



August 29, 2007

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SUBJECT: Audit Report – Address Management System Information – National Capping
(Report Number DR-AR-07-012)

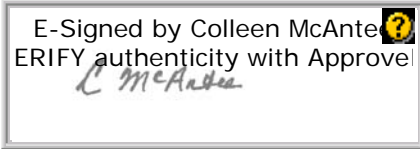
This report summarizes a series of eight reports of our self-initiated audit of Address Management System (AMS) information in the Capital Metro, Eastern, Great Lakes, Northeast, Pacific, Southeast, Southwest, and Western Areas (Project Number 07XG025DR000). Our objective was to assess the U.S. Postal Service's management of delivery AMS quality review results to ensure address information is correct and complete to effectively process and deliver the mail in the eight areas.

District officials in the eight areas effectively managed delivery AMS quality review results for approximately 10 percent (8,518 of 88,418) of their routes according to Postal Service guidelines. District AMS officials did not conduct additional street reviews for the remaining routes due to limited staff and a priority on timely mail delivery. However, opportunities exist for area officials to implement best management practices from the New York Metro Area's New York District to improve the quality of AMS data to process and deliver the mail. If area officials implemented a program similar to the New York District's program in their districts, they could reduce errors by 31.84 percent, saving the Postal Service \$26,902,945 over the next 10 years. We reported monetary impact in the individual area reports. (See Appendix A.)

In our eight area reports, we recommended the vice presidents implement an AMS quality review program similar to the New York District's. Management agreed in principle with our area findings and recommendations and while they did not always agree with our monetary impact, they all agreed to take actions that should reduce AMS errors. We considered management's actions responsive to the issues raised in the reports and, therefore, we did not pursue the unresolved monetary impact issues through the formal resolution process.

Based on discussions during our audit, the Vice President, Delivery and Retail and the Senior Vice President, Intelligent Mail and Address Quality, issued a joint memorandum to area vice presidents implementing a National Delivery-AMS Street Review process for fiscal year 2008. This process should address the issues raised in our audit. Therefore, we are making no additional recommendations in this report.

We appreciate the cooperation and courtesies provided by your staff during the audit. 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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Attachments

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INTRODUCTION

Background

Address management is the foundation for how the U.S. Postal Service moves mail. The Postal Service strives to obtain the highest quality address information possible for internal use and for its customers. In March 1993, the Postal Service implemented Delivery Point Sequence (DPS).¹ DPS is the process of putting barcode mail into the carrier's line of travel (LOT) to eliminate manual mail sorting, improve efficiency, and reduce costs.

In 1994, the Postal Service established the Address Management System (AMS) to capture, correct, and complete address information to enhance the efficiency of mail processing and delivery through automation. Sort programs used to process mail in DPS capture address information in the AMS. A developer creates sort programs as part of the Sort Program System, which is part of the National Directory Support System (NDSS). DPS sort programs are transferred to either a Mail Processing Barcode Sorter or a Delivery Barcode Sorter² for sorting mail into DPS.

Mail that automated equipment cannot process requires manual processing, which is less efficient and is costly to the Postal Service. As illustrated in Table 1, during fiscal year (FY) 2005, the Postal Service processed 94 billion pieces of letter mail, 72 billion pieces (76.8 percent) of which employees processed on automated equipment and the remaining 22 billion pieces (23.2 percent) manually. During FY 2006, the Postal Service processed 93.3 billion pieces of letter mail — employees processed 74.4 billion pieces (79.7 percent) on automated equipment and the remaining 18.9 billion pieces (20.3 percent) manually.

**Table 1. Postal Service Letter Mail Processed in Pieces
FYs 2005 and 2006**

Fiscal Year	DPS Letters (Pieces)	Cased Letters (Pieces)	Total Letters (Pieces)	DPS Percentage	Cased Letter Percentage
2006	74,404,492,341	18,929,268,976	93,333,761,317	79.7	20.3
2005	72,270,819,511	21,846,660,416	94,117,479,927	76.8	23.2

Source: Postal Service Web-enabled Enterprise Information System (WebEIS)

¹ DPS resulted from a 1992 agreement with the National Association of Letter Carriers that changed the automation environment.

