



# OFFICE OF INSPECTOR GENERAL

UNITED STATES POSTAL SERVICE

## Global Positioning System Trailer Visibility

### Audit Report

Report Number  
NL-AR-17-008

June 26, 2017





# OFFICE OF INSPECTOR GENERAL

## UNITED STATES POSTAL SERVICE

### Highlights

***The Postal Service's plan to improve its management of trailers by using GPS data was insufficient.***

### Background

The U.S. Postal Service has spent about \$7.6 million since fiscal year (FY) 2010 on its Logistics Condition Reporting System (LCRS). The system was intended to collect and report Highway Contract Route (HCR) Global Positioning System (GPS) data and monitor HCR performance. Because of inaccurate data reporting and system compatibility issues the Postal Service is replacing the LCRS and the GPS devices.

Our prior audit work identified that the Postal Service did not develop a strategic framework for the GPS program or a detailed implementation plan.

The Postal Service manages a trailer fleet of 3,600 owned trailers, 8,500 leased trailers, and a changing number (from 40,000 to 50,000) of HCR contracted trailers. Management identified that accounting for trailers has been a problem and has resulted in missing or lost trailers, as well as excess trailers at some facilities and not enough at other facilities. The Postal Service plans to use GPS trailer tracking to measure usage, location visibility, and estimated time of arrival; and to optimize travel routes.

In June 2016, the Postal Service initiated a new GPS technology solution to manage trailers. This technology solution will rely on new GPS equipment and a new hardware and software system known as Enterprise Transportation Analytics (ETA). The ETA system will include three modules for managing

owned, leased, and HCR contracted trailers. Management is modeling the hardware and software on the Delivery Management System currently used to manage delivery routes.

The Postal Service is using a two-phased approach for implementation beginning with owned and leased trailers in April 2017, and then HCR contracted trailers in July 2017. Management projects the GPS units and the ETA system to be fully operational by July 2017, with a FY 2017 cost of about \$18.5 million.

Our objective was to assess the Postal Service's plan to improve its management of trailers by using GPS data.

### What the OIG Found

The Postal Service's plan to improve its management of trailers by using GPS data was insufficient. Specifically, management did not develop a plan with metrics to show how benefits would be achieved, did not use analysis to substantiate savings, and did not identify associated savings and operational benefits for leased and HCR-contracted trailers.

The Postal Service developed system requirements and plans for GPS unit procurement, but did not develop performance metrics to measure the achievement of intended GPS initiative benefits for all trailer categories. This occurred because management tested ETA system functionality using hand-held mobile device scanners as opposed to using actual



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## UNITED STATES POSTAL SERVICE

trailer-mounted GPS units. Additionally, management has not established a schedule to pilot the GPS units prior to deployment. As a result, management could not obtain sufficient data to set operational baselines and metrics.

In June 2016, management approved about \$2.4 million in funding for ETA system hardware and software, along with the GPS units for owned trailers. The approval projected annual savings of over \$1.2 million by increasing the utilization of Postal Service-owned trailers and reducing the number of leased trailers. Management based the projected savings on institutional knowledge rather than analysis, making it impossible to substantiate the projected annual savings.

Additionally, the Postal Service plans to purchase about 47,000 GPS units costing about \$16 million for its leased and HCR-contracted trailers (at \$2.4 and \$13.6 million, respectively) in FY 2017. However, management did not identify any associated savings or operational benefits from this purchase because they consider it to be a current operating expense.

Consequently, without sufficient planning, we estimate that the Postal Service incurred about \$2.5 million in unsupported questioned costs in FY 2017.

### What the OIG Recommended:

We recommended that management suspend GPS implementation — except for the ETA systems module development — and establish initiative milestones in the following sequence:

- Test and validate the ETA system when all modules are fully operational;
- Conduct a pilot program with the fully operational ETA system and the GPS trailer units to validate the complete technology solution;
- Develop a plan with established and validated performance metrics using the ETA system and GPS data; and
- Deploy the remaining GPS units based on decision points from the above analytics.

Additionally we recommended management identify and validate specific cost savings to support the GPS technology investment of about \$18.5 million.

