



OFFICE OF
**INSPECTOR
GENERAL**
UNITED STATES POSTAL SERVICE

Transportation Cost System Inputs into the Cost and Revenue Analysis Report

Audit Report

September 19, 2011

Report Number CRR-AR-11-004



IMPACT ON:

The U.S. Postal Service currently spends approximately \$69 million annually for its manual data collection efforts to prepare the Cost and Revenue Analysis (CRA) report. This includes about \$3.9 million per year to collect data for the statistical models within the Transportation Cost System. This report explores alternate ways of preparing the transportation cost component of the CRA using automated data, thus reducing manual data collection efforts.

WHY THE OIG DID THE AUDIT:

Our objective was to determine whether portions of the CRA report could be prepared more efficiently and effectively using automated data to reduce manual data collection. This self-initiated review addresses financial risk.

WHAT THE OIG FOUND:

Additional planning, systems design, and system integration could enable the Postal Service to use more of the data generated by operational systems for CRA cost attribution purposes.

We estimate the Postal Service could save about \$980,000 in annual data collection costs. The Postal Service could make the hardware changes needed with existing technology which would benefit both Operations and statistical sampling efforts.

WHAT THE OIG RECOMMENDED:

We recommended that Finance coordinate with other vice presidents to form a coordination committee to develop system interfaces needed to provide automated data for CRA costing purposes; explore using census data for air and highway transportation costing purposes, and coordinate with the Postal Regulatory Commission regarding the use of census data together with sample verification of mailpiece images for highway and air transportation cost attribution.

WHAT MANAGEMENT SAID:

Management agreed with the recommendations but disagreed with the assessment of the state of automated data and the cost savings estimate.

AUDITORS' COMMENT:

We consider management's comments responsive to the recommendations. Regarding the state of automated data, we realize that Postal Service data systems are evolving which is why it is crucial that product costing information be included in these systems. Our cost savings estimates differed from management's estimate because we assumed a sharing of the costs by Operations and statistical sampling since they share the benefits.

[Link to review the entire report](#)



September 19, 2011

MEMORANDUM FOR: JOSEPH CORBETT
CHIEF FINANCIAL OFFICER AND
EXECUTIVE VICE PRESIDENT

E-Signed by Darrell E. Benjamin, Jr. 
VERIFY authenticity with e-Sign

FROM: Darrell E. Benjamin, Jr.
Deputy Assistant Inspector General, Revenue and Systems

SUBJECT: Audit Report – Transportation Cost System Inputs into the
Cost and Revenue Analysis Report
(Report Number CRR-AR-11-004)

This report presents the results of our audit of the Transportation Cost System Inputs into the Cost and Revenue Analysis (CRA) Report (Project Number 11RG001CRR001). Specifically, this report explores alternate ways of preparing the transportation cost component of the CRA using automated data, thus reducing manual data collection efforts

We appreciate the cooperation and courtesies provided by your staff. If you have any questions or need additional information, please contact Paul Kuennen, director, Cost, Revenue, and Rates, or me at 703-248-2100.

Attachments

cc: Joseph Moeller
Corporate Audit and Response Management

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Introduction

This report presents the results of our audit of Transportation Cost System (TRACS) Inputs into the Cost and Revenue Analysis (CRA) report (Project Number 11RG001CRR001). Our objective was to determine whether portions of the CRA report could be prepared more efficiently and effectively using automated data to reduce manual data collection. This self-initiated review addresses financial risk. This report is the first in a series of reports and addresses the transportation cost component of the CRA. We also plan to issue reports addressing the Revenue, Pieces, and Weight (RPW) System and the In-Office Cost System (IOCS) components of the CRA. See [Appendix A](#) for additional information about this audit.

Each class or type of mail service is required to bear the direct and indirect costs attributable to that class of service and the CRA report aids the U.S. Postal Service in meeting this requirement.¹ Because the accounting systems do not accumulate financial data by mail categories, statistical models and studies are used to attribute costs to the mail classes in the CRA. The statistical systems use data gathered manually by data collectors as well as principles and methodologies accepted by the Postal Regulatory Commission (PRC) in preparing the CRA report. Approximately 900 full-time data collectors and 1,100 part-time data collectors engage in ongoing data collection activities. Manual data collection activities for various statistical systems cost approximately \$69 million annually.

