



September 30, 2008

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SUBJECT: Audit Report – Vehicle Maintenance Facilities – Scheduled Maintenance Service in the Pacific Area (Report Number DR-AR-08-010)

This report presents the results of our self-initiated audit, Vehicle Maintenance Facilities (VMF) – Scheduled Maintenance Service in the Pacific Area (Project Number 07XG044DR000). The overall objectives were to assess whether the Pacific Area accomplished all required vehicle scheduled maintenance and whether they integrated both VMFs and local commercial resources for optimum efficiency. Click [here](#) to go to Appendix A for additional information about this audit.

### **Conclusion**

The Pacific Area completed nearly all required Scheduled Preventive Maintenance (SPM)<sup>1</sup> during fiscal year (FY) 2007. However, we found that management could further optimize resources by more efficiently using VMF and commercial resources. Better optimizing its resources could save the Pacific Area an estimated \$21 million over 10 years.

### **Scheduled Maintenance Performance**

Pacific Area VMF units and local commercial vendors (LCVs) completed 99 percent of required SPMs. Five VMF units completed all of the SPMs. The other three VMF units ranged between 97 and 99 percent of the required SPMs because there was:

- A shortage of maintenance staff.
- SPMs not completed were not recorded and tracked as maintenance in arrears.

Without completing all required scheduled maintenance and repairs, the U.S. 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 begin replacing its current fleet of long life vehicles (vehicles that are more than 20 years old) until 2018, we believe it is critical that these

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

vehicles receive SPMs in a timely manner. Click [here](#) to go to Appendix B for additional information about this topic.

We recommend the Vice President, Pacific 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. Record and track key maintenance activities to ensure timely completion of all required scheduled maintenance and repairs.
3. Require vehicle maintenance facility officials to immediately conduct all maintenance in arrears and properly record vehicle status if maintenance was not conducted.

### Optimum Use of Resources

The Pacific Area did not always optimize its resources to ensure that maintenance and repair funds were expended in the most efficient and cost effective manner. Specifically, maintenance officials often used local commercial vendors (LCV) for vehicle maintenance and repairs when using VMF resources would have been more efficient and economical. Likewise, VMF resources were sometimes used when LCVs would have been more efficient and economical. Additionally, VMF officials primarily used maintenance employees to shuttle vehicles between facilities for maintenance and repairs when more economical means existed.

The following factors contributed to these conditions. Although VMF units had a vehicle maintenance plan, it 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.

In addition, area officials' oversight was not effective in managing vehicle maintenance programs because they did not have sufficient performance data. We also found the vehicle maintenance organizational structure was not conducive for the most effective program management.<sup>2</sup> Click [here](#) to go to Appendix C for additional information on optimum use of resources.

As a result, the Pacific Area expended more resources than necessary to complete vehicle maintenance and repairs. By optimizing its resources, the Pacific Area could reduce operating costs by about \$2.1 million annually, or approximately \$21.5 million

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<sup>2</sup> This issue requires action by Postal Service Headquarters and will be addressed in a national capping report.

projected over 10 years for the 18 VMFs in the Pacific Area. Click [here](#) to go to Appendix D for our detailed analysis of monetary impact.

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

4. Work with vehicle maintenance facility officials to:
  - o Maintain the most efficient combination of vehicle maintenance facility and commercial resources based on geographical location and costs.
  - o 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

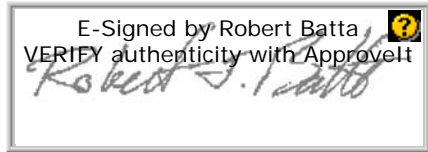
Pacific Area management agreed with our findings and recommendations. For Recommendation 1, management reviewed the vehicle maintenance positions at individual vehicle maintenance facilities and determined that the staffing was sufficient to complete required maintenance service. In response to recommendations 2 and 3, management stated they will evaluate the new headquarters tracking system to determine if they can use it in the future to ensure timely completion and recording of maintenance activities and vehicle maintenance status. Pacific Area officials stated they will work with VMF officials to optimize resources to ensure that maintenance and repair funds are allocated in the most efficient and cost effective manner. Management stated they could not commit to the actual dollar savings amounts specified in the audit report. However, management agreed in principle with the monetary impact and will pursue 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 the 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 completes corrective actions. These recommendations should not be closed in the follow-up tracking system until the OIG provides written confirmation the recommendation can be closed. We will report \$21,580,236 of funds put to better use 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 Oliver, Director, Delivery, or me at 703-248-2100.



