



# OFFICE OF INSPECTOR GENERAL

UNITED STATES POSTAL SERVICE

## Delivery Schemeless Sortation Deployment and Utilization

### Audit Report

Report Number  
MI-AR-16-004

February 26, 2016





# OFFICE OF INSPECTOR GENERAL

## UNITED STATES POSTAL SERVICE

## Highlights

***Because no initial or post-deployment criteria were established, DSS units are not deployed to ensure maximum use.***

### Background

The Delivery Schemeless Sortation (DSS) unit is a laptop computer with a Bluetooth headset combined with a ring scanner to capture package barcodes when packages arrive at delivery units. DSS provides both visual and audible indicators for routing information. This enables clerks without route training to sort packages. The U.S. Postal Service spent about \$35 million to deploy about 13,000 DSS units during fiscal years 2013 and 2014.

The objective of this audit was to review and evaluate whether the Postal Service uses DSS equipment in accordance with program requirements and criteria.

### What The OIG Found

DSS units are underused by the Postal Service. We identified 319 DSS units assigned to 203 sites with fewer than three routes and 3,489 DSS units not meeting the minimum of 540 weekly scans, which is below the national average scanning rate of 1,766. In the absence of established standards, Customer Service Operations and Technology Acquisition managers stated that a delivery unit should have at least three carrier routes to be a DSS site and a minimum of 90 scans a day or 540 scans a week as a reasonable estimate of usage.

Since introducing DSS, the Postal Service has added features such as manual letter routing and the use of multiple scanners and headsets with each laptop, but has not established criteria

for using these upgrades, which enable processing more mail volume with fewer DSS units.

Because no initial or post-deployment criteria were established, DSS units are not deployed to ensure maximum use for schemeless sortation and mail tracking data to improve package visibility. Additionally, engineering program managers did not follow inventory controls to ensure accountability of DSS units and relied on connection to the network to physically track them.

Because it lacked a mandatory requirement to connect DSS units to the network, the Postal Service could not account for 885 units nationwide and cannot ensure custody of transferred equipment. We also issued a management alert on December 7, 2015, as part of this audit, to inform management of this issue and concerns about network security risks related to DSS units. In the alert we recommended that management complete a physical inventory of all DSS units and management agreed; therefore we will not be making a recommendation about this issue.

### What the OIG Recommended

We recommended management establish national and site-specific use plans and goals for deployed DSS units to maximize system use with other scanning systems, mail volume, and upgrades.

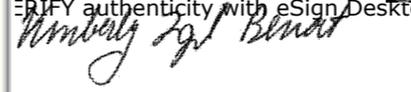
# Transmittal Letter



OFFICE OF INSPECTOR GENERAL  
UNITED STATES POSTAL SERVICE

February 26, 2016

**MEMORANDUM FOR:** KELLY M. SIGMON  
VICE PRESIDENT, RETAIL &  
CUSTOMER SERVICE OPERATIONS

E-Signed by Kimberly Benoit   
VERIFY authenticity with eSign Desktop  


**FROM:** Kimberly F. Benoit  
Deputy Assistant Inspector General  
for Technology, Investment and Cost

**SUBJECT:** Audit Report – Delivery Schemeless Sortation Deployment  
and Utilization (Report Number MI-AR-16-004)

This report presents the results of our audit of Delivery Schemeless Sortation Deployment and Utilization (Project Number 15TG037MI000).

We appreciate the cooperation and courtesies provided by your staff. If you have any questions or need additional information, please contact Charles Turley, acting director, Major Investments, or me at 703-248-2100.

Attachment

cc: Corporate Audit and Response Management

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# Findings

***Our objective was to review and evaluate whether the U.S. Postal Service uses DSS equipment in accordance with program requirements and criteria.***

## Introduction

This report presents the results of our audit of Delivery Schemeless Sortation (DSS) Deployment and Utilization (Project Number 15TG037MI000). Our objective was to review and evaluate whether the U.S. Postal Service uses DSS equipment in accordance with program requirements and criteria. See [Appendix A](#) for additional information about this audit.

DSS units are laptops with Bluetooth headsets combined with ring scanners to capture package barcodes when packages arrive at delivery units. DSS units provide both visual and audible indicators for routing information. This enables clerks without route knowledge training to sort packages.