# Transmittal Letter



OFFICE OF INSPECTOR GENERAL  
UNITED STATES POSTAL SERVICE

June 26, 2017

**MEMORANDUM FOR:** ROBERT CINTRON  
VICE PRESIDENT, NETWORK OPERATIONS

SUSAN M. BROWNELL  
VICE PRESIDENT, SUPPLY MANAGEMENT

LUKE T. GROSSMANN  
VICE PRESIDENT, FINANCE AND PLANNING

E-Signed by Michael Thompson  
VERIFY authenticity with eSign Desktop  


**FROM:** Michael L. Thompson  
Deputy Assistant Inspector General  
for Mission Operations

**SUBJECT:** Audit Report – Global Positioning System  
Trailer Visibility (Report Number NL-AR-17-008)

This report presents the results of our audit of Global Positioning System Trailer Visibility (Project Number 17XG009NL000).

We appreciate the cooperation and courtesies provided by your staff. If you have any questions or need additional information, please contact Daniel Battitori, Director, Transportation, or me at 703-248-2100.

Attachment

cc: Postmaster General  
Corporate Audit and Response Management

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# Findings

***Management did not develop a plan with metrics to show how benefits would be achieved, substantiate savings, or identify operational benefits for leased and HCR-contracted trailers.***

## Introduction

This report presents the results of our self-initiated audit of Global Positioning System (GPS) Trailer Visibility (Project Number 17XG009NL000). The U.S. Postal Service is planning to improve the management of its trailer fleet using GPS technology. Our objective was to assess the Postal Service's plan to improve the management of trailers by using GPS data. See [Appendix A](#) for additional information about this audit.

The Postal Service has spent about \$7.6 million since fiscal year (FY) 2010 on developing its Logistics Condition Reporting System (LCRS) to collect and report Highway Contract Route (HCR) GPS data and monitor HCR performance. Management is replacing the LCRS system and GPS devices because of inaccurate data reporting and system compatibility issues. Our prior audit work identified that the Postal Service did not develop a strategic framework for the GPS program or a detailed implementation plan.

The Postal Service manages a trailer fleet of 3,600 owned<sup>1</sup> trailers, 8,500 leased trailers, and a changing number (from 40,000 to 50,000) of HCR-contracted trailers. Management identified that accounting for trailers has been a problem and has resulted in missing or lost trailers, as well as excess trailers at some facilities and not enough at other facilities. The Postal Service plans to use GPS trailer tracking to measure usage, location visibility, and estimated time of arrival; and to optimize travel routes.

In June 2016, the Postal Service initiated a new GPS technology solution to manage trailers. The technology solution will rely on new GPS equipment and a new hardware and software system known as Enterprise Transportation Analytics (ETA). The ETA system will include three modules (PVS, Trailer Utilization, and HCR) for managing the trailer fleet. Management is modeling the hardware and software on the existing Delivery Management System used to manage delivery routes.

The Postal Service is using a two-phased approach for implementation beginning with owned and leased trailers in April 2017, and then HCR contracted trailers in July 2017. The Postal Service projects that the GPS units and the ETA system will be fully operational by July 2017. The Postal Service plans to spend about \$1.3 million to purchase the ETA system hardware and software and about \$3.6 million to purchase GPS units for owned (\$1.2 million) and leased (\$2.4 million) trailers. It plans to spend an additional \$13.6 million to buy GPS units for HCR contracted trailers. The total projected FY 2017 cost for this technology investment is about \$18.5 million (see [Table 1](#)).

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<sup>1</sup> Owned trailers refers to Postal Vehicle Service (PVS).

**Table 1. Projected GPS Trailer Implementation Costs for FY 2017**

 <b>COST CATEGORIES</b>	 <b>NUMBER OF GPS UNITS</b>	 <b>PROJECTED FY 2017 COSTS</b>
 <b>SYSTEM DEVELOPMENT</b>		\$1,259,981
 <b>POSTAL SERVICE-OWNED TRAILER UNITS</b>	3,600	1,227,600
 <b>LEASED TRAILER GPS UNITS</b>	7,000	2,387,000
 <b>HCR TRAILER GPS UNITS</b>	40,000	13,640,000
 <b>TOTAL FIRST YEAR COSTS</b>	<b>50,600</b>	<b>\$18,514,581</b>

Source: U.S. Postal Service Office of Inspector General (OIG) analysis calculated using the funding request and contract award information.

Postal Service high-technology investments are supposed to be considered generative investments<sup>2</sup> that must be justified as either an economic opportunity or as a means of sustaining existing operations into the future by correcting or eliminating a problem. We concluded that the GPS investment is an economic opportunity for the Postal Service because it is replacing the unreliable LCRS GPS program.

### Summary

The Postal Service’s plan to improve its management of trailers through GPS data was insufficient. Specifically, management did not develop a plan with metrics to show how the Postal Service would achieve benefits, did not use analysis to substantiate savings, and did not identify associated savings and operational benefits for leased and HCR-contracted trailers.

