March 4, 2008

JORDAN M. SMALL
VICE PRESIDENT, DELIVERY OPERATIONS

SUBJECT: Audit Report – City Delivery Vehicle Mileage – Base Versus Actual – National Capping Report (Report Number DR-AR-08-004)

This report presents the results of our self-initiated audit of City Delivery Vehicle Mileage – Base Versus Actual – National Capping (Project Number 07XG022DR001). The report relates to a series of four reports on this topic in the Capital Metro, Eastern, Southeast, and Southwest Areas. This report is issued under the Value Proposition Agreement between the Vice President, Delivery and Retail[1], and the U.S. Postal Service Office of Inspector General (OIG). Our overall objective was to evaluate the accuracy of mileage information on city delivery routes. Click here or go to Appendix A for additional information about this audit.

Conclusion

Overall, our four area reports concluded that vehicle mileage information in the Automated Vehicle Mileage Utilization System (AVUS) was not consistently accurate and reliable, and this impacted supervisors' effectiveness in making daily delivery and vehicle maintenance decisions. These conditions resulted in over 682,000 in unsupported miles driven by carriers and over $5.8 million in questioned costs. The recommendations included in the area reports should correct the majority of the issues identified in the audits. However, additional Postal Service Headquarters guidance can further improve the effectiveness of vehicle mileage information.

Specifically, the Postal Service could improve the accuracy and reliability of vehicle mileage information in AVUS by establishing a central reference policy with clear guidance on recording and maintaining mileage information and established standards for carrier mileage deviation. Additionally, AVUS input control modifications could reduce input errors and the associated variances between authorized miles and recorded miles.

[1] During the audit, this position was changed to two separate Vice Presidents. This report applies to delivery and, as such, is being issued to the Vice President, Delivery Operations.

Central Reference Policy

The Postal Service did not have a central reference policy that included all required guidance on recording and maintaining vehicle mileage information. Existing guidance also did not include standards for supervisors to use in evaluating carrier mileage deviations. Policies, procedures, and techniques should be accessible and understandable to help ensure that organizational objectives are achieved in the management of vehicle mileage information. Click here or go to Appendix B for our detailed analysis of this issue.

We recommend the Vice President, Delivery Operations:

1. Develop a central reference guidance policy for vehicle mile information. This guidance should include:

    a. Clear and comprehensive requirements to record and retain vehicle mileage information.

    b. Standards for supervisors to use to evaluate carrier mileage deviations.

Input Controls and Reliability for Automated Vehicle Mileage Utilization System

AVUS input control modifications could reduce input errors and variances between authorized miles and recorded miles. AVUS data contained indications of highly unlikely vehicle usage, such as delivery vehicles that traveled either millions of miles or negative miles in a single accounting period. This situation existed, in part, because guidance for recording mileage was not clear, as discussed above, but principally because of a need for better AVUS input controls. Existing controls were not adequate to reduce the potential for carriers to incorrectly enter vehicle mileage information, which contributed to large variances and negative miles driven. Correct and reliable AVUS information increases the system's effectiveness and could have a positive impact on the safety and reliability of delivery vehicles. This is especially important since the Postal Service does not plan to purchase new delivery vehicles until 2018, thereby extending their useful life an additional 10 years,[2] and because of the increased emphasis on information effectiveness placed on automated systems by the Sarbanes-Oxley Act.[3] Click here or go to Appendix B for our detailed analysis of this issue.

[2] The Postal Service's primary delivery vehicle, the Long Life Vehicle (LLV), has a 24-year useful life. The Postal Service does not currently plan to replace these vehicles until 2018.
[3] The U.S. Public Company Accounting Reform and Investor Protection Act of 2002 (the Sarbanes-Oxley Act).