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## APPENDIX A: ADDITIONAL INFORMATION

### BACKGROUND

The Postal Service invested more than \$3 billion in vehicle assets for the purpose of transporting and delivering the mail. The vehicle inventory consists of 219,522 delivery, transport, and administrative vehicles. 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. Auxiliary VMFs were established for situations where vehicle maintenance requirements exceed VMF resources or when shuttle time or geographical distances warrant the 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 a vehicle post office (VPO). 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 preventive or scheduled maintenance over reactive or unscheduled maintenance. (See [Appendix F](#), “Scheduled Maintenance Process,” for a flowchart.)

The Postal Service also established a Model Vehicle Maintenance Facility Performance Review program. The review program is an integral part of VMF operations, and is a key tool for determining the efficiency of a unit at a given time for identifying areas that need corrective action. Districts must ensure that self-reviews are performed in all VMFs on a quarterly basis. 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
Pacific	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
<b>Total</b>	<b>\$98,814,442</b>	<b>\$376,884,423</b>	<b>\$475,698,865</b>

Source: Postal Service Category Management Center

## OBJECTIVES, SCOPE AND METHODOLOGY

The objectives of this audit were to assess whether the Pacific 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 10 of the 18 VMFs in the Pacific Area. We documented the scheduled maintenance and number of SPMs required and whether they were conducted in a timely manner, and reviewed work order files to document whether SPMs performed were considered actual SPMs, 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 actual maintenance records.

We obtained a random sample of 10 of the Pacific Area's VMFs from all districts, and reviewed FY 2007 VMAS data for scheduled maintenance services for eight<sup>3</sup> of the 10. (See [Appendix E](#).) We identified the number of Preventive Maintenance Inspections (PMI)<sup>4</sup> 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 each VMF's expenditures and LCVs' expenditures for scheduled maintenance. In discussions with VMF managers and reviews of maintenance records, we documented the number of SPMs and SPM inspections required for each location on a yearly basis. Using the VMAS vehicle work order history, we analyzed the average time to perform a SPM for the eight units reviewed in our sample.

We developed an optimization model that used 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 that the Pacific Area could increase overall VMF efficiency, and we projected the cost savings for the Pacific Area's universe of 18 VMFs. Click [here](#) to go to Appendix D for the model and assumptions we used to compute monetary benefits.

We conducted this performance audit from September 2007 through September 2008 in accordance with generally accepted government auditing standards and included such 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

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<sup>3</sup> The random sample was reduced from 10 to eight because we excluded the Los Angeles and Santa Barbara VMFs due to the difficulty in verifying SPMs.

<sup>4</sup> 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 officials on August 13, 2008, and included their comments where appropriate.

**PRIOR AUDIT COVERAGE**

As shown in the table below, the OIG issued six reports related to our objective in the last several years.

<b>Report Title</b>	<b>Report Number</b>	<b>Final Report Date</b>	<b>Monetary Impact</b>
<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 Pacific Area, are part of a series of audits on this topic. Like these audits, the Pacific 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 impacts.

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 the 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 Pacific Area vehicle maintenance process ensured that nearly all vehicles received required and timely SPMs. Five units completed all of their SPMs. The other three ranged between 97 and 99 percent<sup>5</sup> of the required SPMs. (See Table 2.)