² Carrier Sequence Barcode Sorters, a type of mail processing equipment smaller Postal Service facilities use, also sort DPS mail.

In 2003, the Postal Service outlined a strategy to enhance address quality in its Intelligent Mail Corporate Plan. The strategy includes improving the address database, filling change of address orders, and using Address Change Service. To improve the address database, the Postal Service established a delivery AMS quality review program to evaluate the quality of AMS data and meet the goal of 100 percent accurate AMS data nationwide.

As part of the quality review program, National Customer Support Center (NCSC) teams annually conduct street reviews of 40 routes at each Postal Service district nationwide. The NCSC team selects 40 city or rural delivery routes, based on Postal Service guidelines.³ For every route the team selects within a ZIP Code, they also select two alternate routes.

The street reviews:

- Identify all possible delivery addresses included in Address Information System products and the NDSS files.
- Validate the number of possible delivery addresses assigned to each carrier route.
- Validate the correct LOT or delivery sequence for each carrier route.
- Assign ZIP+4® Codes to maximize compatibility with automated equipment.
- Verify the standardization of addresses according to Publication 28, *Postal Addressing Standards*, dated July 2006.
- Review AMS database products to ensure they meet the needs and expectations of Postal Service customers.

The NCSC team is required to review districts scoring below 98 percent on the street review every 6 months, review districts that score from 98 to 100 percent annually, and review districts scoring 99 percent or higher on an abbreviated basis.

In addition to the NCSC street reviews, AMS district officials conduct street reviews of routes to maintain the accuracy of AMS

³ *Delivery/AMS Quality Street Review Guidelines*, FY 2005 Revision 1, states that NCSC will review 40 routes per districts annually.

data. Carriers also identify AMS data changes based on their street deliveries, note address changes in their AMS edit books, and submit the information to the AMS district officials using their Web Electronic Edit Sheets for review and correction in the AMS database.

As the Postal Service continues to process mail on automated equipment, the quality of address information takes on new importance. Use of correct and complete address information can reduce costs to the Postal Service.

**Objective, Scope,
and Methodology**

Our objective was to assess the Postal Service's management of the delivery AMS quality review results to ensure address information is correct and complete to effectively process and deliver the mail in the Capital Metro, Eastern, Great Lakes, Northeast, Pacific, Southeast, Southwest, and Western Areas. We obtained data on FYs 2005 and 2006 reviews from the NCSC to analyze routes reviewed, AMS data errors identified, and performance scores. As illustrated in Table 2, we selected districts in the eight areas for review based on their NCSC performance scores.

We also reviewed performance scores for the eight areas' districts to select those receiving performance scores below 98 percent in FYs 2005 and 2006 and evaluated their AMS data maintenance process to determine whether they could improve their programs. We also reviewed the areas' FYs 2005 and 2006 DPS information to compare their DPS volumes to the Postal Service's goal.⁴ We obtained and reviewed the results of prior AMS reviews for the New York District, which showed street review performance scores consistently above 99 percent. As a best management practice, we evaluated the feasibility and applicability of using the New York District's AMS data maintenance program in other Postal Service districts.

⁴ We are planning to conduct a future review that will incorporate DPS percentages to identify opportunities to reduce costs and improve customer service.