DSS capabilities have continued expanding since initial deployment in fiscal year (FY) 2013. The original intent was to provide a portable solution to scan and provide package routing information using both audio and visual cues. Since introducing DSS, the Postal Service has added features such as manual letter routing and the use of multiple scanners and headsets with each laptop.

To determine usage of DSS units, we met with Postal Service managers, analyzed national data, and conducted site visits in the Northern Virginia District. During our review we met with the managers of Technology Acquisition Software Development, Delivery and Mobile Technology, and Information Technology to identify DSS deployment and use criteria. In addition, we analyzed national DSS scan data to evaluate use, visited 62 sites, and observed 76 DSS units used to scan and sort mail in the Northern Virginia District.

We issued the *Delivery Schemeless Sortation Risks to the U.S. Postal Service Information Technology Network* management alert (Report Number MI-MT-16-001, dated December 7, 2015) to inform management of our concerns about inventory control and network security risks related to DSS units. Specifically, deployed DSS units did not meet the connectivity and configuration requirements for devices connected to the Postal Service's information technology network. The security risk to the network was elevated because the Postal Service could not account for 885 deployed DSS units.

## Summary

The Postal Service underuses DSS units. When reviewing national DSS use data from November 2014 through January 2015, we identified DSS units assigned to 11,259 sites with 203 DSS sites (1.8 percent) having fewer than three routes. Additionally, 3,489 of the 12,706 DSS units (27 percent) deployed nationally were not meeting the weekly minimum of 540 scans. In the absence of established standards, the managers of Customer Service Operations and Technology Acquisition stated that a delivery unit should have at least three carrier routes to be a DSS site and that 90 scans a day or 540 scans a week was a reasonable estimate for minimum use.

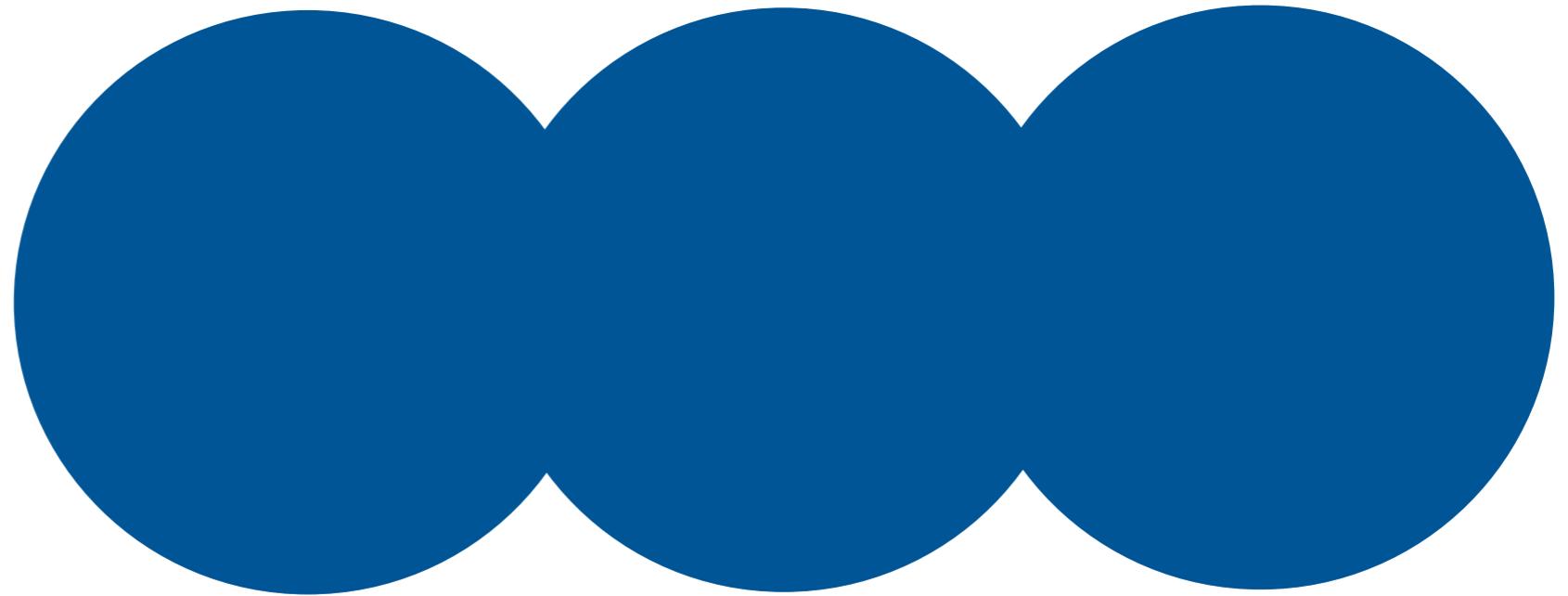
Since introducing DSS, the Postal Service has added features such as manual letter routing and the use of multiple scanners and headsets. However, the Postal Service has not established criteria to ensure that these features are being used, which allow for processing greater mail volume using fewer DSS units.