The TRACS is one of the cost systems used to prepare the CRA. In fiscal year (FY) 2010, the Postal Service used TRACS to attribute \$5.9 billion in air and highway domestic transportation costs to mail classes and services. The statistical models used in TRACS contain a sampling system to manually collect data on air and highway transportation of mail. Data collectors expend approximately 82,530 hours annually to collect data that includes transportation trip information, weight and volume of mail at product level, and capacity utilization of trucks. The TRACS cost models generate a set of ratios representing the proportions in which the transportation costs relate to various mail products. These distribution ratios are then used to allocate transportation expenses to the various mail products and services.²

Conclusion

Additional planning, systems design, and system integration could enable the Postal Service to use more of the data generated by operational systems for CRA cost attribution purposes. There is an increasing amount of mail characteristic and piece count data available in various Postal Service operational systems due to system

¹ The CRA report presents information such as the average unit cost of mail at product level, RPW information, and information on services.

² Labor costs are allocated to mail products and services using distribution ratios obtained from IOCS, the City Carrier Cost System, and the Rural Carrier Cost System. There are other attributable costs allocated to products and services using other approved methods. These processes provide the total attributable costs relating to each product and service. These costs, divided by the corresponding volume, provide the average unit cost of that product. If the unit revenue is more than the average unit attributable cost, then that product covers its cost.

improvements in mail acceptance and processing and delivery operations. For example, the Intelligent Mail initiative systems, such as Surface Visibility, and the tracking capabilities of mail processing equipment provide the ability to capture and use mail volume, mail transit, and other data that could be used for transportation cost attribution instead of relying on statistical testing and manual data collection efforts.

Postal Service Engineering has the technology required to capture mail images; therefore, with appropriate modifications, management could adapt systems and processing procedures to obtain mail product-level information and weights. This would reduce the need for much of the manually gathered data currently required in TRACS to attribute air and highway transportation costs.

Regulatory Reporting and Cost Analysis personnel within Finance have ongoing consultations on an informal basis with other groups to explore using available census data for cost attribution purposes. A more formalized approach, with involvement at the vice president level, may assist in leveraging resources with available technological capabilities in meeting Finance's long-range data needs as operational systems mature.

We are continuing our audit to determine the extent to which mail images and other available system data could be used to reduce the manually collected CRA data used in the RPW and IOCS.

Transportation Cost Attribution

With appropriate modifications to existing systems, the Postal Service may be able to use automated data to attribute a significant portion of air and highway transportation costs to the various classes of mail, reducing manual CRA data collection efforts. For example, enhanced interfacing of existing systems will enable the Postal Service to obtain the weight and volume information necessary for air and highway transportation cost attribution. In addition, examining statistical samples of images captured by processing machines could provide additional product-level information. With the proper system interfaces and expanded use of current scanning and mail tracking capabilities, the Postal Service could produce the automated census data³ necessary to attribute air and highway transportation costs between processing facilities.

Air Transportation Costs

With additional system enhancements, the Postal Service could obtain most of the census data necessary for air transportation cost attribution, such as gross weight of mail transported on flight, weight of mail by class, and flight information from existing systems. The Postal Service could obtain additional information needed at the mail product level from limited statistical sampling of mailpiece images. For example, the Enterprise Data Warehouse (EDW) receives census data on flights and weights of mail transported on those flights.

³ Census data involves using mail characteristics, such as mail type, weight, shape, and destination ZIP Code™, captured from all mailpieces by automated systems, rather than relying on statistical sampling of mail.

Weight of mail at the class level could be determined as follows:

- For First-Class™ letters and flats and Priority Mail® flats, weights by destination could be captured by letter and flat sorting machines with minor modifications.⁴
- For First-Class and Priority parcels, weights by destination could be obtained from parcel sorting machines.⁵
- Information on Priority mailpieces mailed under negotiated service agreements could be obtained from the *PostalOne!*® System.
- Weight of Express Mail, except for inbound international, could be obtained from the Product Tracking System (PTS).

The Web End-of-Run system linked to mail processing equipment provides piece count information by destination at the class level. This information could be linked to flight information through container assignment in the Surface Air Management System and Surface Visibility, providing most of the required census data as these systems mature.