Table 2. NCSC Review Results for the Eight Areas

Postal Areas	Number of Districts	Number of Reviews Conducted for the District	Number of Districts that Achieved 98% Score in FY 2005	Percentage of Districts Achieved 98% Score in FY 2005	Number of Reviews Conducted for the District	Number of Districts that Achieved 98% Score in FY 2006	Percentage of Districts that Achieved 98% Score in FY 2006
Capital Metro	7	7	7	100%	7	6	86%
Eastern	10	10	7	70%	9	7	78%
Great Lakes	9	9	2	22%	8	3	33%
Northeast	8	7	2	25%	5	1	13%
Pacific	8	8	5	63%	8	4	50%
Southeast	9	9	9	100%	9	6	67%
Southwest	8	8	0	0%	7	0	0%
Western	14	14	3	21%	14	8	57%

Source: Postal Service NCSC officials

We conducted a series of eight audits from April 2006 through August 2007 in accordance with generally accepted government auditing standards and included such tests of internal controls as 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 that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. We discussed our observations and conclusions with management officials on June 26 and June 29, 2007, and included their comments where appropriate. We relied on computer-processed information from AMS. We did not directly audit the system, but performed a limited data integrity review to support our data reliance.

Prior Audit Coverage

The OIG issued nine reports directly related to our objectives. We have included a complete list of the reports in Appendix B.

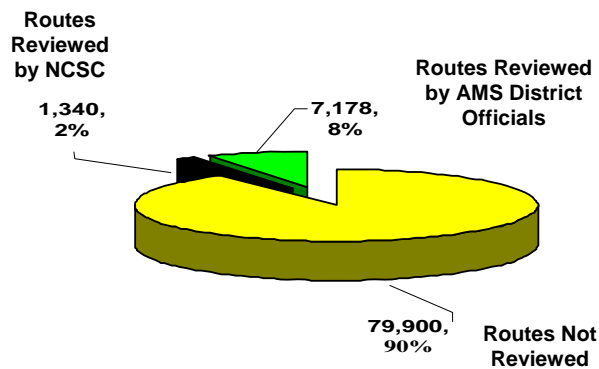
AUDIT RESULTS

Address Management System Information

District officials in the eight areas reviewed effectively managed delivery AMS quality review results for approximately 10 percent (8,518 of 88,418) of their routes. District AMS officials did not conduct additional street reviews for the remaining 79,900 routes due to limited staff and a priority on ensuring timely mail delivery. However, opportunities exist for area officials to implement best management practices similar to those the New York Metro Area’s New York District use to improve the quality of AMS data to process and deliver the mail.

In FYs 2005 and 2006, there were 88,418 total routes in the selected district locations, as illustrated in Chart 1. The NCSC team reviewed approximately 2 percent (1,340) of these routes according to Postal Service guidelines. The team identified 18,741 AMS errors. During this same period, the areas’ district officials reviewed approximately 8 percent (7,178) of the routes. The remaining 90 percent (79,900) of the routes were not reviewed.

Chart 1. Number and Percentage of Route Reviews Conducted in the Eight Areas



Source: Postal Service NCSC and Areas Officials

As illustrated in Table 3, at the time of our review, NCSC and local AMS officials performed quality street reviews for 8,518 routes. Based on FYs 2005 and 2006 NCSC team reviews and the related error rate per route, approximately 1,080,429⁵ AMS

⁵ We based our projection of the number of errors that may exist in routes not reviewed on the formula NCSC uses in its street reviews. The error projection for each area’s district is determined by using the number of errors identified in NCSC street reviews, determining an error rate per route, and applying the rate to the number of routes not reviewed. The 1,080,449 projected errors were calculated by adding the following: Capital Metro - 30,345; Eastern - 50,664; Great Lakes - 129,668; Northeast - 179,059; Pacific - 101,022; Southeast - 33,056; Southwest - 322,418; and Western - 234,197.

data errors may exist on 79,900 routes in districts in the eight areas where street reviews were not conducted.

Table 3. Route Reviews Conducted in the Eight Areas

Area	Total Routes	Routes Reviewed by NCSC	Routes Reviewed by District Officials	Total Routes Reviewed	Routes Not Reviewed
Capital Metro	2,043	20	10	30	2,013
Eastern	4,382	160	100	260	4,122
Great Lakes	9,718	80	868	948	8,770
Northeast	12,557	260	289	549	12,008
Pacific	15,378	140	183	323	15,055
Southeast	7,217	40	4,229	4269	2,948
Southwest	18,019	280	542	822	17,197
Western	19,104	360	957	1,317	17,787
Totals	88,418	1,340	7,178	8,518	79,900

Source: Postal Service NCSC and Area officials

Currently, local AMS officials administer the eight areas' district programs. However, these officials did not use available district resources (such as delivery supervisors or appropriate designees) to conduct additional street reviews for the remaining 79,900 routes. District officials stated staffing constraints hindered the completion of additional reviews and their primary focus was ensuring timely delivery of the mail.