We recommend the Vice President, Delivery Operations:

2. Review input controls for the Automated Vehicle Mileage Utilization System and make changes necessary to meet the intent of the Sarbanes-Oxley Act. This should include:

    a. Revising input controls for the Automated Vehicle Mileage Utilization System to reduce mileage errors and variances by limiting the maximum number of characters the scanner (Intelligent Mail Device) can accept from seven to six digits.

    b. Revising the Automated Vehicle Mileage Utilization System to eliminate the possibility of negative miles being recorded by modifying the system to prevent input of ending mileage that is less than the beginning mileage.

Management Comments

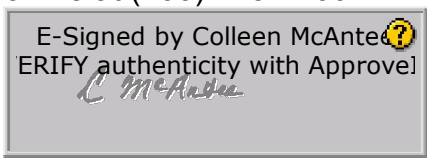
Management agreed with our findings and recommendations. Management stated they would develop and publish a management instruction that will address all aspects of recording mileage in AVUS. Management also initiated an Engineering Change Request and Direction to limit the scanner characters to six digits. The estimated completion date for both of these actions is Quarter 2, fiscal year (FY) 2009. Finally, management indicated they will request funds to enhance the AVUS application in the FY 2009 budget cycle. Click here or go to Appendix F for the entirety of management's comments.

Evaluation of Management's Comments

Management's comments are responsive to all the recommendations. Management's actions taken or planned should correct the issues identified in the findings.

The OIG considers recommendation 2b significant and, therefore, requires OIG concurrence before closure. Consequently, the OIG requests written confirmation when corrective actions are completed. This recommendation should not be closed in the follow-up tracking system until the OIG provides written confirmation the recommendations can be closed.

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.



Colleen A. McAntee
Deputy Assistant Inspector General
for Mission Operations

Attachments

cc: Patrick R. Donahoe
William Galligan
Katherine S. Banks

APPENDIX A: ADDITIONAL INFORMATION

Background

The Postal Service has over 216,000 postal-owned vehicles that carriers use to deliver almost 680 million pieces of mail each day on more than 163,000 city routes. In FY 2005, postal-owned vehicles traveled approximately 1.2 billion miles and used more than 125 million gallons of fuel.

On motorized routes, city carriers are required to follow their authorized lines of travel at all times. This includes travel to and from authorized routes; lunch, break, and refueling locations; and collection boxes.

Supervisors and managers use the Delivery Operations Information System (DOIS) and the AVUS to assist them in managing daily carrier operations. DOIS data includes mail volume, mail arrival and dispatch times, and projected office and street hours for each route. The Postal Service generally establishes city route base mileage during the annual route inspection using Postal Service (PS) Form 3999, Inspection of Letter Carrier Route. District or unit managers enter the base route mileage in DOIS after the route inspection.

Although DOIS is important in establishing authorized miles for carrier routes, AVUS is the primary system for managing day-to-day vehicle utilization. The system was originally a part of Managed Service Points but became a separate system in 2002. It is web-based and costs approximately $434,000 annually to maintain.

The Postal Service designed AVUS to allow carriers to enter vehicle mileage information into Intelligent Mail Devices, or scanners, at appropriate points along their routes. At the end of the route, AVUS calculates hourly vehicle utilization, and compares miles driven to authorized miles for the route. Delivery unit supervisors use this information to ensure that carriers are not deviating from the line of travel for their routes. AVUS information is also of primary importance to Vehicle Maintenance Facility (VMF) officials. Each month, AVUS downloads vehicle mileage data into the Vehicle Management Accounting System (VMAS). Vehicle maintenance officials use this information to schedule vehicle maintenance. Finally, area and district coordinators use AVUS mileage data that has been electronically sent to the Web Enterprise Information System (WebEIS)[4] to monitor mileage utilization. (See the flowchart in Appendix E.) Two documents provide the primary guidance for AVUS information and use.[5]

[4] WebEIS delivers easy access to detailed performance data continually gathered across the entire Postal Service. WebEIS helps managers measure performance and identify areas for improvement, increasing overall Postal Service efficiency.