Under the current TRACS model, weight at the mail product level is required for the distribution ratio calculation. As an alternative to obtaining weight at the product level, the proportions in which mail products appear in the mailstream could be determined by examining a statistical sample of mailpiece images. The census information obtained from the systems, coupled with the product-level information obtained by examining images, could be used to derive the ratios for air transportation cost attribution.⁶

Highway Transportation Costs

The Postal Service could use census data to attribute costs associated with highway transportation trips originating at mail processing facilities.⁷ Implementation of the scanning and tracking capabilities of the Surface Visibility application, when fully deployed, will provide the critical data required for cost attribution using census data rather than extensive manual data collection.

The Surface Visibility application contains information about transportation trips and the class and weight of mail transported on each trip. If linked with the Web End-of-Run application, Surface Visibility would be able to provide the volume of mail loaded into containers and trucks. The volume information would be useful for determining the

⁴ Engineering has developed different approaches to determine weight of the mail, weighing the tray at the sorting machine being one of the least expensive of those methods.

⁵ Within a reasonable tolerance, the Automated Package Processing System, together with the Small Parcel Bundle Sorter, can capture the weight of approximately ██████████ of total parcel volume. The latter is being upgraded to add the capability to capture weight.

⁶ The Postal Service could use a special study to develop a methodology using this approach.

⁷ Highway transportation trips include trips between processing facilities and trips within the geographical area covered by individual processing facilities. Forty-nine percent of TRACS tests covered trips between processing facilities.

contents of containers and the space utilization of trucks required for developing the ratios for cost attribution. Specifically:

- Using available scanning abilities and properly structuring the barcodes on containers, loose sacks, and other non-containerized items would provide the information required for calculating the distribution ratios.
- Correlating information about the contents of pallets transported on trucks with data available from *PostalOne!*. This information could replace estimates of space utilization of the pallets by classes and types of mail that are currently determined through visual inspection and measurement.
- Collecting product information for letters and flats by examining a statistical sample of scanned images, as in the case of air transportation costing. The PTS contains information about Express Mail together with complete scan information of mail transit.⁸

The availability of census data also creates opportunities to generate the distribution ratios using more direct approaches. For example, under the current model for highway transportation cost allocation, data collectors must collect the weight of mailpieces, which is then converted into volume in cubic feet to calculate the distribution ratios. The available surface visibility data, including piece count and shape data, may eliminate the need to weigh mailpieces to determine their volume.

The PRC has issued guidelines to use specific data collection and estimation methods to produce the distribution ratios; therefore, management would have to coordinate changes to these methods with the PRC. By clearly articulating their long-range data collection needs and working with the PRC, Regulatory Reporting and Cost Analysis personnel can assist in synergizing system modernization efforts underway within the organization. This could lead to increased use of system-generated data for transportation costing purposes and improved quality of cost attribution data, while significantly reducing the cost necessary to collect this information. See [Appendix A](#) for additional information.

The Postal Service can make the hardware and system modifications required to implement these changes with existing technology and this would benefit both Operations and statistical sampling efforts carried out for cost attribution purposes. We estimate the Postal Service will save \$9.8 million⁹ in data collection costs over a 10-year period, or about \$980 thousand per year, by implementing these system enhancements. See [Appendix B](#) for additional details regarding our cost-saving calculations.

⁸ Sacks containing Express Mail are assigned Enhanced Distribution labels, which can be scanned and tracked by Surface Visibility. Weight information is not currently available from PTS for inbound international Express Mail.

⁹ Based on correspondence received from Finance after issuance of our draft report regarding the number of Delivery Barcode Sorters, Linear Integrated Parcel Sorters, and Low-Cost Universal Sorters, we reduced the monetary impact calculation in [Appendix B](#) to \$9.8 million.

Recommendations

We recommend the chief financial officer and executive vice president direct the manager, Regulatory Reporting and Cost Analysis, to:

1. Coordinate with applicable vice presidents to form a committee to develop system interfaces necessary to provide automated data for the Transportation Cost System for product costing purposes.
2. Explore using census data for air and highway transportation costing purposes.
3. Coordinate with the Postal Regulatory Commission to use census data together with sample verification of mailpiece images for highway and air transportation cost attribution, if using census data proves to be practical.