In addition, the AMS review module in the associate supervisors training course for the eight areas' district delivery supervisors does not include specific information on AMS quality street reviews. The module only provides information on how to update the AMS edit book and enter the changes into the automated system for submission to district officials.

The Postal Service established the AMS to capture, correct, and complete address information to enhance the efficiency of mail processing and delivery through automation. Therefore, AMS address data information captured in sort programs used to process mail in DPS must be accurate. The Postal Service created DPS to eliminate manual mail sorting, improve efficiency, and reduce costs.

As illustrated in Table 4, from FY 2005 to FY 2006, all areas improved their DPS mail volume percentages. The New York Metro Area DPS percentages were below the national average for DPS mail due, in part, to challenges associated with

secondary descriptors in New York District high-rise buildings and language issues in the Caribbean District. According to the *Transformation Plan*,⁶ the Postal Service’s goal is to sort 95 percent of letter mail volume by DPS by 2010. A decrease in AMS data errors would help area officials achieve the DPS goal and reduce operating costs.

Table 4. The Areas’ DPS Percentages

Areas	FY 2005	FY 2006
Capital Metro	72.41	75.66
Eastern	74.53	78.31
Great Lakes	75.67	78.08
Northeast	81.48	84.31
Pacific	75.24	79.62
Southeast	79.10	81.34
Southwest	79.58	80.59
Western	82.11	84.82
New York Metro	71.00	74.20
National Average	76.79	79.72

Source: Postal Service WebEIS

If the eight areas’ districts implemented programs similar to the New York District’s, they could reduce AMS errors by 31.84 percent,⁷ saving the Postal Service \$26,902,945 over the next 10 years. (See Appendix A.)

New York District

The New York District has 2,202 city routes. In FY 2005, the NCSC team reviewed 2 percent (40) of these routes according to Postal Service guidelines. The team identified 195 AMS errors (approximately five errors per route) and the district received a 99.21 AMS performance score from the street review. The NCSC team did not review the remaining 98 percent of the routes (2,162).

In 1998, the New York District began an extensive AMS quality review program, administered by local AMS officials, which requires delivery units to complete AMS street reviews using existing staff. As part of the program, New York District officials added an AMS review module to the training course for New

⁶ U.S. Postal Service *Strategic Transformation Plan 2006 – 2010*, dated September 2005.

⁷The error reduction rate factor for the New York Metro Area is 71.05 percent and the error reduction rate factor for the control group is 29.74 percent. The factor for the New York Metro Area is divided by the control group factor (1.7105 ÷ 1.2974) to arrive at 31.84 percent. The Capital Metro, Eastern, Great Lakes, Northeast, Pacific, Southeast, Southwest, and Western Areas are expected to reduce their error rates by 31.84 percent by implementing a program similar to the New York Area’s.

York District delivery supervisors. In addition, the New York AMS office established AMS review schedules for all delivery units' existing staff and an accountability system that monitors the completion of AMS street reviews. As a result, the New York District used existing staff to significantly increase its review coverage.

In FY 2005, New York District officials set a goal of reviewing all routes annually, including routes the district and the NCSC reviewed. The existing staff reviewed routes and implemented corrective actions for the AMS errors identified. AMS reviews that delivery unit staff conduct are implemented by all districts in the New York Metro Area and the program has been very successful. Since its inception, all districts have achieved significant increases in AMS performance scores. The historical average performance score for the New York District is 99.03 percent.