<sup>2</sup> Handbook F-66, *General Investment Policies and Procedures*, Section 1-5.2.1(a), page 25, November 2005, updated with *Postal Bulletin* revisions through October 11, 2007, states in part, “Generative investments are driven by economic considerations. They must not only measurably enhance postal operations but must demonstrate the potential to provide economic benefits (i.e., an ROI that equals or exceeds the established minimum ROI)”.

The Postal Service developed system requirements and plans for GPS unit procurement, but did not develop performance metrics to measure the achievement of intended GPS benefits for all trailer categories. This occurred because management tested ETA system functionality using hand-held mobile device scanners as opposed to using actual trailer-mounted GPS units. Additionally, management has not established a schedule to pilot the trailer-mounted GPS units prior to deployment. As a result, management could not obtain sufficient data to set operational baselines and metrics.

In June 2016, management approved about \$2.4 million in funding for ETA system hardware and software, along with GPS units for owned trailers. The approval projected an annual savings of over \$1.2 million by increasing the utilization of Postal Service-owned trailers by 9 percent and reducing the number of leased trailers by 3 percent, or 324 trailers. Management based the projected savings on institutional knowledge rather than analysis, making it impossible to validate or substantiate the projected annual savings.

Additionally, the Postal Service plans to purchase about 47,000 GPS units costing about \$16 million for leased trailers and HCR-contracted trailers (for \$2.4 million and \$13.6 million, respectively) in FY 2017. However, management did not identify any associated savings or operational benefits from this purchase because they consider the purchase to be a current operating expense.

Consequently, without sufficient planning, we estimate that for FY 2017 the Postal Service incurred \$1,259,981 for initiative funding costs and \$1,227,600 for the purchase and installation of GPS units, totaling \$2,487,581 in unsupported questioned costs.

## **Global Positioning System Trailer Visibility Planning**

We determined the Postal Service did not develop a formal plan for the trailer visibility initiative. The Manager, Surface Transportation, stated that the GPS initiative was already in progress under the direction of a former manager when he assumed responsibility for the initiative. Although he verbally presented a high-level view of the GPS trailer visibility plan, he was not able to provide a detailed plan that would measurably enhance operations and demonstrate the potential to provide economic benefit for all trailer categories.

Management completed system requirements for the three ETA system modules in April 2017. The PVS module is active and management is currently developing the Trailer Utilization and HCR modules. The target completion date for the Trailer Utilization module is April 2017 and the HCR contract module is July 2017. However, management did not develop performance metrics to determine if they are achieving the intended GPS initiative benefits for all trailer categories.

This occurred because management tested ETA system functionality using hand-held mobile device scanners as opposed to the actual trailer-mounted GPS units.<sup>3</sup> Additionally, management has not established a schedule to pilot the trailer-mounted GPS units prior to deployment. As a result, management could not obtain sufficient data to set operational baselines and metrics.

Consequently, without sufficient planning of how to achieve benefits, we estimate that for FY 2017 the Postal Service incurred \$1,259,981 in initiative funding costs and \$1,227,600 for the purchase and installation of GPS units, totaling \$2,487,581 in unsupported questioned costs.

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<sup>3</sup> Management used test results from the mobile delivery device (MDD) pilot to represent potential GPS functionality results since both the MDD scanner and the GPS units for trailer visibility are designed to track PVS operations via the ETA system.

## Projected Cost Savings

In June 2016, management approved about \$2.4 million in funding to implement the GPS trailer visibility initiative for the Postal Service-owned trailer fleet.<sup>4</sup> The manager, Surface Transportation, projected a 9 percent increase in Postal Service-owned trailer use and a reduction of 324 leased trailers (from 8,500 to 8,176, or 3 percent) by the second year of GPS implementation.

The projected annual savings from reduced trailer usage was over \$1.2 million and it was based on institutional knowledge instead of analysis, making it impossible to validate or substantiate the projected annual savings. Based on our risk analysis, the Postal Service could experience a predicted savings shortfall of \$648,664 over the next five years due to an inability to substantiate the projected annual \$1.2 million in trailer savings.