[5] *AVUS Supervisor Users Guide,* dated November 2006, and Handbook M-39, *Management of Delivery Services*, dated March 1998 (updated through March 2004).

Objective, Scope, and Methodology

Our overall objective was to evaluate the accuracy of mileage information on city delivery routes. Specifically, we evaluated the accuracy of established route base mileage in AVUS. We also evaluated variances between the established route base and actual mileages recorded.

To accomplish our objective, we interviewed managers and employees at headquarters and in selected areas, districts and units. Specifically, we visited and reviewed information from 92 delivery units[6] with 15 or more routes within 30 districts in the four selected Postal Service areas. (See Appendix D.) We selected a random 3-month period (September through November 2006[7] or January through April 2007) to review route information for each delivery unit.

To evaluate the accuracy of the established route base mileage information in AVUS, we compared the route base information recorded in AVUS to DOIS.[8] To evaluate variances between the authorized base mileage and actual mileage recorded, we evaluated variances of four to 19 miles occurring 12 times or more within a month.[9] In addition, we reviewed variances of 20 miles or more occurring any time within the month reviewed. We determined whether a PS Form 3996, Carrier – Auxiliary Control, Route Carrier Daily Performance/Analysis Report,[10] or other appropriate documentation explained or supported mileage variances.[11]

We conducted this performance audit from October 2007[12] through March 2008 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 objective. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective. We relied on data from DOIS and AVUS. We did not audit these systems, but performed a limited review of data integrity to support our reliance on data. We discussed our observations and conclusions with management officials on January 23, 2008, and included their comments where appropriate.

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[6] The 92 delivery units were selected from a universe of 1,575 delivery units.
[7] AVUS retains data in the server for approximately 3 months.
[8] We selected the delivery units and corresponding routes for the current 3-month period from AVUS. Inspections of routes selected in the sample could have occurred, resulting in updated PS Forms 3999 and subsequent route adjustments. The route inspection and adjustments could have increased or decreased the authorized base mileage after we selected the route data for review. We adjusted the authorized base mileages for these routes where appropriate during our audit.
[9] Because of the complexity of the auxiliary assistance issue, we did not evaluate auxiliary assistance mileage in this audit. These mileages are discussed in this report because of their significant impact on mileage variance.
[10] This report assists supervisors in evaluating the performances of all routes within a delivery unit for a single day.
[11] This information is based on the recorded delivery scans and signatures in the Product Tracking System (PTS). PTS provides a nationwide infrastructure for collecting and reporting data on the location delivery status of a mailpiece.
[12] The first of the four individual area audits started in August 2006.

Prior Audit Coverage

The OIG has issued four audit reports related to our objectives. All of the reports identified opportunities to improve management of city letter carrier operations in the districts audited. This capping report summarizes the overall findings in the four area reports.

Audit Report Title	Report Number	Issue Date	Unrecoverable Questioned Costs (See Appendix C)
City Delivery Vehicle Mileage – Base Versus Actual – Capital Metro Area	DR-AR-08-003	October 26, 2007	$2,117,349
City Delivery Vehicle Mileage – Base Versus Actual – Southeast Area	DR-AR-07-015	September 29, 2007	$2,098,347
City Delivery Vehicle Mileage – Base Versus Actual – Eastern Area	DR-AR-07-014	September 26, 2007	$832,800
City Delivery Vehicle Mileage – Base Versus Actual – Southwest Area	DR-AR-07-013	September 26, 2007	$753,322
		Total	$5,801,818

APPENDIX B: DETAILED ANALYSIS

Central Reference Policy

The Postal Service did not have a central reference policy that included all required guidance on recording and maintaining vehicle mileage information. Existing guidance also did not include standards for supervisors to use in evaluating carrier mileage deviations.

- **Recording and Maintaining Mileage Information**
  Vehicle mileage guidance existed in several places, such as the Postal Service Blue website, Postal Service handbooks, and PowerPoint presentations. However, several important issues related to investigating variances, recording odometer readings, and maintaining documentation either were not addressed by policy, were difficult to locate, or could not be accomplished as specified by current guidance.