Because management did not establish any initial or post-deployment criteria, DSS units are not deployed to ensure maximum use for schemeless sortation and mail tracking data to improve package visibility. Program managers did not establish criteria to efficiently deploy and use DSS units. Specifically, there was no national or site-specific plan that addressed the number of delivery

routes, minimum scan rates, use with other scanning systems, seasonal volume, or system enhancements that included use of multiple scanners and distribution case mail volume.

Engineering systems' program managers did not follow inventory controls to ensure the accountability of DSS units and relied on units' connection to the network to track them. Because there was no mandatory requirement to connect DSS units to the network, 885 units were not connected and the Postal Service could not account for them or ensure custody of transferred equipment.

***The Postal Service  
did not establish criteria for  
using DSS units.***



### **Use of Delivery Schemeless Sortation Units**

The Postal Service did not establish criteria for using DSS units. Specifically, there was no plan addressing number of delivery routes, use with other scanning systems, seasonal volume, minimum scan rates, multiple users, or the inclusion of distribution case mail volume.

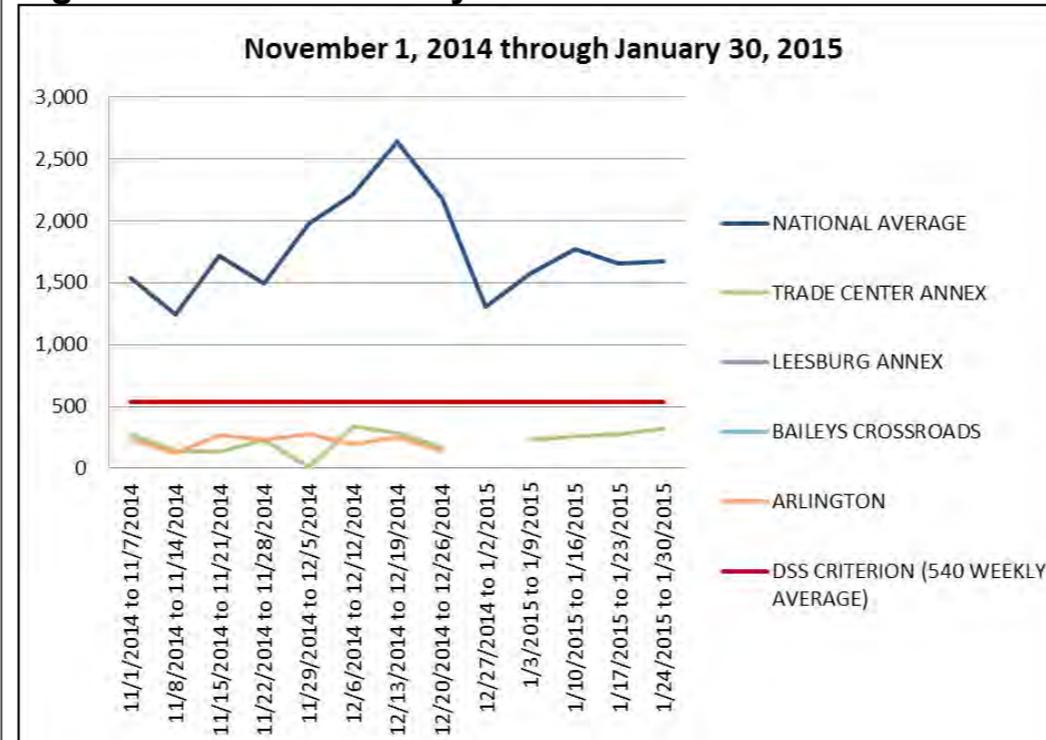
Nationally, there are 12,871<sup>1</sup> DSS units deployed to 11,379 sites. Of these sites, 1,106 have two or more DSS units. Although a delivery unit should have at least three carrier routes to be a DSS site, 319 sites with fewer than three routes were assigned DSS units. Furthermore, a review of the scan data for the FY 2015 holiday season<sup>2</sup> shows that 3,489 DSS units had fewer than 540 scans a week. While DSS is not currently being used to its full capacity, the Engineering Systems Software Development group continues expanding DSS capabilities such as manual letter routing and the use of multiple scanners and headsets for up to five ring scanners. The Postal Service has not established criteria to take advantage of upgrades that offer the capability to process greater mail volume using fewer DSS units.