## Leased and Highway Contract Route Trailers

In FY 2017, the Postal Service plans to purchase about 47,000 GPS units totaling about \$16 million to implement the GPS trailer visibility initiative on leased and HCR trailers. However, management did not identify any enhanced operations or economic benefits associated with this purchase. This occurred because management considered the purchase of the 47,000 GPS units to be a current budget operating expense instead of a major operating expense investment. Handbook F-66 requires high-technology investments to be considered investments that measurably enhance operations and demonstrate the potential to provide economic benefit.<sup>5</sup> Consequentially, based on our risk analysis, we estimate that FY 2017 disbursements of \$1,717,726 are at risk.

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<sup>4</sup> *Decision Analysis Report Business Case, GPS Trailer Visibility*, June 27, 2016.

<sup>5</sup> Handbook F-66, *General Investment Policies and Procedures*, November 2005, updated with *Postal Bulletin* revisions through October 11, 2007, Section 1-5.2.1(a), page 25 of 144 states in part, “Generative investments are driven by economic considerations. They must not only measurably enhance postal operations but must demonstrate the potential to provide economic benefits (i.e., an ROI that equals or exceeds the established minimum ROI)”.

# Recommendations

***We recommend management suspend GPS implementation and test and validate the ETA system, conduct a pilot program, validate performance metrics, and identify and validate specific cost savings to support the GPS technology investment of \$18.5 million.***

We recommend the Vice President, Network Operations, in coordination with the Vice President, Supply Management:

1. Suspend Global Positioning System (GPS) implementation — except for the Enterprise Transportation Analytics (ETA) systems module development — and establish initiative milestones in the following sequence:
  - Test and validate the ETA system when all modules are fully operational;
  - Conduct a pilot program with the fully operational ETA system and GPS trailer units to validate the complete technology solution;
  - Develop a plan with established and validated performance metrics using ETA system and GPS data; and
  - Deploy the remaining GPS units based on decision points from the above analytics.

We also recommended the Vice President, Finance and Planning, in coordination with the Vice President, Network Operations,

2. Identify and validate specific cost savings to support the \$18.5 million Global Positioning System technology investment.

## Management's Comments

Management disagreed with the findings, recommendations, and monetary impact and stated their disappointment considering that previous OIG audits urged management to develop a plan and implement GPS nationwide. They stated that this audit was conducted prematurely and contained several inaccuracies.

- Management indicated that the LCRS was a transportation tool with many modules that cost \$7.6 million and the HCR reporting function was one module. However, management agreed that the LCRS HCR application — along with the previous GPS deployment strategy — was flawed. The current GPS solution is being deployed to remedy those issues and provide a robust GPS information platform.
- Management stated that the OIG confused the deployment of hand-held scanners (CN51) and GPS units for trailers.
- Management identified that they have established numerous metrics for trailer utilization, but stated that they have not established thresholds for the metrics because it is extremely complex and time-consuming to make these decisions without GPS data.
- Management stated that they provided a project plan to the OIG. While the plan did not outline program benefits, they are usually outlined in a business case. The GPS Trailer Visibility DAR was the business case for deploying the GPS devices for Postal Service-owned trailers. Management identified that there is no official document highlighting the benefits of GPS for leased and HCR trailers. Management noted the OIG identified potential benefits in a previous management alert (*Missing Leased Trailers in the Northeast Area*, Report Number NO-MA-14-004, dated August 25, 2014).
- Management stated that metrics have been defined for HCR monitoring systems that are more service-based than cost-based. For example, HCR trips will be monitoring late trips, projecting new estimated arrival times, and determining if better routing can be created. Management identified that the main rationale for using the GPS data is improving service.

- Management stated that they provided a spreadsheet with all SV trailer scans. The spreadsheet showed that of about 12,000 trailers, about 9,000 were used at least once a week. Therefore, management believes that reduction of 324 trailers is extremely conservative. Management acknowledged the known issues with SV trailer data, but the data identified a significant opportunity.
- Management stated that including updated supplier requirements for leased and HCR trailers to have GPS devices is an incremental business requirement as the Postal Service does not own either the trailers or the GPS devices. Suppliers are required to purchase and equip their trailers with a Postal Service-approved commercial-off-the-shelf GPS unit. However, management stated that GPS device costs are incorporated in the overall lease, but there is no indication that all or part of the GPS costs will be passed on from suppliers to the Postal Service given the competitive nature of the marketplace. Accordingly, management did not agree with the OIG's risk analysis and estimate of FY 2017 disbursements at risk of \$1,717,726.

Management disagreed with the monetary impact of \$2,487,581. The GPS trailer visibility DAR specifically outlines the program's metrics, costs, uses, and benefits to the Postal Service and complies with Handbook F-66 guidelines. The DAR's anticipated savings would come from improved utilization of Postal Service-owned trailers, which should reduce the need for leased trailers.