  For example, current guidance requires the recording of miles, to include tenths of a mile on routes. However, current Intelligent Mail Devices (scanners) will not accept decimal points (tenths of a mile). Therefore, carriers attempting to enter a tenth of a mile will increase the mileage by a factor of 10 (see AVUS Input Controls and Reliability section).

  Additionally, Postal Service policy requires delivery units to maintain documentation of corrections and discussions with carriers on mileage deviations or variances for 30 days. However, a longer period may be needed to develop and evaluate trends that could provide information to improve overall management of carrier routes and, as necessary, correct negative behavior.

- **Standards for Mileage Deviation**
  Supervisors did not have a mileage deviation standard by which to investigate variances, and current policy does not provide a deviation standard. Supervisors told us that they were unsure of when to investigate variances with higher delivery priorities (mail operations) impacting the workday. For example, some supervisors evaluated variances of two or more miles, while others did not. A deviation standard of a minimum of two miles, or a mileage threshold determined by management, would give supervisors clear and consistent guidance for addressing mileage deviations.

Policies, procedures, and techniques should be accessible and understandable to provide assurance that organizational objectives are achieved in managing vehicle mileage information. Correctly and consistently recording odometer readings is important to ensuring that carriers are driving the authorized mileages on routes, so that mail is delivered in the most efficient way possible. Finally, reliable and consistent information is necessary for VMFs to ensure vehicles are safe and reliable.

AVUS Input Controls and Reliability

Modifications to AVUS input controls could reduce errors and the variances between authorized miles and recorded miles. Our review of AVUS information showed vehicles traveling either millions of miles or negative miles in a single accounting period. These errors can be reduced by limiting the maximum number of characters the scanner can accept from seven digits to six, and modifying AVUS to prevent input of ending mileage that is less than the beginning mileage.

- **Limiting the number of characters for scanners**
  Errors and large variances in vehicle mileage could be reduced. As previously stated, current guidance requires recording the number of miles, to include tenths of a mile, on routes. However, in our area audits, we found that delivery unit employees did not consistently record vehicle mileage. Some delivery unit employees recorded the odometer reading by rounding up or rounding down, while others ignored tenths of a mile. When carriers try to input the tenth of a mile, large variances occur. This condition exists, in part, because the current Intelligent Mail Devices (scanners) will accept seven characters but not decimal points (tenths of a mile). For example, if a carrier's odometer reading at the end of the route was 567,897.7, and the carrier does not round up to 567,898, the mileage will be shown as 5,678,977 – indicating the carrier drove more than 5 million miles on the route.

  In discussions with Postal Service Headquarters officials, we were advised that it was possible to limit the number of characters the scanner will accept to six digits instead of seven digits. They stated that this could be an appropriate correction because no vehicle within the Postal Service fleet has registered a million miles on its odometer.

- **Ending mileage less than beginning mileage**
  Postal Service Headquarters officials can further improve AVUS by modifying system controls to eliminate the recording of negative mileage. Our area audits identified numerous situations with negative vehicle mileage, caused primarily by carriers incorrectly recording ending mileage that was less than their beginning mileage. We believe AVUS can be modified to show the user an error condition when this occurs, requiring the carrier to reenter correct mileage information.

Incorrect and unreliable AVUS information jeopardizes supervisors' ability to make decisions and impacts the safety and reliability of vehicles. This is especially important since these vehicles' useful life will be extended an additional 10 years.[13] Additionally, the Sarbanes-Oxley Act requires operating units to document controls and maintain evidence of their effectiveness. The act also requires that each annual report contain an internal controls report that assigns responsibility for establishing and maintaining

[13] The Postal Service primary delivery vehicle, the LLV, has a 24-year useful life. The Postal Service does not currently plan to replace these vehicles until 2018.

adequate internal controls and assesses the effectiveness of those controls. Therefore, AVUS data must be accurate and reliable.