<sup>1</sup> This includes the 83 DSS units identified in the Northern Virginia District as of September 2015.

<sup>2</sup> November 2014 through January 2015.

In reviewing DSS scan data from November 1, 2014, through January 30, 2015, we identified 42 DSS units in the Northern Virginia District that did not achieve 540 weekly scans. Of these, 22 units reflected no scans and 20 achieved fewer than 540 scans weekly, which is less than one-third of the national average scan rate of 1,766 for the same period. Furthermore, DSS units identified as achieving fewer than the required weekly scan rates were used, on average, 7 of those 13 weeks. Figure 1 represents four DSS units collocated with Passive Adaptive Scanning System (PASS) units. Data reflects that these units did not achieve the minimum scan rate of 540 scans a week and were not comparable with national averages during the same period.

**Figure 1. FY 2015 Holiday Season DSS Scan Rates**



Source: Postal Service. The national average scan rate excludes DSS units not being used and the broken lines represent periods during which DSS units are not in use.

Because the Postal Service did not establish initial or post-deployment criteria, DSS units are not deployed to sites to maximize use for schemeless sortation and mail tracking data. By establishing usage criteria and implementing a redeployment plan that includes DSS enhancements, opportunities exist to maximize DSS usage. As a result, we identified \$5.8 million in DSS equipment at 3,489 units that did not achieve the 540 piece weekly scan rate.

Additionally, we conducted 62 site visits in the Northern Virginia District and identified the following:

- Three sites with fewer than three routes with DSS.
- Thirty-nine sites had PASS units, which also perform scanning and routing functions. Twenty-five sites indicated they used DSS for seasonal volume and as a backup.
- Six units<sup>3</sup> had no scans and 24 had fewer than 540 scans weekly,<sup>4</sup> leaving 36 percent of the total assigned units achieving less than the stated minimum scan rates.

<sup>3</sup> In the Northern Virginia District we identified 83 DSS units on the DSS Engineering intranet as being deployed. We located 76, six were sent back, and one could not be accounted for.

<sup>4</sup> The manager, Customer Service Operations, determined that 90 scans a day, or 540 scans a week, was a reasonable estimate for minimum use.

- Two sites had no DSS scan history. The Manassas Annex had not taken the unit out of the box, while the Vienna Main Post Office had just started scanning 2 days prior to our site visit. Both of these units had been on site for at least 1 year and had not scanned a package prior to the scheduling of site visits. After our visit, the Vienna Post Office continued to use its DSS unit; however, as of October 23, 2015, the Manassas Annex had no scans.

**Figure 2. Unused Scanning Equipment**

***The Postal Service cannot account for disconnected DSS units and cannot ensure custody when DSS units are transferred to other offices.***



Unused DSS at Manassas Annex, Manassas, VA.



Opened box next to DSS at Vienna Main Post Office, Vienna, VA.