Regarding recommendation 1, management disagreed with suspending this project as it would not be in the competitive interests of the Postal Service and would further delay benefits of GPS usage that both management and the OIG have been discussing since 2010.

Regarding recommendation 2, management disagreed with the \$18.5 million GPS technology investment because it combines the 2016 GPS trailer visibility DAR investment of \$2.4 million with new supplier requirements for future leased trailer and HCR trailer services. The DAR's targeted cost savings of \$6.1 million is from improved Postal Service-owned trailer utilization leading to a reduced number of leased trailers. Additionally, management identified the remaining \$16.1 million is not a generative Postal Service investment, but a potential contracting expense to address the OIG's earlier recommendation (*Missing Leased Trailers in the Northeast Area*, Report Number NO-MA-14-004, dated August 25, 2014).

The Postal Service anticipates that cost savings will come from additional reductions in leased trailers and HCR transportation routes, improved workflow, and improved asset utilization/protection. Based on the cost of the GPS devices, a reduction of about 13 percent of leased trailers would cover the cost of the GPS devices and software.

See [Appendix B](#) for management's comments in their entirety.

## Evaluation of Management's Comments

Postal Service management disagreed with the recommendations, therefore, provided no corrective actions. The OIG considers management's comments unresponsive to the recommendations and will not resolve the issues identified in the report.

The OIG does not believe this was a premature audit since it evaluates project planning. As stated above, management acknowledged that the LCRS HCR application — along with the previous GPS deployment strategy — was flawed, which is why the OIG recognized the importance of planning for this GPS deployment. The OIG acknowledges that Postal Service management provided aspects of GPS project planning during the audit, but did not present a comprehensive planning document to include performance metrics. By definition, a performance metric measures an organization's behavior, activities, and performance

against a predetermined target. Therefore, without thresholds, management has defined areas that they want to measure but not performance metrics.

The OIG understands that management cannot develop thresholds until they begin to receive GPS data, which is why the OIG recommended a pilot to obtain that data and develop performance thresholds. During the audit the OIG was aware of the separate projects related to the hand-held CN51 scanners and deployment of the trailer-mounted GPS units. However, Postal Service management said that both CN51 and GPS devices would function in the same ETA system and scanner data was the only data being processed on ETA prior to the initial deployment of GPS units. As a result, management deployed the trailer-mounted GPS units without actual testing in the ETA system.

Regarding the OIG's monetary impact calculations, we still believe that the calculations are accurate and valid because of the Postal Service's insufficient planning.

The OIG received trailer scan spreadsheets from the Postal Service, detailing trailer scans from the SV system; however, the spreadsheets did not include analysis to substantiate actual cost savings from trailer reductions and only infers improvements can be made. Additionally, the OIG requested supporting documentation for its projected savings, but management stated that the projections were based on institutional knowledge.

The OIG believes that spending \$16.1 million for GPS units on HCR and leased trailers should have a generative effect on Postal Service operations. The OIG appreciates that the \$16.1 million dollar figure could be lower based upon supply management's negotiation of contracts, but any reduction in costs is hypothetical at this point. Therefore, the OIG determined that this investment should be classified as generative and the Postal Service should monitor the associated monetary benefits.

We view the disagreements with both recommendations as unresolved and they will remain open as we coordinate resolution with management. All recommendations require OIG concurrence before closure. Consequently, the OIG requests written confirmation when corrective actions are completed. Recommendations should not be closed in the Postal Service's follow-up tracking system until the OIG provides written confirmation that the recommendations can be closed.

# Appendices

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## Appendix A: Additional Information

### Background

The Postal Service manages a trailer fleet of 3,600 owned trailers, 8,500 leased trailers, and a changing number (from 40,000 to 50,000) HCR contracted trailers. Management has said that accounting for trailers has been a problem because of their inability to know where the trailers are in real time, thus reducing equipment efficiency. In addition, Postal Service Operations has noted that it is common to have excess trailers at some facilities and not enough trailers at others, making operations inefficient. The Postal Service's GPS Trailer Visibility initiative plans to track trailer location, optimize travel routes, increase trailer and container utilization, minimize idle times, reduce fuel costs, ensure cargo and driver security, monitor vehicle information, and enhance yard planning.

### Objective, Scope, and Methodology

Our objective was to assess the Postal Service's plans to improve its management of trailers with the use of GPS data.

Our scope is the GPS Trailer Visibility Initiative to purchase and deploy GPS-enabled tracking devices on all trailers in the Postal Service fleet at a cost of about \$18.5 million.