**Table 2. Scheduled Preventive Maintenance Performed in FY 2007**

VMF Location	Required in FY 2007	Performed	Percentage Performed
Fresno	1,771	1,771	100
Long Beach	3,233	3,123	97
Los Angeles <sup>6</sup>	Not Verified	Not Verified	N/A
Oakland	7,202	7,202	100
Sacramento	5,616	5,603	99
San Bernardino	4,150	4,150	100
San Diego	6,271	6,271	100
San Jose	4,535	4,491	99
Santa Ana	5,507	5,507	100
Santa Barbara <sup>7</sup>	Not Verified	Not Verified	N/A
<b>Total/Average</b>	<b>38,285</b>	<b>38,118</b>	<b>99</b>

Source: VMAS and OIG optimization model

VMF management attributed the few missing or past due SPMs to:

- o Insufficient Staff. Management stated that insufficient staffing prevented completion of all SPMs. Some vehicle maintenance personnel were on extended sick leave. Although the OIG’s analysis using the “Rule of Thumb” and SPMs per technician showed a need for additional staff, the optimization model did not support an overall need for additional technicians. The difference in staffing requirements from the OIG optimization model analysis was the result of using technicians for maintenance instead of shuttling and using LCVs for scheduled maintenance for about 329 vehicles located significant distances from the VMF.
- o Recording and Tracking Maintenance Activities. VMF officials completed some SPMs after the end of the fiscal year because policy allows a 2-week grace period after the due date. Although Postal Service policy does not consider SPMs performed within 2 weeks of the due date late, these SPMs were not recorded in WebEIS as vehicles in arrears. Therefore, the potential exists to continually carry over SPMs every month. Further, even though we determined the sampled VMFs performed nearly all of their SPMs, the process of verifying

<sup>5</sup> The San Bernardino and San Diego VMF supervisors stated SPMs were performed under 2 hours on vehicles with very limited usage. Management stated it would not be cost effective to perform an SPM in 2 or 2.5 hours when it was not necessary.

<sup>6</sup> We excluded this VMF from our sample because of VMF miscoding in VMAS. We could not accurately identify LCV expenditures for SPMs.

<sup>7</sup> We excluded this VMF from our sample because we could not determine whether SPMs were completed by the VMF or the LCV.

the number of scheduled maintenances performed proved difficult.<sup>8</sup> For two VMFs initially included in our sample, but later excluded, we were unable to substantiate the number of required and performed SPMs during 2007. However, we have no reason to believe the exclusion alters the Pacific Area percentage of maintenance performed.

Without completing all required scheduled maintenance and repairs, the 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 begin replacing 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 receive the required maintenance.

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<sup>8</sup> The issue of more easily tracking and monitoring scheduled maintenance requires action by Postal Service Headquarters will be addressed in a national capping report.

**APPENDIX C: OPTIMUM USE OF RESOURCES**

The Pacific Area did not always optimize its resources to ensure that maintenance and repair funds were expended in the most efficient and cost effective manner. We found maintenance officials sometimes used LCVs for vehicle maintenance and repairs when using VMF resources would have been more efficient and economical. Likewise, VMF resources were sometimes used when LCVs would have been more efficient and economical. Additionally, VMF officials used maintenance employees to shuttle vehicles between facilities for maintenance and repairs when more economical means existed.

Several factors contributed to this condition.

- o Optimum Use of VMF and Commercial Resources. The vehicle maintenance plan did not consider an optimum combination of both VMF and commercial resources.<sup>9</sup> Generally, it is more cost effective<sup>10</sup> for the VMF to perform SPMs on vehicles stationed within 50 miles of the VPO. Based on distance from the VMF, shuttling costs, and VMF and commercial vendor labor costs, we determined that 1,537 SPMs should have been performed at the other site - either the VMF or the commercial facility. (See Table 3.)

**Table 3. VMF and Local Commercial Vendor Resources**

VMF Location	FY 2007 SPMs Performed by		Total SPMs Performed	SPMs Performed Inefficiently at Opposite Site		Total SPMs That Could Have Been More Optimally Performed by Either VMF or Local Vendors
	VMF	Local Vendors		VMF	Local Vendors	
Fresno	1,771	0	1,771	0	90	90
Long Beach	3,123	0	3,123	0	44	44
Oakland	7,202	0	7,202	0	8	8
Sacramento	5,602	1	5,603	0	2	2
San Bernardino	4,009	141	4,150	77	64	141
San Diego	4,469	1,802	6,271	803	449	1,252
San Jose	4,491	0	4,491	0	0	0
Santa Ana	5,507	0	5,507	0	0	0
<b>Total</b>	<b>36,174</b>	<b>1,944</b>	<b>38,118</b>	<b>880</b>	<b>657</b>	<b>1,537<sup>11</sup></b>