## Unaccounted for Delivery Schemeless Sortation Units

Engineering Systems' program managers did not follow inventory controls to ensure accountability of computer assets. Postal Service policy requires managers to establish custody<sup>5</sup> of sensitive property such as laptop computers, and perform inventories<sup>6</sup> at regular intervals. However, program managers did not use Postal Service (PS) Form 1590, Supplies and Equipment Receipt, to establish custody of the DSS units in accordance with policy.<sup>7</sup> In addition, the Engineering Systems Software Development group used an electronic inventory process that relied on DSS connecting to the network to track the laptops to delivery sites. But, there is no mandatory requirement to connect DSS units to the network. Lastly, the vendor responsible for assembling the component pieces of the DSS units shipped 151 DSS units directly to the delivery sites during the deployment period. The Postal Service cannot determine whether the 151 DSS units were received at delivery sites because the inventory control process was not followed.

Nationally, 771 DSS units have not been connected to the network for at least 90 days and 114 units have not been connected at all. The Postal Service could not determine whether the 885 units were in storage or are lost or stolen, and does not have controls or procedures to ensure accountability of all DSS units. We visited 62 sites in the Northern Virginia District and could not physically locate two DSS units. These two units had not been connected to the network. As a result, the Postal Service cannot account for disconnected DSS units and cannot ensure custody when DSS units are transferred to other offices. In a previously issued management alert (Report Number MI-MT-16-001, dated December 7, 2015), we recommended management complete a physical inventory of all DSS units and they agreed; therefore we will not be making a recommendation on this issue<sup>8</sup>.

<sup>5</sup> Handbook AS-701, *Asset Management*, Section 5-7.1, January 2015.

<sup>6</sup> Handbook AS-805, *Information Security*, Section 11-3.2, May 2015.

<sup>7</sup> Handbook AS-701, Section 5-3.1.2.6.

<sup>8</sup> *Delivery Schemeless Sortation Risks to the U.S. Postal Service Information Technology Network* (Report Number, dated December 7, 2015).

# Recommendation

***We recommend management establish national and site-specific utilization plans and goals for all DSS units that maximize use of the units.***

We recommend the vice president, Retail and Customer Service Operations:

Establish national and site-specific utilization plans and goals for all deployed Delivery Schemeless Sortation units that maximize use of the units.

## Management's Comments

Management agreed with our recommendation to establish DSS utilization plans and goals, partly agreed with the finding, and disagreed with the monetary impact.

Regarding the finding, management stated the DSS program had set criteria for the initial deployment based on the original functionality, which has been expanded to include the sortation of letters and flats and the creation of firm sheets. Management also stated that it would have been premature to have final criteria in place before testing functionalities.

Regarding the monetary impact, management agreed that the Postal Service could put 3,489 DSS units to better use, but disagreed with the methodology used to calculate the monetary impact. Management further stated the value of the system comes from current and future enhancements rather than the number of scans per day and that using the system will not always result in a scan.

Regarding our recommendation, management stated they will develop a plan to establish national and site utilization goals to maximize DSS use by July 1, 2016. See [Appendix B](#) for management's comments in their entirety.

## Evaluation of Management's Comments

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

Management stated they established criteria for the original deployment of DSS; however, during interviews with managers responsible for system deployment, they did not articulate consistent criteria or provide support for any criteria mentioned.

Management also stated that it would be premature to establish final criteria because the Postal Service has expanded DSS functionality since the original deployment. We believe the expanded functionality supports the recommendation.

Lastly, while using the system does not always result in a scan, we used scanning metrics to determine whether the Postal Service used DSS equipment to effectively sort mail to delivery routes. Since management did not provide an alternative measure for evaluating use, we believe scan metrics provide a reasonable basis for improving use of the system and assessing the economic impact of unused equipment because DSS units are designed to scan and capture package barcodes when packages arrive at delivery units.

The OIG requires concurrence before closure of the recommendation. Consequently, the OIG requests written confirmation when corrective actions are completed. The recommendation should not be closed in the Postal Service's follow-up tracking system until the OIG provides written confirmation that the recommendation can be closed.

# Appendices

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## Appendix A: Additional Information

### Background

DSS units are laptops with Bluetooth headsets combined with ring scanners to capture package barcodes when packages arrive at delivery units. This allows employees to sort packages and letters by delivery route.

