVs.¹¹ We restricted the scope of this audit to maintenance technicians' time spent performing scheduled maintenance and shuttling activities. This analysis draws no conclusions regarding the time dedicated to other activities or how maintenance technicians used the remainder of their time.
- We optimized the VMFs' scheduled maintenance and shuttling time for the next 10 years, assuming the Postal Service would reduce the labor contingent by 3.8 percent per year, the historical Capital Metro Area attrition rate.¹² This optimization gives the least-cost solution and specifies how the SPMs at each VPO should be distributed between the VMFs and the LCVs. The model shows which shuttling jobs both the VMFs and the contractors should do. The model analyzes all costs and hours (for SPMs at VMFs, SPMs at LCVs, VMF shuttling, and contract shuttling). The model also compares the total SPMs currently performed by VMFs and local vendors to the total amount that VMFs or LCVs could more optimally perform.
- In these optimizations, we assumed that each VMF would operate at a standard efficiency. We used the sampled nine VMFs' average time per SPM as a standard for the time it takes to complete an SPM in that area. If a particular VMF performed better than this standard, we assumed the VMF maintained its current efficiency.
- VMAS does not track the number of SPMs accomplished for each vehicle. The OIG's efficiency and optimization model estimated the number of SPMs completed by analyzing all work orders assigned to code 22 (scheduled maintenance) and, with adjustments (i.e., new vehicles and commercial repairs), considered all work lasting at least 2 hours¹³ as an SPM. We explained the process to the VMF managers and then confirmed/adjusted the number of SPMs required and completed.
- We identified cost savings if the VMF was not efficiently using its shuttling time. We compared the VMFs' total shuttling time to the aggregate time that should be needed to perform all of the VMFs' shuttling, assuming that two vehicles were

¹¹ We obtained the current number of SPMs performed by VMFs and LCVs from VMAS databases located at the VMFs and transmitted to the [REDACTED]. Because a VMF may not perform all its required SPMs, we assumed LCVs would perform the remaining SPMs. In addition, in some cases, a VMF performed more SPMs than required at a VPO. We credited the VMFs with these additional SPMs and determined a comparable solution by reassigning these SPMs to the closest location with a shortfall. We accomplished this, in part, by assuming the baseline case kept the scheduled maintenance hours and shuttling hours constant at current levels.

¹² We determined the historical attrition rate for Capital Metro Area maintenance technicians by averaging the past 7 years' (2001 - 2007) worth of data obtained from the WebEIS.

¹³ We used 2 hours because of the Postal Service's requirement for a "Type A" and "Type B" maintenance inspection prior to any repair work. These inspections require between 1.5 and 2.5 hours.

transported on each trip. The cost of any excess time was time that could have been saved, although the actual amount of time that could be saved was likely to be higher because the VMFs probably did not perform all of their own shuttling.

- For our model, we reviewed the minimum and maximum overtime hours per week from what the VMFs used during the first 6 months of FY 2008 determined from the EDW System. The number of hours of straight time each mechanic worked per year is 1,754.¹⁴
- Based on the above analyses and projections, we estimated the Capital Metro Area could reduce costs by using local commercial resources for shuttling and SPM requirements when appropriate. We projected over the Capital Metro Area's universe of 17 VMFs, a reduction of costs of more than \$17.9 million over a 10-year period. These savings include any reduction of vehicle maintenance technician positions through attrition over time.

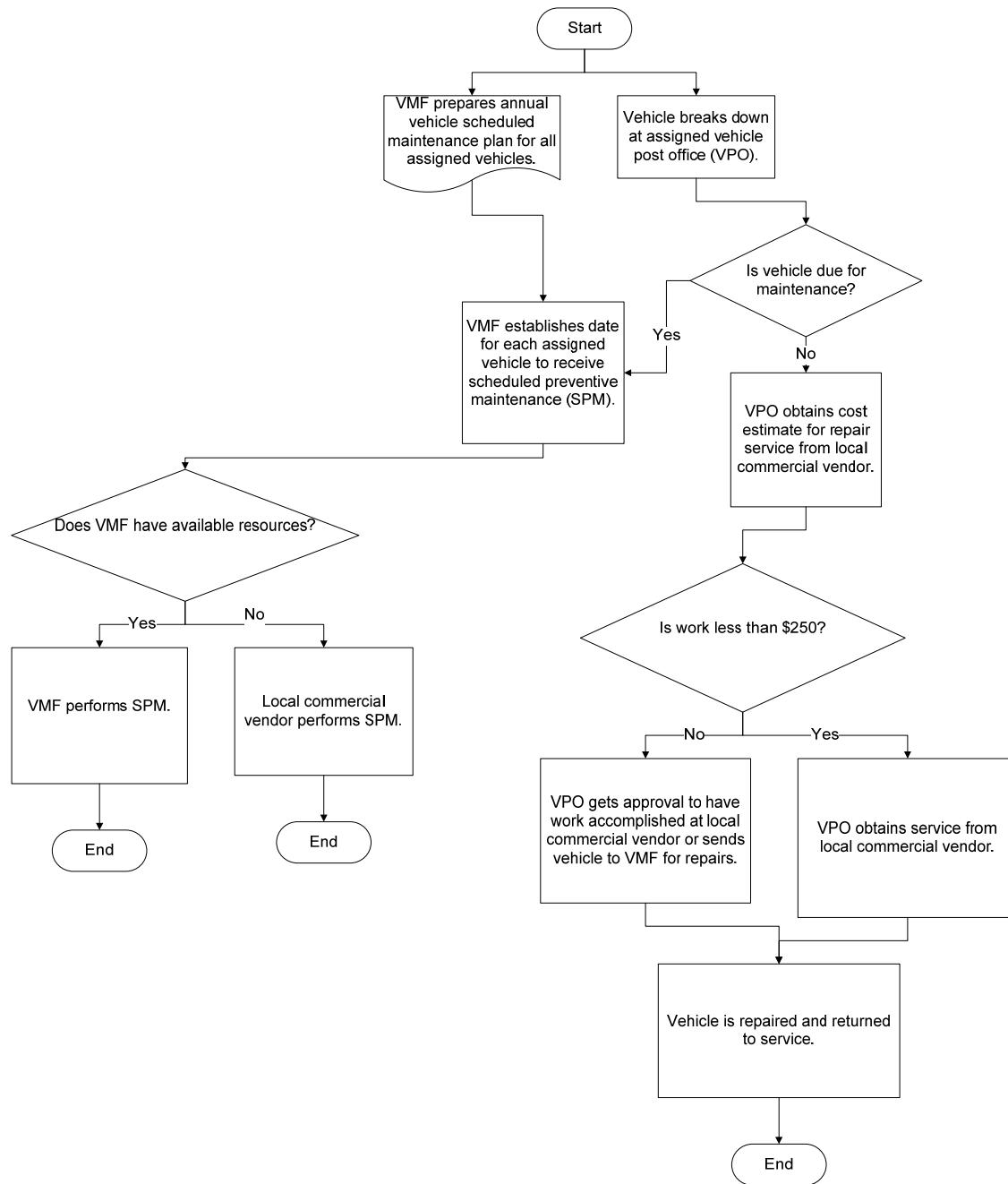
¹⁴ Source: Finance Memorandum dated March 6, 2006, "Workhour Rates for Fiscal Years 2005 - 2007."