Source: VMAS data and OIG optimization model

- o Vehicle Shuttling. In most cases, we found that the Postal Service’s national vehicle shuttle agreement or local commercial shuttling services were more cost

<sup>9</sup>The 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 [REDACTED] (scheduled maintenance), and with some adjustments, considered all work of at least 2 hours as a SPM. We used 2 hours because Postal Service’s policy requires between 1.5 and 2.5 hours of inspection prior to any repair work. We confirmed the number of SPMs with VMF managers during the audit.

<sup>10</sup>Cost effectiveness is based on the overhead costs to transport vehicles between the VMF and the VPO using a vehicle maintenance technician or other VMF personnel.

<sup>11</sup> Eighty-one percent of the 1,537 SPMs were attributed to one VMF.

effective than using VMF maintenance technicians. The Pacific Area used 28,632 workhours for vehicle maintenance technicians to shuttle vehicles rather than perform maintenance. The shuttle workhours related to SPM were equivalent to about 16 vehicle maintenance technician positions at a cost of \$1,232,320.<sup>12</sup> (See Table 4.)

**Table 4. Vehicle Maintenance Technician Hours Used for Shuttling**

<i>VMF Location</i>	<i>Number of Vehicle Maintenance Technicians Assigned</i>	<i>Estimated Maintenance Hours Available (Scheduled )</i>	<i>Total Shuttle Hours Used in FY 2007</i>	<i>Percentage of Direct Maintenance Hours Used for Shuttling</i>	<i>Shuttle Hours Used for Scheduled Maintenance</i>	<i>Equivalent Maintenance Technician Positions</i>	<i>Cost of Shuttle Hours Used by Maintenance Technicians</i>
Fresno	12	16,838	3,509	21	1,919	1	\$82,594
Long Beach	22	30,870	7,366	24	3,934	2	169,319
Oakland	51	71,563	5,373	8	2,724	3	117,241
Sacramento	46	64,547	12,694	20	2,531	1	108,934
San Bernardino	33	46,306	11,518	25	7,636	4	328,653
San Diego	38	53,322	6,832	13	587	0	25,264
San Jose	29	40,693	11,011	27	3,826	2	164,671
Santa Ana	47	65,950	9,613	15	5,475	3	235,644
<b>Total/Averages</b>	<b>278</b>	<b>390,089</b>	<b>67,916</b>	<b>18</b>	<b>28,632</b>	<b>16</b>	<b>\$1,232,320</b>

Source: VMAS and OIG optimization model

- o Area Oversight. The Postal Service’s organizational structure was not conducive to effective management of vehicle maintenance. Area Vehicle Maintenance Program Analysts (VMPAs) are responsible for working directly with VMF officials to manage the vehicle maintenance program. However, each VMPA is aligned under the plant maintenance manager, who has no direct line of authority to district vehicle maintenance functions or individual VMF operations.<sup>13</sup>

We found the Pacific Area VMF managers and VMPAs to be proactive in managing vehicle maintenance and receptive to the intent of the audit and recommendations. Management officials did express concern that:

- VMFs may not always be able to find cost effective shuttle alternatives. They also raised the possibility of potential union concerns with using contractors instead of VMF personnel.
- National shuttle contract costs are rising due to the high cost of fuel.

<sup>12</sup> This estimate of equivalent technician positions applies only to the hours used for shuttling. It does not relate to any actual reductions discussed in this report.

<sup>13</sup> During our audit, the Pacific Area was transitioning from a pilot program called “Stovepipe.” The program geographically placed knowledgeable vehicle maintenance personnel in the area management structure to provide direct guidance to VMF managers. The program was officially started in September 2002 but was dissolved in January 2008 by Postal Service Headquarters.

- The quality of maintenance performed by LCVs is often not at the same level of the VMFs, thus resulting in rework and safety concerns.
- The Pacific Area's ability to capture cost savings could be compromised because the Postal Service had recently restricted their ability to fill existing vacancies caused by attrition and reduced their ability to use overtime.