Management's Comments

Management agreed with the recommendations. However, management disagreed with the U.S. Postal Service Office of Inspector General's (OIG) assessment of the state of automated data and the estimate of cost savings.

Management agreed that voluminous data are automatically produced and that it can be advantageous to use these data for costing. In fact, TRACS already uses certain census data deemed sufficiently reliable for costing. However, there are significant limitations with the data sources the OIG cited and management does not believe that acceptable and applicable data are currently available for costing purposes.

Management provided examples of the data limitations, including the lack of specific EDW information such as mailpiece-characteristic details regarding shape and rate category, insufficient product level detail information from Web End-of Run data, and nested scans that fully tracks trays and tubs from machines to wheeled containers and from wheeled containers to trucks. Management also questioned whether the weight of manually processed mail would be properly captured, whether weight measurements by automated equipment would be sufficiently precise, and whether Product Tracking System (PTS) information would provide the specific truck or flight for each mailpiece. Management also expressed concern that mailers would not always provide accurate data. Management stated that these limitations require significant and costly improvements in operations procedures, image processing technology, and mailer participation in order to use the data generated by Postal Service systems for product costing purposes.

Finally, management stated that the net return on investment over 10 years may be negative, ranging from negative \$4 million to negative \$31 million and there may be other costs for systems integration and recurring maintenance. See [Appendix C](#) for management's comments in their entirety.

Evaluation of Management's Comments

The OIG considers management's comments to be responsive to the recommendations and management's corrective actions should resolve the issues identified in the report.

We recognize that the current state of Postal Service systems does not permit management to fully use the available data in the most effective way for product costing purposes. However, the agency can overcome several of the limitations by suitably modifying procedures in consultation with the PRC. For example, although EDW data do not contain all product level information, sampling of mailpiece images can be used to obtain the necessary product level information. Using census data for air transportation costing will enable use of product-level total weights of mail loaded onto air carriers and their corresponding volumes, rather than using weights of individual mailpieces determined to the accuracy of one-tenth of an ounce. In addition, as highway transportation costs are determined based on the square footage of mail products in the truck and not on their weight, a factor other than weight can be used to determine the square footage for costing calculations. Further, as the Postal Service reengineers PTS, it can incorporate suitable requirements to meet product costing into the new system. Lastly, additional coordinated system enhancements, including full implementation of ongoing efforts, such as Surface Visibility and the Intelligent Mail technology, is required for the Postal Service to enhance automated data for product costing purposes. The Postal Service is expanding its Surface Visibility coverage and developing the ability to track tray and container contents. This capability is evolving and it is crucial that the Postal Service's needs for product costing information be included in these systems.

Contrary to management's statement that extensive participation from the already stressed mailing industry is required to collect the necessary mailing data, implementing adequate data input controls in the *PostalOne!* system could assist in ensuring the availability of the necessary mailing data.

With regard to the estimate of cost savings, most of the proposed equipment upgrades will benefit Postal Service operations and, accordingly, our estimates assumed a sharing of the costs by those Postal Service organizations sharing the benefits. We have lowered our estimate of cost savings based on correspondence received from management after issuance of the draft report.

The OIG considers recommendation 1 significant, and therefore requires OIG concurrence before closure. Consequently, the OIG requests written confirmation when corrective actions are completed. This recommendation should not be closed in the Postal Service's follow-up tracking system until the OIG provides written confirmation that the recommendation can be closed.

Appendix A: Additional Information

Background

The Postal Service prepares the CRA report annually to determine whether it complied with the statutory requirement that each class or type of mail service bear the direct and indirect costs attributable to that class or service. The Postal Service’s accounting systems do not accumulate financial data by categories of mail. The Postal Service uses PRC-approved methods, which include the use of apportionment factors derived from operational and statistical information sources, to prepare the CRA report.

Major statistical systems used in the CRA process include IOCS, the City Carrier Cost System, and the Rural Carrier Cost system to attribute labor costs; TRACS to attribute mail transportation costs; and the RPW System to estimate national revenue, volume, and weight information. The number of statistical tests conducted in 2010 for selected systems and the average time for conducting them are provided in Table 1.