Our scope period was FY 2017.

To accomplish our objective, we:

- Obtained and reviewed the Postal Service's Five-Year Strategic Plan FY 2017 – 2021 to identify strategic initiatives related to GPS.
- Obtained and reviewed Postal Service policies and procedures including:
  - Handbook F-66, *General Investment Policies and Procedures*
  - Handbook F-66B, *Investment Policies and Procedures — Major Equipment*
  - Handbook F-66C, *Field Investment Policies and Procedures*
  - Handbook F-66D, *Investment Policies and Procedures — Business Initiatives*
- Conducted interviews with Postal Service Headquarters managers of Surface Transportation and Customer Projects & Communications; the transportation specialist, Surface Transportation; and the program manager, Geospatial Programs, to understand how the Postal Service is planning to implement the GPS initiative.
- Obtained and analyzed the DAR business case, *GPS Trailer Visibility*, dated June 27, 2016, for the GPS initiative to ensure compliance with Postal Service policies.
- Obtained and analyzed the Postal Service's statement of work and supplier contracts to identify technical specifications of the GPS device and costs associated with the initiative.

- Evaluated and calculated total costs for the GPS initiative for FY 2017 to determine the impact on all trailer categories.
- Obtained and evaluated requirements for the ETA system to include the three modules used to gather data to manage the trailer fleet.
- Attended a live demonstration of the PVS module in the ETA system to obtain an overall understanding of how management will use data to manage the trailer fleet.

We conducted this performance audit from December 2016 through June 2017, 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 May 17, 2017, and included their comments where appropriate.

We did not assess the reliability of any computer-generated data for the purposes of this report.

### Prior Audit Coverage

Report Title	Objective	Report Number	Final Report Date	Monetary Impact (in millions)
<i>Management and Oversight of Highway Contract Routes</i>	Determine if the Postal Service's management and oversight of HCRs is efficient and effective.	NL-AR-16-006	9/30/2016	\$2.9

## Appendix B: Management's Comments



June 16, 2017

LORI LAU DILLARD

SUBJECT: Global Positioning System Trailer Visibility

Postal Service management has reviewed the subject draft audit report "Global Positioning System Trailer Visibility" and disagrees with the findings, recommendations, and monetary impact. The OIG's audit findings and recommendations are disappointing in many regards considering that previous OIG audits urged management to develop a plan and implement GPS nationwide. We also question and are concerned that the OIG has audited this project prematurely during deployment rather than the accepted practice of auditing results after project completion.

In response to this audit there are several inaccuracies that we would like to address:

- In the OIG introduction, paragraph 1, the OIG states: *"The Postal Service has spent about \$7.6 million since fiscal year (FY) 2010 on developing its Logistics Condition Reporting System (LCRS) to collect and report Highway Contract Route (HCR) GPS data and monitor HCR performance. Management is replacing the LCRS system and GPS devices because of inaccurate data reporting and system compatibility issues. Our prior audit work identified that the Postal Service did not develop a strategic framework for the GPS program or a detailed implementation plan."*

As has been discussed with the OIG on several occasions, LCRS is a transportation tool that has many modules contained within its application. The HCR reporting function was only one of many that used the \$7.6M. Postal Management does agree that the LCRS HCR application along with the previous GPS deployment strategy was flawed in its deployment. Those facts have already been addressed in other GPS audits. The current GPS solution is being deployed to remedy those issues and provide a robust GPS information platform.

- In the second paragraph of the summary on page 2, the OIG states: *"The Postal Service developed system requirements and plans for GPS unit procurement, but did not develop performance metrics to measure the achievement of intended GPS benefits for all trailer categories. This occurred*

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*because management tested ETA system functionality using hand-held mobile device scanners as opposed to using actual trailer-mounted GPS units. Additionally, management has not established a schedule to pilot the trailer-mounted GPS units prior to deployment. As a result, management could not obtain sufficient data to set operational baselines and metrics."*

The OIG confuses two different projects under this audit. The handheld scanners (CN51) were deployed for a completely different reason than the GPS devices for trailers. The handheld scanners were deployed to provide increased scan rates for trailers and containers as well as provide data to better manage our PVS driver fleet – this was covered under the SV Modification Decision Analysis Report (DAR). The GPS devices are being deployed on Postal Owned and Leased Trailers to provide visibility into trailer utilization to better manage our trailer fleet.