APPENDIX C: CALCULATION OF COST SAVINGS IN AREA REPORTS

The OIG reported $5,801,818 in questioned costs in the four individual area reports.

The OIG calculated the questioned costs through a random sample of delivery facilities with 15 or more routes. After selecting the random sample, a random month within the quarter was selected for each facility. For the Southwest Area, we reviewed the 3-month period September through November 2006. We reviewed the 4-month period January through April 2007 for the Capital Metro, Eastern, and Southeast Areas.

We extrapolated our test period finding to an 11-month period (we excluded December because of seasonal issues) and computed the cost per mile.

Postal Service Area	Unsupported Miles for Audit Finding	Projected Unsupported Miles for Audit Universe	Extrapolated Miles for 11-Month Period	Cost per Mile[14]	Unsupported Questioned Costs
Capital Metro	34,407	240,608	2,646,687	$.80	$2,117,349
Eastern	7,519	94,636	1,041,000	.80	832,800
Southeast	30,360	261,313	2,874,448	.73	2,098,347
Southwest	6,832	85,605	941,655	.80	753,322
TOTAL	79,118	682,162	7,503,790	$.80	$5,801,818

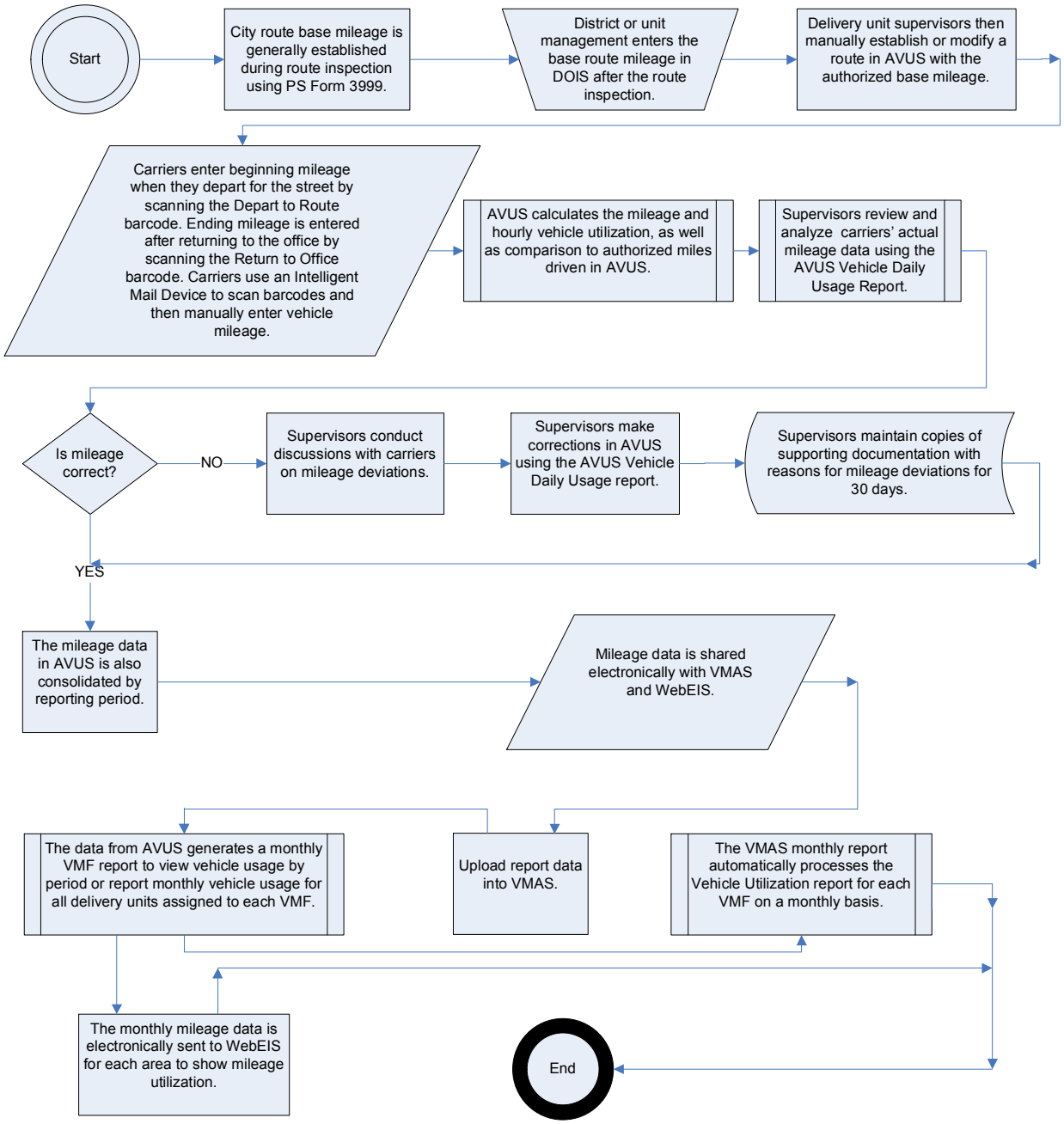
[14] The VMAS Fuel Report shows a cost per mile of 73 cents, which includes 24 cents per mile for fuel/oil. The OIG performed an analysis of fuel/oil and determined the cost to be 31 cents per mile. The OIG determined the cost per mile for this audit as follows: 73 cents/mile - 24 cents/mile for fuel (USPS) + 31 cents/mile for fuel (OIG) = 80 cents/mile. In discussions with Southeast Area management, the OIG agreed with fuel costs of 73 cents per mile.