**APPENDIX E: SELECTED DISTRICTS AND
VEHICLE MAINTENANCE FACILITIES**

District	VMF
Mid-Carolinas	Charlotte
	Fayetteville
Baltimore	Columbia
Greater South Carolina	Columbia
	Greenville
Richmond	Hampton
	Norfolk
Capital	Suburban Gaithersburg
Greensboro	Winston Salem

Source: OIG Experts Sample

APPENDIX F: SCHEDULED MAINTENANCE PROCESS¹⁵



¹⁵ Source: Postal Service Handbook PO-701, *Fleet Management*, March 1991.

APPENDIX G: MANAGEMENT'S COMMENTS

VICE PRESIDENT
CAPITAL METRO AREA OPERATIONS



December 19, 2009

LUCINE M. WILLIS
DIRECTOR, AUDIT OPERATIONS

SUBJECT: Draft Audit Report-Vehicle Maintenance Facilities-Scheduled Maintenance Service in the
Capital Metro Area (Report Number DR-AR-09-DRAFT)

The Capital Metro Area has reviewed the above referenced document and agrees that opportunities exist to improve Vehicle Maintenance Service, and with the recommendations. However, we cannot agree with the projected savings of \$17,951,396 over 10 years without having further quantitative data on how the projected savings were derived.

Recommendation #1: Direct District Managers to assess vehicle maintenance technician positions at individual Vehicle Maintenance facilities to ensure sufficient staff is available for maintenance service.

Response: The Capital Metro Area Vehicle Maintenance Programs Analyst (VMPA) has been reviewing the staffing at all VMFs within the Area and has either increased or decreased staffing based on comparative analysis of like sized facilities throughout the country. Headquarters Vehicle Operations is currently working on a workload criteria model for VMFs and when this is completed will be applied to all VMFs in the Capital Metro Area.

Recommendation #2: Direct District Managers to require Vehicle Maintenance Facility officials to immediately conduct all maintenances in arrears and properly record vehicle status if maintenance was not conducted.

Response: The Capital Metro Area agrees that maintaining a current status of all scheduled maintenance preserves USPS assets, reduces cost, and increases employee safety. As spelled out in the review, the Capital Metro Area maintained a 95 percent completion rate. We will require that each District with maintenance in arrears submit an action plan to the Area VMPA by January 30, 2009, detailing how and when they will become current on scheduled maintenance, but must be current no later than A/P 9-09. These plans will be approved and tracked by the Area VMPA.

Recommendation #3: Direct District Managers to discontinue the practice of adjusting the vehicle maintenance schedules when they have vehicles in arrears balances to eliminate situations where maintenance was not performed.

Response: The Area VMPA will reissue to the districts, the Headquarters Vehicle Operations guidelines for clearing out scheduled maintenance in arrears at the end of the Fiscal Year, to ensure scheduled maintenance is performed. Response #2 above will also help to eliminate these instances.

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- 2 -

Recommendation #4: Direct District managers to work with Vehicle Maintenance Facility officials to:

- Maintain the most efficient combination of vehicle maintenance facility and commercial resources based on geographical location and costs.
- Make optimal use of the Postal Service's national vehicle shuttle agreement or other local commercial shuttle services, when cost effective, for transporting vehicles to and from maintenance facilities.

Response: The Capital Metro Area agrees that the VMFs need to determine the best use of Postal vehicle maintenance technicians and quality contractor service to maintain the fleet in a current scheduled maintenance status. District Managers and Vehicle Maintenance Managers will review their maintenance operations to determine the most cost effective and efficient combination of in-house and contract maintenance. Local VMF Managers, who have knowledge of their geographical areas and past experience with contractors, will be given the latitude to determine whether a vehicle should be serviced at the VMF or at a contractor. Based on availability, cost and consideration of Article 32 of the National Agreement considerations, the Vehicle Maintenance Manager will determine if the national vehicle shuttle contract or local shuttle services are utilized in lieu of vehicle maintenance personnel. These determinations will be submitted to the Capital Metro Area VMPA no later than February 27, 2009, for approval and implementation.

Please contact [REDACTED] at [REDACTED] if you have any questions.


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