The second part of the statement asserting that Management did not develop performance metrics is incorrect. While management may not have established what threshold will be used to determine whether a trailer is being fully utilized or not, it has established numerous metrics for trailer utilization. The following are just a few of the metrics provided the OIG during this audit.

- Overall Utilization %
- Average number of days in use per month
- Average number of times per day used
- Average time used per day
- Average time used per week
- Amount of Out of Service time
- Number of times out of service per month/year

Thresholds for the metrics above will be set to help determine where the USPS has underutilized trailers in its inventory. Without this GPS data it is extremely complex and time consuming to gather the level of data needed to make these decisions today.

- On page 3 under Global Positioning System Trailer Visibility Planning the OIG states: *"We determined the Postal Service did not develop a formal plan for the trailer visibility initiative. The manager, Surface Transportation, stated that the GPS initiative was already in progress under the direction of a former manager when he assumed responsibility for the initiative. Although he verbally presented a high-level view of the GPS trailer visibility plan, he was not able to provide a detailed plan that would measurably enhance operations and demonstrate the potential to provide economic benefit for all trailer categories."*

This statement is inaccurate, as the current manager of Surface Transportation had stated that the previous plan had several issues and that he was starting a new initiative altogether. This current initiative is completely different from the past project. The statement regarding not having a detailed plan is also inaccurate. A project plan was provided to the OIG and no mention was made of this in the audit. The project plan in of itself does not outline program benefits. Program benefits are usually provided when making the business case. The business case for deployment of the GPS devices for Postal-owned trailers has been highlighted in the GPS Trailer Visibility DAR. While there has not been an official document created highlighting the benefits of the GPS for leased trailers and HCR trailers, there have been several discussions with the OIG on the potential benefits. The OIG themselves have pointed out potential benefits in their previous audits and in their "Management Alert – Missing Leased Trailers in the Northeast Area" on August 25, 2014 recommended that GPS units be placed on all leased trailers.

- In the second paragraph on Page 3 under Global Positioning System Trailer Visibility Planning the OIG states: *"The target completion date for the Trailer Utilization module is April 2017 and the HCR contract module is July 2017. However, management did not develop performance metrics to determine if they are achieving the intended GPS initiative benefits for all trailer categories."*

This statement is inaccurate. Both the trailer utilization and HCR monitoring systems have metrics defined. The HCR metrics are more service based than cost based compared to trailer utilization. For example for HCR trips we will be monitoring trips that are late, projecting new estimated times of arrival, using existing route information to determine if better routing can be created, etc.. By providing contact and location information to the National Operations Control Centers, we will be able to be more proactive when incidents such as accidents or breakdowns occur. The main rationale for using the GPS data is to improve service. The feedback that has been provided in this area seems to have been ignored altogether.

- In the second paragraph on page 4 under Projected Cost Savings the OIG states: *"The projected annual savings from reduced trailer usage was over \$1.2 million and it was based on institutional knowledge instead of analysis, making it impossible to validate or substantiate the projected annual savings."*

The OIG was provided a spreadsheet that included all trailer scans from Surface Visibility. This data showed that approximately 9,000 trailers were used at least once-a-week. Considering that the Postal Service currently has a total of approximately 12,000 trailers in use (both Postal-owned and leased), our estimate of a reduction of 324 trailers is extremely conservative.

While there are known issues with Surface Visibility (SV) trailer data, the data was sufficient to show there was significant opportunity for improving efficiencies and reducing costs in this area.

- In the third paragraph on page 4 under Leased and Highway Contract Route Trailers the OIG states:  
*"In FY 2017, the Postal Service plans to purchase about 47,000 GPS units totaling about \$16 million to implement the GPS trailer visibility initiative on leased and HCR trailers. However, management did not identify any enhanced operations or economic benefits associated with this purchase. This occurred because management considered the purchase of the 47,000 GPS units to be a current budget operating expense instead of a major operating expense investment. Handbook F-66 requires high-technology investments to be considered investments that measurably enhance operations and demonstrate the potential to provide economic benefit. Consequentially, based on our risk analysis, we estimate that FY 2017 disbursements of \$1,717,726 are at risk."*

The inclusion of updated supplier requirements for leased and HCR trailers to have GPS devices is an incremental business requirement and not a Postal investment as the Postal Service does not own either the trailers or the GPS devices. Suppliers are required to purchase and equip their trailers with a Postal-approved commercial-off-the-shelf (COTS) GPS unit that is widely used throughout the transportation industry. Suppliers own these devices and are responsible for maintaining the device in good working order throughout the term of their agreements. Costs for the GPS devices are incorporated in the overall lease; however, even the claimed \$16.1 million cost figure is uncertain as in the long term there is no indication that all or part of the GPS costs will be passed on from suppliers to the Postal Service given the competitive nature of the marketplace. The Postal Service's Supply Management group evaluates operational, safety, and economic benefits as well as performance requirements in the solicitation process to ensure that the Postal Service receives the best value for its expenditures. Accordingly, we do not agree with the OIG's risk analysis and estimates of FY2017 disbursements of \$1,717,726 being at risk.