Table 1. Data Collection Tests and Average Time

Statistical System	Number of Tests	Average Time for a Test (hours)
TRACS	17,635	4.680
IOCS	584,000	0.470
RPW System	129,000	6.167
City Carrier Cost System	9,400	3.500
Rural Carrier Cost System	6,500	5.500

Personnel in the Regulatory Reporting and Cost Analysis Office assemble and process data collected in statistical tests to attribute labor and transportation costs to postal products and services; and to estimate the national revenue, volume, and weight information. The year-long data collection and processing activities involve running several SAS programs.

In FY 2010, the Postal Service used TRACS to attribute \$5.9 billion in transportation costs to mail classes and services. For air transportation (except for daytime transportation using FedEx¹⁰) the Postal Service calculates distribution ratios on the basis of the weight of the mail transported. For a particular mail product, the ratio of the weight of that product to the total weight of mail transported constitutes the ratio in which the cost will be allocated to that mail product. Both highway and rail transportation use cubic foot-mile of mail transported to calculate distribution ratios.

The Postal Service depended on statistically collected data to compute the various distribution ratios because of its prior inability to gather all the necessary census data

¹⁰ Cubic feet of mail transported rather than the weight is used in the calculation for daytime transportation using FedEx.

for cost attribution purposes; however, technological changes the Postal Service has implemented over the years provide the ability to produce voluminous data, including volume, weight, and origin-destination information. The *PostalOne!* system provides various information about commercial mail. Intelligent Mail technology provides visibility of mail from induction to final delivery. Mail processing equipment currently in use and planned for deployment is able to capture volume and, in some cases, weight information. Mail processing equipment also has the ability to capture images of mailpieces. The Postal Service currently uses limited census data in the CRA process, but the capability to significantly increase the use of census data and minimize manual data collection exists.

Objective, Scope, and Methodology

We conducted this performance audit from October 2010 through September 2011 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 August 4, 2011, and included their comments where appropriate.

We evaluated business processes, the availability of system-generated data, and potential enhancements to systems and processes. We did not base our conclusions on the analysis results of computer-generated data, and therefore, did not evaluate the reliability of any such data.

Prior Audit Coverage

Report Title	Report Number	Final Report Date	Monetary Impact	Report Results
<i>Cost and Revenue Analysis Reporting Model</i>	CRR-AR-10-003	07/27/2010	None	We determined the Postal Service needed to establish proper access controls for its shared network drive. Also, the report stated the Postal Service could enhance controls by improving Cost and Revenue Analysis process documentation. Management concurred with the recommendations.

Appendix B: Monetary Impact Calculation

The Postal Service could achieve cost savings and increased accuracy in its cost attribution by using automated data and reducing manual data collection. As discussed previously, with some upgrades to existing systems, management could use automated data for attributing air transportation costs and highway transportation costs for trips originating at processing facilities. Management estimated the equipment upgrade cost will be between \$3,000 and \$5,000 per sorter.

These system upgrades — such as implementing weighing capabilities on processing equipment and linking systems — would be beneficial in reducing manual data collection efforts supporting other statistical systems, such as the RPW System and the carrier cost systems. Assigning half of the equipment upgrade costs to other Operations initiatives and statistical sampling systems would result in monetary impact ranging from \$9.8 to \$12.7 million over a 10-year period. This represents funds which could be put to better use.

Finding	Impact Category	Amount
Transportation Cost Attribution	Funds Put to Better Use ¹¹	\$9,799,206

¹¹ This term is synonymous with the term 'costs avoided.' The monetary impact represents the net present value of cash flows for 10 years discounted at the Postal Service's current borrowing rate of 3.75 percent.

Appendix C: Management's Comments

JOSEPH CORBETT
CHIEF FINANCIAL OFFICER
EXECUTIVE VICE PRESIDENT



September 9, 2011

SHIRIAN HOLLAND
ACTING DIRECTOR, AUDIT OPERATIONS

SUBJECT: Transportation Cost System Inputs to the Cost and Revenue Analysis Report (Report Number CRR-AR-11-DRAFT)

The United States Postal Service agrees with the Office of Inspector General's (OIG) recommendations to explore alternate ways of using data from operations and other census data to prepare the transportation cost component of the Cost and Revenue Analysis (CRA), and thereby to reduce the costs of data collection efforts. However, the appropriate and applicable automated data are not currently available (and are not expected to soon be available). We disagree that the cost savings would be \$10 million over ten years. Rather, our analysis also shows that costs would exceed savings over this time period if all suggestions were implemented.