The OIG acknowledges the issues management raised and the financial challenges faced by the Postal Service that affect VMF operations. Notwithstanding these concerns and challenges, in our opinion, opportunities exist to become more efficient and save money. Specifically, the Pacific Area could lower overall VMF operating costs by \$2.1 million annually. These efficiencies, when projected for the 18 VMFs in the Pacific Area over a 10-year period, could save \$21,580,236. (See [Appendix D](#).)

**APPENDIX D: OIG CALCULATION OF COST SAVINGS**

The OIG identified \$21,580,236 in funds put to better use over the next 10 years for the Pacific Area’s 18 VMFs.<sup>14</sup>

**Savings in Dollars**

<b>VMF Location</b>	<b>Average Annual Savings</b>	<b>Estimated Savings Over 10 Years</b>
Fresno	\$12,359	\$123,586
Long Beach	46,948	469,478
Oakland	150,392	1,503,924
Sacramento	170,297	1,702,967
San Bernardino	198,089	1,980,890
San Diego	158,816	1,588,157
San Jose	145,924	1,459,236
Santa Ana	76,298	762,978
Totals	\$959,123	<b>\$9,591,216</b>
<b>Projected Potential Savings Over 18 VMFs in Pacific Area</b>		<b>\$21,580,236</b>

Source: OIG optimization model

We calculated the savings based on the following methodology.

- 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. The number of SPMs that a vehicle requires is determined at the beginning of the year based on the demands that the assigned route places on the vehicle. All SPMs 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 VPOs. 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 and LCVs. We took into consideration the mechanic 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; the OIG used that rate in the analysis. However, VMFs can use a less expensive local shuttle contractor if one can be identified.

<sup>14</sup> At a 95 percent confidence level, the OIG estimates the 10-year savings amount to range between \$14.1 and \$28.9 million. We used the mid-point estimate of \$21.5 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 currently performed by VMFs were considered to be completed by LCVs.<sup>15</sup> 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.
- The 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, etc.) considered all work lasting at least 2 hours<sup>16</sup> as an SPM. We explained the process to the VMF managers and then confirmed/adjusted the number of SPMs required and completed.
- We optimized the VMFs' scheduled maintenance and shuttling time for each of the next 10 years, assuming that the Postal Service would reduce the labor contingent by 4.13 percent per year, the historical Pacific Area attrition rate.<sup>17</sup> 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 should be done by both the VMFs and by contractors. The model analyzes all costs and hours (for SPMs at VMFs, SPMs at LCVs, VMF shuttling, and contract shuttling). The model also shows the total SPMs currently performed by the VMF and local vendors to the total amount that could be more optimally performed by VMFs and LCVs.
- In these optimizations, we assumed that each VMF would operate at a standard efficiency. We used the sampled eight VMFs' average time per SPM as a standard for the time it takes to complete a SPM in that area. If a particular VMF performed better than this standard, we assumed that the VMF maintained its current efficiency.
- We identified cost savings if the VMF was not efficiently using its shuttling time. We compared the VMF's total shuttling time to the aggregate time that should be needed to perform all of the VMF's shuttling, assuming that two vehicles were

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<sup>15</sup> We obtained the current number of SPMs performed by VMFs and LCVs from VMAS databases located at the VMFs and [REDACTED]

[REDACTED]. Because a VMF may not perform all its required SPMs, we assumed a LCV 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 that the baseline case kept the scheduled maintenance hours and shuttling hours constant at current levels.

<sup>16</sup> 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.

<sup>17</sup> The historical attrition rate for Pacific Area maintenance technicians was determined by averaging the past 7 years (2001 - 2007) of data obtained from the WebEIS.



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 Enterprise Data Warehouse system. The number of hours of straight time worked for each mechanic per year is 1,754.<sup>18</sup>
- Based on the above analyses, assumptions, and constraints, we estimated that the Pacific Area could increase overall VMF efficiency and reduce costs by using local commercial resources for shuttling and SPM requirements when appropriate. This increased efficiency, when projected over the Pacific Area's universe of 18 VMFs, will reduce costs by approximately \$2.1 million annually, or over \$21 million for a 10-year period.