When a package is scanned using DSS, the results are almost immediately transmitted to the Transactional Record Processor and the data is compared to the planned delivery inventory items. If the item is in the inventory, the system will identify the carrier route number. On Sundays, DSS provides the dynamic route and delivery sequence. The user writes the sequence number on the package and sorts the piece to the appropriate container. If the item is not in the inventory, the user can either add the package to the inventory or set it aside for batch processing at the end of distribution.

There were two decision analysis reports (DAR) requesting about \$35 million to purchase and deploy about 13,000 DSS units nationwide during FYs 2013 and 2014. The Passive Adaptive Scanning System (PASS) DAR (April 2010) funded about 3,000 DSS units and the Delivery Unit Infrastructure Technology Program (DUI) DAR (October 2013) funded 9,500 DSS units.<sup>9</sup>

DSS capabilities have expanded since initial deployment. The original intent was to provide a portable solution to scan and provide package routing information using both audio and visual cues. Since the introduction of DSS, the Postal Service has added features such as letter routing for distribution case volume and use of multiple scanners and headsets.

### Objective, Scope, and Methodology

Our objective was to review and evaluate whether the Postal Service uses DSS equipment in accordance with program requirements and criteria. Our scope includes the use of DSS units deployed from November 2012 through October 2014. Additionally, we conducted site visits in the Northern Virginia District.

To accomplish our objective we:

- Interviewed program management to identify program requirements, deployment criteria for site selection, and use expectations.
- Conducted site visit observations at 62 selected sites in the Northern Virginia District and conducted telephone interviews as needed to identify deployment and use concerns at deployed sites.
- Identified, evaluated, and documented deployment and use issues related to DSS.
- Completed questionnaires with information obtained from interviews with postmasters and officers-in-charge during site visits to identify DSS equipment deployment and use issues for each site.
- Identified the number of DSS units deployed and whether the Postal Service used the units to sort packages.
- Reviewed Mail Processing Equipment Watch data to identify active or connected DSS units.

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<sup>9</sup> These units were referred to as Early Bird and later renamed DSS in the DUI DAR.

We conducted this performance audit from August 2015 through February 2016, 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 objective. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective. We discussed our observations and conclusions with management on January 5, 2016, and included their comments where appropriate.

We assessed the reliability of utilization and facility data by testing and reviewing Engineering's DSS scan and facility data, as well as related facility data in the Postal Service eFlash system. We conducted electronic data testing for completeness, consistency, and validity for this data and determined that the data were sufficiently reliable for the purposes of this report.

## Prior Audit Coverage

Report Title	Report Number	Final Report Date	Monetary Impact
<i>Deliver Schemeless Sortation Risks to the U.S. Postal Service Information Technology Network</i>	MI-MT-16-001	12/7/2015	\$1,469,100
<b>Report Results:</b> [REDACTED]			
<i>Passive Adaptive Scanning System Functionality and Labor Savings</i>	MI-AR-15-007	9/1/2015	\$63,643,418
<b>Report Results:</b> Our report found that PASS provides schemeless sortation and hands-free scanning and captures package address barcode images at delivery units; however, its revenue protection functions were developed and tested but not activated due to cost. As a result, the Postal Service will not realize the projected [REDACTED] from collecting shortpaid, unpaid, and duplicate postage or [REDACTED]. We recommended program managers establish a program to manage unused equipment and reduce workhours and management partially agreed.			
<i>Sunday Parcel Delivery Service</i>	DA-AR-15-002	12/5/2014	\$356,736
<b>Report Results:</b> Our report determined that operational inefficiencies existed during Sunday parcel deliveries in scanning, sorting, vehicle loading, and using the Dynamic Routing Tool software in street delivery at 40 of 134 hubs we visited in five districts. These inefficiencies occurred primarily because management did not always enforce policies and procedures and supervision was inconsistent at some hubs. We recommended management eliminate inefficient operational practices, reduce workhours, and ensure adherence to Postal Service policies and procedures for Sunday parcel delivery service. Management agreed in principle with the findings and recommendations, but disagreed with the associated monetary impact.			
<i>Readiness for Package Growth – Customer Service Operations</i>	DR-MA-14-003	3/31/2014	None
<b>Report Results:</b> Our report determined that Customer Service Operations has successfully managed periods of package growth, employee workhours, and scan rates at delivery units; however, opportunities exist to enhance readiness by improving acceptance scan rates, decreasing customer wait-time-in-line during the holiday mailing season, enabling the PASS revenue-protection function, and reducing the number of non-barcoded packages to provide end-to-end tracking for customers. We recommended employees perform acceptance scans to support the 100 percent product visibility strategy; and management enable the PASS revenue protection function, implement a comprehensive strategy to reduce non-barcoded packages, and define a solution for notification and collection of shortpaid postage for packages. Management agreed with the recommendations.			