We disagree with the OIG's assessment of the state of automated data.

The OIG report (page 1 "Highlights") states: *Voluminous automated data is available as a result of the Postal Service's technological improvements over the years. Additional planning, systems design, and system integration could enable the Postal Service to use more of the data generated by operational systems for CRA cost attribution purposes.*

We agree that voluminous data are automatically produced and that it could be advantageous to use these data for costing purposes. In fact, the Transportation Cost System (TRACS) already uses certain census data deemed sufficiently reliable for costing, as discussed below. However, there are significant limitations with the data sources cited by the OIG. Overcoming these limitations will require significant and costly improvements in operations procedures, image processing technology, and more extensive participation from mailers over which we have very limited control, especially where change will require an already-stressed industry to make systems investments and process changes. Therefore, we do not believe that acceptable and applicable data are currently available for transportation costing purposes, yet we fully acknowledge and accept the goal of continuing our efforts to cost-effectively use available data that will result in reliable cost estimates.

TRACS is currently using reliable automated data. Each quarter, Postal Service statisticians extract over 31 million distribution and routing records regarding handling-units (such as trays, tubs, and sacks) for air transport. These data from the Enterprise Data Warehouse (EDW) are organized into four TRACS air sampling frames after edits to ensure their completeness and accuracy. These EDW weight data serve as control totals for all mail transported by air. The EDW census data are also tied to their appropriate census-based cost accounts. However, while these data are extensive and are used to tie back to the actual payments, they do not provide detailed information on the contents of each handling-unit such as mailpiece-characteristic detail regarding shape and rate category. For example, for Express Mail sacks, census data do not identify whether the contents are domestic Express Mail, International Outbound, International

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Inbound, USPS Express or any other mail product. These different products vary considerably in terms of their average weight (cost) per piece. Therefore, as of now, sampling is the only workable method for obtaining the required product level information by mailpiece within handling-units. We continue to sample air transportation, but only because not all of the information required for costing is available from other data sources.

Below are some specific issues we have with the OIG's findings:

- 1) The OIG states: *The Web End-of-Run system linked to mail processing equipment provides piece count information by destination at the class level.*¹ Unfortunately, End-of-Run (EOR) data do not currently provide product-level information at the level of detail required for CRA reporting. Sufficiently detailed data would become available in the future if IMb data (assuming cooperation from customers) can be linked to EOR data to identify rate category, and if mailpiece images can be extracted to provide product information. However, such processes do not yet exist. The Optical Character Reader (OCR) capabilities required for CRA-level mail identification is an expansion of existing OCR capabilities which primarily facilitate the sorting of the mail. Additionally, the image processing capability would have to be updated regularly to accommodate new products and changes to mail markings. The OIG assumes that the required data processing and image sampling can be carried out at zero recurring cost. Another limitation is that EOR data would not include pieces that did not receive successful processing on automated sorting equipment with required imaging and/or weighing capabilities.
- 2) The OIG finds that *[u]sing available scanning abilities and properly structuring the barcodes* is sufficient for costing purposes.² The OIG has not considered the difference between capabilities that may exist in theory versus the capabilities that have been implemented, and thereby produce complete data of known reliability. The Postal Service does not yet have nested scans that fully track trays and tubs from machine to wheeled containers, such as All Purpose Containers (APCs), and from APCs to trucks. Scans are technically possible, so they may eventually provide adequate data when universally performed, but that is not yet the case. Under the current costing methodology, for these scans to be useful, every mailpiece has to be linked to its mailer manifest and to its handling-unit, then each handling-unit has to be linked to its container, and each container must be linked to the transportation leg and mode. Ensuring that all mailpieces that travel on the Postal Service network can be fully tracked according to their containers and various transportation modes is a challenging task which will require major changes by Operations and extensive cooperation from mailers. This is not a task that can be accomplished simply through "PL/SQL procedures and queries"³ since the necessary data are not available.
- 3) The OIG considered the measurement of weight for mailpieces handled by automation equipment, but did not consider the mail that is sorted manually. The transportation costs for such mail are significant. [REDACTED]