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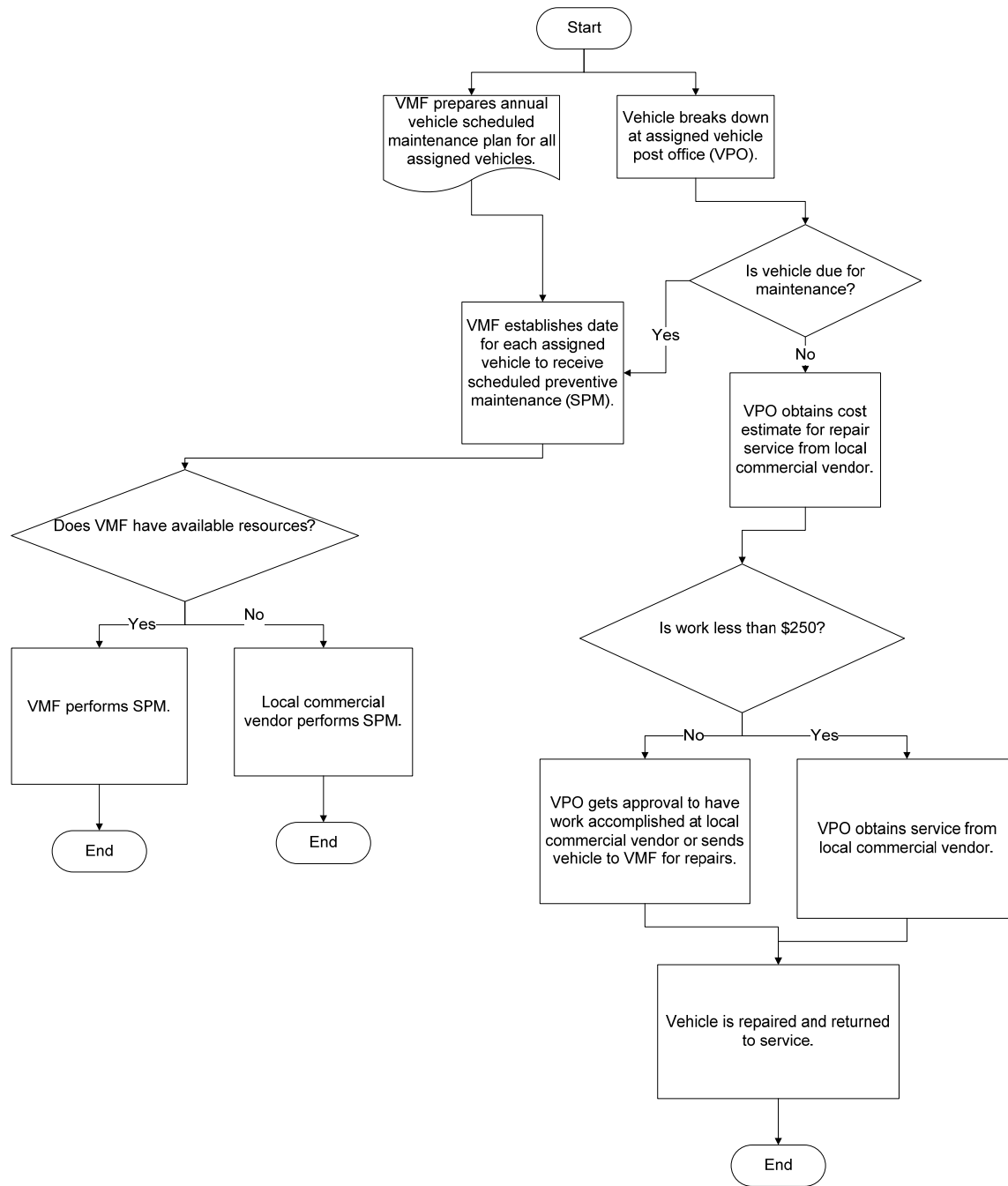
<sup>18</sup> Source: Finance Memorandum dated March 6, 2006, "Workhour Rates for Fiscal Years 2005 - 2007."