The Postal Service disagrees with the OIG's Monetary Impact claim of unsupported questioned costs of \$2,487,581. The GPS Trailer Visibility DAR specifically outlines the program's metrics, costs, uses, and benefits to the Postal Service and complies with F-66 guidelines. The DAR's anticipated savings are to come from improved utilization of Postal-owned trailers which should reduce the need for leased trailers. Moreover, this DAR is in response to the Office of Inspector General's 2014 report (NO-MA-14-004) which was issued to address missing leased trailers.

We recommend the vice president, Network Operations, in coordination with the vice president, Supply Management:

**Recommendation 1:** Suspend Global Positioning System (GPS) implementation — except for the Enterprise Transportation Analytics (ETA) systems module development — and establish initiative milestones in the following sequence:

- Test and validate the ETA system when all modules are fully operational;
- Conduct a pilot program with the fully operational ETA system and GPS trailer units to validate the complete technology solution;
- Develop a plan with established and validated performance metrics using ETA system and GPS data; and
- Deploy the remaining GPS units based on decision points from the above analytics.

**Management Response to Recommendation 1:** Management disagrees with Recommendation 1. The suspension of this project would not be in the competitive interests of the Postal Service and would further delay benefits that both management and OIG have discussed since 2010 regarding GPS usage. GPS devices are a proven technology that have been used throughout the industry for several years to better manage operations. As discussed above, the Postal Service has metrics defined that will be used in the program. As the system comes up and as data becomes available we will begin to set thresholds based on lessons learned and analysis from the data. Testing of the program will occur as a natural progression of deployment as it is rolled out.

We also recommended the vice president, Finance and Planning, in coordination with the vice president, Network Operations:

**Recommendation 2:** Identify and validate specific cost savings to support the \$18.5 million Global Positioning System technology investment.

**Management Response to Recommendation 2:** Management disagrees with Recommendation 2. The referenced \$18.5 million Global Positioning Technology investment amount combines the 2016 GPS Trailer Visibility DAR's investment of \$2.4 million with new supplier requirements for future leased trailer and HCR trailer services. The 2016 GPS Trailer Visibility DAR's targeted cost savings of \$6.1 million is to come from improved Postal-owned trailer utilization leading to a reduction in the number of leased trailers.

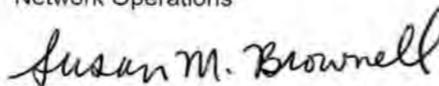
The OIG characterizes the remaining \$16.1 million of the \$18.5 million as a generative investment. The \$16.1 million as noted in the OIG report is not a generative Postal investment, but rather a potential contracting expense associated with updated business requirements for suppliers of leased trailers to address the Office of Inspector General's 2014 report recommendation (report NO-MA-14-004) to: "Ensure all leased trailers are equipped with satellite-tracking devices and issue policy and provide training on the features and functionality of the satellite-tracking system for leased trailers, including functionality of the related web-based management system to help track and manage leased trailers."

Suppliers are now required to purchase and equip their trailers with a Postal approved commercial-off-the-shelf (COTS) GPS unit that is widely used throughout the transportation industry. Suppliers would own these devices and are also responsible for maintaining the device in good working order throughout the term of the lease. Costs for the GPS devices are to be incorporated in the overall lease; however, the claimed \$16.1 million cost figure is uncertain as in the long term there is no indication that all or part of the GPS costs will be passed on from suppliers to the Postal Service given the competitive nature of the marketplace.

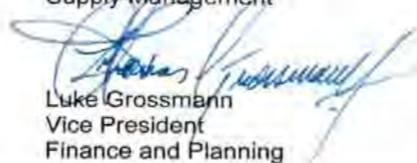
The Postal Service anticipates that cost savings will come from additional reductions in leased trailers, reductions in HCR transportation routes, improved workflow, and improved asset utilization/protection. Based on the cost of the GPS device, a reduction of approximately thirteen percent (13%) in the number of leased trailers would cover the cost of the GPS devices and software.



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