[REDACTED] While the OIG suggests that weight can be obtained for [REDACTED] of all Priority Mail parcels using scales attached to the Automated Package Processing System and the Small Parcel Bundle Sorter machines⁴, the actual percentage is much lower if manually processed parcels are also included. Incidentally, the tolerance of 0.4 pounds on this equipment provides less precision relative to existing TRACS standards for which mailpieces are measured to the nearest 0.1 (one-tenth) of an ounce, especially for light-weight parcels. We need to capture this data because accurate weight measurement is critical to determining transportation costs.

¹ Report, p.3.

² Report, p.4.

³ During the collaborative process that led to this Report, the OIG stated that this procedure was a method for obtaining the needed data.

⁴ Report, p.3, footnote 7.

- 4) The report cites the PostalOne! System as another source for census data.⁵ Again, PostalOne! data are not currently linked to specific transportation modes (eight distinct highway and air modes), therefore this is another capability that has yet to be developed. Furthermore, mailers do not always provide sufficient data, particularly when that information is not required for determining price. For example, since there is no entry discount for First-Class Mail, some mailers may populate the entry point field with the destination (rather than origin) ZIP Code of the container, which has no consequence in terms of price. It will be necessary to ensure that this information is provided and is recorded correctly (despite the lack of price determination) for these data fields before they can be used for reliable costing.
- 5) The OIG states that: *Weight of Express Mail, except for inbound international, could be obtained with Product Tracking System (PTS).*⁶ There are two limitations here:
 - a) The data in PTS do not reveal the specific truck or flight for each mailpiece. To build this linkage requires changes in operations (additional scans and nested scans) and changes in the database structure similar to the changes required for WebEOR data.
 - b) The OIG does not address how weight will be obtained for Inbound International Express Mail, which accounts for a significant portion of the network costs [REDACTED]Again, overcoming this limitation requires operational changes and will incur costs.
- 6) The Report cites Surface Visibility (SV) as a potential census data source.⁷ While we do agree that SV has the potential to enhance TRACS sampling and reduce our dependency on data collectors, the progress of SV implementation is not far enough along to provide census data. As of now, the SV system only covers 31 percent of the trailers subject to TRACS sampling (TRACS frame). Furthermore, though the scan rate is high for trailers, it is much lower for containers⁸ and some of the data show that the system is not yet ready to be used for costing purposes. SV data may become complete and accurate in the future, but they are not currently sufficient for costing.

We disagree with the OIG's cost savings estimate.

The OIG report states: *We estimate that hardware and software modifications, coupled with sampling design modifications could save about \$12 million in data collection costs over a 10-year period.*⁹ Management disagrees with this estimate. The OIG's analysis undercounts costs and therefore overstates net savings.

- 1) The OIG cost estimate includes a weight capture equipment upgrade for only 2,331 Delivery Barcode Sorter (DBCS) machines for major Processing & Distribution Centers (P&DCs). However, we found that of the total 5,865 DBCSs, 3,953 were in the 122 P&DCs that have SV. Extending the weight-measurement upgrade to all DBCS machines at SV P&DCs adds between \$2 million to \$8 million to the initial equipment upgrade cost. Providing weight-measurement capabilities for all DBCS machines at P&DCs would require upgrading more than 1,000 additional machines.
- 2) The OIG does not include any recurring cost for equipment maintenance or system upgrades—for example: machine calibration to ensure accurate (unbiased) mailpiece weight measures, notwithstanding whether weights can be measured within acceptable tolerances for costing requirements. The OIG analysis assumes that this cost will be absorbed by Operations. We believe it is unreasonable to assume that there is no added maintenance cost, or that Operations must absorb this added responsibility (again, at no

⁵ Report, p. 3, p. 4.

⁶ Report, p. 3.

⁷ Report, pages 2, 3, 4.

⁸ [REDACTED]

⁹ Report, HIGHLIGHTS. Also, during the collaborative process with the OIG staff, they acknowledged that the savings would be \$10 million instead of \$12 million.

cost) which is needed exclusively to provide reliable data for costing. Assuming that recurring costs are ten percent of the initial investment expense results in an additional \$5 million to \$16 million in costs over ten years¹⁰.