## Appendix B: Management's Comments

KELLY M. SIGMON  
VICE PRESIDENT, RETAIL AND CUSTOMER SERVICE OPERATIONS



February 11, 2016

LORI LAU DILLARD  
DIRECTOR, AUDIT OPERATIONS

SUBJECT: Management Response to Draft Audit Report – Delivery Schemeless  
Sortation Deployment and Utilization  
(Report Number MI-AR-16-DRAFT)

Thank you for providing the Postal Service with an opportunity to review and comment on this Draft Audit Report – Delivery Schemeless Sortation Deployment and Utilization. Management agrees with the recommendation(s) within the report and has addressed the recommendation separately below.

Although we partly agree with the findings, we do not agree with the characterization of the state of utilization, the pre- and post-deployment criteria of the Delivery Scheme-less Sortation (DSS) system as reflected in the report. The DSS program had set criteria used for the original deployment based on the original functionality of enabling parcel schemeless distribution and more efficient scanning at our delivery unit. Since the original deployment, we have expanded the functionality of the DSS to include the sortation of letters, flats, and the creation of firm sheets along with the other various scanning modes. Although originally USPS targeted sites with three or more carriers, there are many instances where sites with less than three carriers can and will benefit from the various functionality supported by the DSS.

At this point, we are continuing to refine the DSS functionality enhance both productivity and finalization rates for DSS', especially in the sortation of letters and flats. Although the functionality is deployed and in production, it is premature to establish the final criteria for letter and flat volumes and productivities until some of the expected enhancements are in place and tested.

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#### Monetary Impact

As mentioned in the response and evidenced by our agreement with the recommendation, the postal service is of the opinion that re-deploying certain DSS assets to other locations will enable better use of the systems. However, we do not agree with the methodology used by the OIG to calculate the \$5.8M MI reflected as "Funds put to Better Use". Given the enhancements that have taken place up to this point as well as enhancements that will take place in the future, in many cases, the number of scans per day will not be the sole indicator as to whether or not the funds spent on a system were worthwhile. In certain instances, use of a system will/does not result in a scan. That said, we do agree that the 3489 DSS' referenced as underutilized represents equipment that we need to use more efficiently. And we agree that the recommendation below will assist in that effort.

#### OIG Recommendations

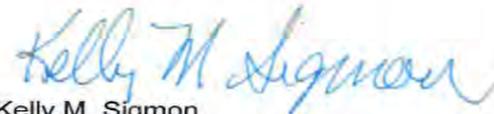
We recommend the vice president, Retail and Customer Service Operations:

Recommendation 1: Establish national and site specific utilization plans and goals for all deployed Delivery Schemeless Sortation units that maximize use of the units.

Management Response/Action Plan: Agreed. Although it is clear that USPS has established national guidelines for utilization of the Delivery Schemeless Sortation (DSS) system, recent enhancements in DSS technology has made it advantageous to review those guidelines and establish updated expectations. USPS management will work to develop a continuous plan that ensures national and site utilization goals for units that leverage the Delivery Scheme-less Sortation system as one of the tools to manage their daily workload.

Target Implementation Date: USPS will implement policy and guidelines that work toward maximizing DSS utilization by July 1, 2016.

Responsible Official: Vice President, Retail and Customer Service Operations in conjunction with the Vice President, Engineering Systems.



Kelly M. Sigmon  
Vice President  
Retail and Customer Service Operations

cc: David E. Williams  
Michael Amato  
Ernie Onody  
Fletcher Heard  
Manager, Corporate Audit Response Management



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