APPENDIX D: SELECTED AREAS AND DISTRICTS

POSTAL SERVICE AREA	DISTRICTS	
Capital Metro	Baltimore	Mid-Carolina
	Capital	Northern Virginia
	Greater South Carolina	Richmond
	Greensboro	
Eastern	Central Pennsylvania	Appalachian
	Northern Ohio	South Jersey
	Philadelphia	Kentuckiana
	Pittsburgh	Cincinnati
Southeast	Alabama	South Florida
	Atlanta	South Georgia
	Central Florida	Suncoast
	North Florida	Tennessee
Southwest	Arkansas	Oklahoma
	Dallas	Rio Grande
	Fort Worth	Louisiana[15]
	Houston	

[15] The Vice President, Southwest Area, asked the OIG to exclude the Louisiana District from the sample universe because of the rebuilding effort after Hurricane Katrina.

APPENDIX E: FLOW CHART – AVUS MILEAGE INFORMATION PROCESS[16]



[16] Source: *AVUS Supervisor Users Guide,* dated November 2006, and Handbook M-39, *Management of Delivery Services*, dated March 1998 (updated through March 2004).

APPENDIX F. MANAGEMENT'S COMMENTS

JORDAN M. SMALL
Vice President, Delivery Operations

UNITED STATES POSTAL SERVICE

475 L'ENFANT PLAZA SW
WASHINGTON DC 20260-0000

February 27, 2008

Mr. Johnson John
(A) Director, Audit Operations
Office of Inspector General
1735 North Lynn Street
Arlington, VA 22209-2020

Subject: City Delivery Vehicle Mileage-Base Versus Actual-National Capping Report
(Report Number DR-AR-08-DRAFT)

This letter is a follow-up to the subject Office of Inspector General (OIG) National Capping report.

The report presents the results of a series of four audits conducted on City Delivery Mileage-Base Versus Actual in the Capital Metro, Eastern, Southeast and Southwest Areas. The Postal Service concurs with the findings on establishing a Central Reference Policy and modifying input controls to improve the effectiveness of recording mileage information into the Automated Vehicle Utilization System (AVUS).