Address Management System Street Review Program Changes

During our audit, the Deputy Postmaster General and Chief Operating Officer issued a memorandum on AMS national street reviews dated August 23, 2006. The memorandum stated a new Address Quality Improvement Process would be implemented to help the districts identify and correct addressing deficiencies. The new process would include the Address Quality Reporting Tool, which enables staff to target problem areas on a continual basis. The memorandum further stated for FY 2007, trained field personnel would conduct all delivery AMS street reviews. Area and headquarters address management officials would continue to coordinate the FY 2007 delivery AMS street review schedule and the NCSC would continue to provide street review materials.

Management's Actions

The eight audit reports we issued to area vice presidents contained recommendations with potential savings totaling \$26.9 million over the next 10 years. In their formal written comments, area vice presidents agreed in principle with our findings and recommendations and have initiated a variety of actions in response to the issues identified in our reports. While the area vice presidents did not always agree with our monetary impact, they all agreed to take actions that should reduce AMS errors. We considered management's actions responsive to the issues raised in the reports and, therefore, we did not pursue the unresolved monetary impact issues through the formal resolution process.

In addition, based on discussions during our audit, the Vice President, Delivery and Retail and the Senior Vice President, Intelligent Mail and Address Quality, issued a joint memorandum to area vice presidents implementing a National Delivery-AMS Street Review process. This process will begin on October 1, 2007, and should address the issues raised during our audit. Therefore, we are making no additional recommendations in this report. (See Appendix C.)

APPENDIX A

CALCULATION OF FUNDS PUT TO BETTER USE

The OIG identified \$26,902,945 in funds put to better use over the next 10 years for the eight areas. (Note: The monetary impact was reported in each individual area report. We are summarizing the monetary impact in this report as information only.)

Area	Fiscal Year	Funds Put to Better Use
-	-	-
Capital Metro	2006	\$455,197
Eastern	2005	779,013
Great Lakes	2005 & 2006	2,678,506
Northeast	2005 & 2006	4,590,875
Pacific	2005 & 2006	7,881,288
Southeast	2006	862,134
Southwest	2005	5,201,116
Western	2005	4,454,816
Total for 10-Year Period		\$26,902,945

We used the following assumptions to calculate the \$26,902,945.

1. We used the New York Metro Area as our standard for predicting possible cost savings for the Capital Metro, Eastern, Great Lakes, Northeast, Pacific, Southeast, Southwest, and Western Areas.
2. We assumed none of the Postal Service areas (other than the New York Metro Area) had implemented error reduction programs over the period of the AMS street reviews. These areas were our control group for estimating the net benefit of the New York Metro Area's program.
3. Officials used the AMS national street review model to calculate cost savings; therefore, we assumed it realistically represented costs the Postal Service could save if it implemented a program to reduce the incidence of AMS errors. However, in our opinion, any costs saved would have to relate to a reduction in overtime or casual hours; therefore, labor rates used should be hourly overtime rates (which was not the case).
4. We used the AMS national street review model unchanged, with one exception: the model had FY 1999 labor rates imbedded. We updated these rates to reflect current rates by using an escalating percentage per year to arrive at a projection.
5. We assumed the cost of implementing an error reduction program would be negligible.

6. We assumed the average cost per error for the Capital Metro, Eastern, Great Lakes, Northeast, Pacific, Southeast, Southwest, and Western Areas would remain constant before and after program implementation.
7. If these areas began implementing programs immediately, FY 2007 would be devoted to set-up and training. We assumed cost savings would not begin until FY 2008. Our calculation of savings (funds put to better use) is a discounted cash flow analysis over a 10-year period.
8. AMS errors can never be reduced to zero. We assumed the practical lower limit to be a 1 percent error rate. However, this constraint did not affect the calculation for the eight areas in this instance.
9. We assumed error rates on rural routes would respond to an error reduction program in the same manner as city routes.
10. In our analysis of the New York Metro Area, we excluded the Caribbean District due to uncertainties regarding implementation of an error reduction program.
11. Not all categories of AMS errors have associated costs. We assumed that costly and non-costly errors would respond to an error reduction program in the same manner. That is, if the overall reduction rate for all AMS errors were 20 percent, the reduction rate for costly errors would also be 20 percent.