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

<b>District</b>	<b>VMF</b>
Bay Valley	Oakland
	San Jose
Sacramento	Fresno
	Sacramento
San Diego	San Bernardino
	San Diego
Santa Ana	Long Beach
	Santa Ana

Source: OIG Experts Sample

**APPENDIX F: SCHEDULED MAINTENANCE PROCESS**<sup>19</sup>



<sup>19</sup>Source: Postal Service Handbook PO-701, *Fleet Management*, March 1991.

## APPENDIX G: MANAGEMENT COMMENTS

MICHAEL J. DALEY  
VICE PRESIDENT, PACIFIC AREA OPERATIONS



September 25, 2008

LUCINE M. WILLIS  
DIRECTOR, AUDIT OPERATIONS

SUBJECT: Draft Audit Report – Vehicle Maintenance Facilities – Scheduled Maintenance Service  
in the Pacific Area (Report Number DR-AR-08-DRAFT).

This provides the management response to the above referenced draft audit report. (Project  
Number 07XG044DR000).

The report contained the following observations and recommendations specific to the Pacific  
Area.

### Observation

The audit report contains the following observation:

"A shortage of maintenance staffing."

### Recommendation

The Vice President, Pacific 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.

### Response

#### *Shortage of maintenance staff*

The audit team found that while the Pacific Area VMF units and commercial vendors completed 99 percent of the required Scheduled Preventive Maintenance (SPM) and repairs during FY 2007 they could further optimize VMF efficiency by more efficiently using VMF and commercial resources.

Management agrees that it is necessary for Postal Service management to assess vehicle maintenance positions at individual vehicle maintenance facilities to ensure sufficient staff is available for maintenance service. Management has reviewed the vehicle maintenance positions at our individual vehicle maintenance facilities and has determined that the staffing is sufficient to complete the required maintenance service.

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**Observation**

The audit report also contains the following observation:

"SPMs not completed were not recorded and tracked as maintenance in the arrears."

**Recommendations**

The Vice President, Pacific Area Operations, direct District Managers to:

2. Record and track key maintenance activities to ensure timely completion of all required scheduled maintenance and repairs.
3. Require vehicle maintenance facility officials to immediately conduct all maintenance in arrears and properly record vehicle status if maintenance was not conducted.

**Response**

*Scheduled Maintenance Performance*

The audit team found that the Pacific Area vehicle maintenance process ensured that nearly all vehicles received required and timely SPMs, with the majority of the VMFs audited completing one hundred percent of the SPMs as required and those remaining between 97 and 99 percent. The Pacific Area maintains one of the best maintenance records for the USPS.

The issue of more easily tracking and monitoring scheduled maintenance requires action by Postal Service Headquarters. As such, Pacific Area management will evaluate the Headquarters tracking system that is being developed. In the interim, we have confidence in the systems we have developed and will continue to utilize the process that we currently have in place.

*Optimum Use of Resources*

The audit team found that the Pacific Area did not always optimize its resources to ensure that maintenance and repair funds were expended in the most efficient and cost-effective manner.

**Observation**

The report contained the following observations as contributing factors:

- The vehicle maintenance 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.

**Recommendations**

The Vice President, Pacific 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.

**Response**

We can not commit to the actual dollar amounts specified in the audit report. However, we agreed that resources should be optimized to ensure that maintenance and repair funds are expended in the most efficient manner. As such, we agree in principle, and will pursue capturing savings through improved efficiencies as recommended.

*Summary*

The Vice President, Pacific Area Operations, had established the internal controls required to effectively manage vehicle maintenance programs. Specifically, we:

1. Assessed the vehicle maintenance technician positions at individual vehicle maintenance facilities to ensure sufficient staffing is available for maintenance service.
2. Record and track key maintenance activities to ensure timely completion of all required scheduled maintenance and repair and record vehicle status properly.
3. Work with vehicle maintenance facility officials to optimize our resources to ensure that maintenance and repair funds are allocated in the most efficient and cost-effective manner.

We do not believe that this report contains any proprietary or business information and may be disclosed pursuant to the Freedom of Information Act.



Michael J. Daley

cc: Katherine S. Banks  
AVP Board