Specifically the Postal Service will address the significant OIG recommendations:

1. We recommend the Vice President Delivery Operations develop a central reference guidance policy for vehicle mile information. This guidance should include

    a. Clear and comprehensive requirements on recording and maintaining vehicle mileage information.

    b. Standards for supervisors to use to evaluate carrier mileage deviations.

    Management Action 1:

    The Postal Service will develop and publish a Management Instruction that will provide guidance and address all aspects of mileage recording in AVUS. A policy will be developed on establishing deviation standards.

2. We recommend the Vice President, Delivery Operations review input controls on AVUS and make necessary changes to meet the intent of the Sarbanes-Oxley Act. This should include:

    a. Revising AVUS input controls to reduce mileage errors and variances by limiting the number of characters the scanner can accept from seven to six digits.

    b. Revising AVUS to eliminate the possibility of negative miles being recorded by modifying the system to prevent input of the ending mileage being less than the beginning mileage.

Management Action 2:

In response to Item 2.a., the Postal Service has initiated an Engineering Change Request and Direction, ECB-001 (Attachment), with the following changes:

1. The Managed Service Points (MSP) screen shall display a seven character (7) alphanumeric field for the user to enter the VEHICLE ID. (Reduced from ten characters)

2. The MSP screen shall display a six-character (6) numeric field for BEGIN MILEAGE. (Reduced from seven characters)

3. The MSP screen shall display a six-character (6) numeric field for END MILEAGE. (Reduced from seven characters)

The estimated deployment is scheduled for Quarter II, Fiscal Year (FY), 2009.

Item 2.b., will require enhancements to the AVUS application. Funding to make the requested changes, along with additional enhancements will be requested in the FY2009 budget cycle.

We remain committed to improving the accuracy of AVUS and eliminating the unsubstantiated mileage variances, thereby minimizing unrecoverable costs. We appreciate the cooperation and courtesies afforded by your staff during the audit process.

Jordan M. Small

Enclosure

cc: Mr. Galligan
Mr. Kiser
Mr. Corey
Ms. McAntee
Ms. Dufford

REASON FOR CHANGE: [ ] Safety [X] Reliability [ ] Performance [ ] Ergonomic	**U.S. POSTAL SERVICE ENGINEERING CHANGE REQUEST AND DIRECTIVE**	Date: 12/17/2007	Page: 1 of 1
		ECR No: [redacted]	Rev.

Equipment Name: REVISE MSP SCREEN FOR VEHICLE ID AND MILEAGE	Acronym: IMD	[ ] Class 1 Change [ ] Class 2 Change

Change Description (use additional sheets if necessary):

This Engineering Change requests modification to the MSP screen. It is requested that the existing MSP screen be modified as follows:

1. The MSP screen shall display a seven-character (7) alphanumeric field for the user to enter the VEHICLE ID.
2. The MSP screen shall display a six-character (6) numeric field for BEGIN MILEAGE.
3. The MSP screen shall display a six-character (6) numeric field for END MILEAGE.

Target Implementation: Release 2 or earliest possible release.

Out of Service Time:	Estimated Total Savings:
Estimated Total Cost:	Implementation Cost (per item):

Trade-Offs and Alternative Solutions:

Software code design shall use a data driven approach to minimize future impacts to software when data changes are requested by the USPS. A data file update or other method should be used as necessary. When requested to add new features or make changes to existing software, the Contractor shall propose and design to a data driven approach whenever possible. The Contractor shall identify when this approach can not be used or is not recommended and provide reasoning. Alternatives for both data driven and non-data driven designs shall be proposed with ROM estimates.

Originator: (print) [redacted]	Telephone No: [redacted]	Concurring Manager's Signature and Date

ECB Directive No:	ECB Directive Date:	Engineering Change Board Action:

ECB Direction/Comments: [redacted]

Concurrence expected from: [redacted]

Vice Chairperson's Signature | Vice Chairperson's Signature | ECB Chairman's Signature

USPS Form ECD-001 May 19, 1994