APPENDIX B

PRIOR AUDIT COVERAGE

Audit Report Title	Report Number	Issue Date	Funds Put to Better Use Over the Next 10 Years
<i>Address Management System Information – Eastern Area</i>	DR-AR-07-009	May 7, 2007	\$779,013
<i>Address Management System Information – Western Area</i>	DR-AR-07-008	May 1, 2007	\$4,454,816
<i>Address Management System Information – Southwest Area⁸</i>	DR-AR-07-006	May 1, 2007	\$5,201,116
<i>Address Management System Information – Pacific Area</i>	DR-AR-07-005	May 1, 2007	\$7,881,288
<i>Address Management System Information – Capital Metro Area</i>	DR-AR-07-004	May 1, 2007	\$455,197
<i>Address Management System Information – Southeast Area</i>	DR-AR-07-002	March 30, 2007	\$862,134
<i>Address Management System Information – Northeast Area</i>	DR-AR-07-001	March 15, 2007	\$4,590,875
<i>Address Management System Information – Great Lakes Area</i>	DR-AR-06-008	September 30, 2006	\$2,678,506
<i>Address Management System – Southwest Area – Rio Grande District⁸</i>	DR-AR-06-001	January 25, 2006	\$988,945

⁸ We did not include report results for the Southwest Area – Rio Grande District (Report Number DR-AR-06-001, dated January 25, 2006) in this capping report.

APPENDIX C

FISCAL YEAR 2008 ADDRESS MANAGEMENT SYSTEMS INFORMATION – ADDRESS QUALITY IMPROVEMENT PROCESS



July 20, 2007

VICE PRESIDENTS, AREA OPERATIONS

**SUBJECT: Fiscal Year 2008 Address Management Systems Information –
Address Quality Improvement Process**

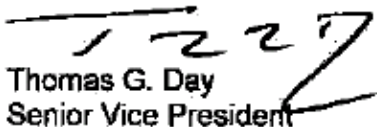
The quality of Address Management Systems (AMS) data, maintained through the information exchange between delivery unit and address management personnel, is key to the operational efficiency of the U.S. Postal Service (USPS). Recently, the Office of the Inspector General (OIG) completed a self-initiated audit of AMS information to assess USPS management of the Delivery-AMS Street Review process and their corresponding results to ensure address information is correct and complete to effectively process and deliver the mail. The results of this audit identified opportunities to improve USPS efficiencies through the Delivery-AMS Street Review process.

In response to the results of this OIG audit, we are initiating a comprehensive address quality improvement strategy through the implementation of a National Delivery-AMS Street Review process beginning October 1, that will include the following:

- Standardized training of District personnel (Delivery and AMS) responsible for performing street reviews. This training will initially be provided by the Address Quality Improvement Team assigned to the National Customer Support Center. To further assist and increase the knowledge base of postal personnel, standardized training videos on how to perform and score street reviews will be available mid-FY2008.
- All Districts will be required to perform street reviews and correct identified errors for 50 percent of their routes with the greatest opportunity for improvement as identified through the Address Quality Reporting Tool (AQRT) Best Opportunity Routes. These reviews should be performed by delivery unit personnel trained in the Address Quality Improvement Process (AQIP).
- To ensure the accuracy of this review process, District AMS personnel will be required to perform reviews (including follow-up reviews) on 10 percent of the required AQRT identified routes. When the training videos become available, Headquarters' Address Quality Improvement Team personnel will disseminate copies to all Districts to ensure overall Delivery-AMS Street Review national standards are met.

- 2 -

This strategy does not replace current national address quality programs. It is designed to compliment these initiatives to solidify improved address quality and increase the efficiency of the processing and delivery of mail. Additional detailed information, including scheduled dates for Address Quality Improvement Team visits, will be forwarded under separate cover.



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Kathy Ainsworth
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- 3 -

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