- 3) The OIG's estimated cost savings assumes elimination of a large number of TRACS tests. They conclude that only 3,812 TRACS highway tests will have to be conducted (e.g., tests not originating at P&DCs). However, we conclude that 10,759 tests will still be required. First, the testing of all highway trips not originating at SV sites should be continued. By making this adjustment, the required number of TRACS highway tests increases from 3,812 to 4,578. Second, the OIG cost estimate assumes 100% elimination of air tests. However, 3,889 air tests are not conducted at SV sites. To maintain current levels of reliability, these tests would need to be continued as well. This increases the number of tests required to 8,467. Third, manually sorted mail was not addressed in the report. When this issue was raised during the collaborative review process with the OIG, the auditors suggested that ring scanners could be used to scan barcodes and track manual volumes. However, currently these barcodes do not provide sufficient information for costing purposes. The OIG recognizes this since their proposal requires the processing of images from automation equipment, which is an acknowledgement that piece-level data cannot be garnered just by scanning barcodes. Since trucks and flights carry both automated and manual mail, it is unclear how many samples can be reduced simply because a portion of the mail on a given truck or flight is known by census. Sampling likely will be necessary simply to ascertain what proportion of the mail on each truck is automated and what proportion is handled manually. Assuming the sample size can be reduced by the same proportion as automation mail, we would still require 2,292 tests at major P&DCs to account for manual mail. This brings the total required TRACS tests to 10,759 and adds \$9 million to the costs assumed by the OIG over ten years.

Incorporating the points above into the calculation, the net impact over ten years ranges from negative \$4 million to negative \$31 million, rather than the positive \$10 million¹¹ claimed by the OIG.

In addition to the three issues above for which we have reasonable approximate cost estimates, there are several other costs not yet accounted for in the OIG savings analysis. Below are examples:

- Full investment cost for image processing software. The OIG may have included this cost within their \$2 million for all software upgrades, but according to Engineering, the image processing software alone is likely to exceed this figure significantly.
- Recurring costs for sampling mailpiece images.
- Recurring costs to analyze images where image capture cannot accurately resolve the CRA product category.
- Creation, maintenance, and ongoing development costs for linking PTS data to specific transportation flights and highway trips.
- Costs for capturing Inbound Express weight in PTS.
- Data processing and data edit costs for the census-type data so that they become sufficiently reliable for costing purposes.
- Costs to expand SV scanning so that SV data are sufficiently complete and reliable for transportation costing.
- IT-related costs for transmission, centralization, and storage of census data.

¹⁰ Based on a general estimate of recurring costs by Engineering.

¹¹ See footnote 9 on page 3

- Costs to match full-service IMb and IMpb scans to mailpiece data records in the mailing documentation database.

This OIG Review is meant to address financial risk¹². However, the report did not consider the risk to the Postal Service if elements of their proposal are not fully implemented. There is risk that investments involved in embarking on some of the improvements needed to facilitate costing may be wasted if the end result is incomplete, or otherwise produces data that is not sufficiently reliable. Furthermore, there is a risk that using automation equipment data exclusively will lead to biases in product costing. Mailpieces that do get information extracted automatically may differ in their characteristics from those that do not, whether that's due to non-machinability, missing or incomplete barcodes, or incomplete data from mailer data files. For example, single piece mail may be non-machinable more frequently than commercially prepared mailings.

It is everyone's desire to use more census data to reduce our dependency on sampling. This has been one of the ongoing objectives of cost systems program managers. However, the potential for net positive savings due to a reduction in the TRACS sample size is limited. In all, the TRACS data collection expense is approximately \$4 million per year. Obviously, any costs incurred to create a system that would not require this current data collection effort would offset (at least partially) this \$4 million expense.

Recommendation 1:

Coordinate with applicable vice presidents to form a coordination committee to develop system interfaces necessary to provide automated data from the Transportation Cost System for product costing purposes.

Management Response/Action Plan:

Management agrees with this recommendation. (We assume that the OIG means that the automated data will be provided to, not from, TRACS.) We will coordinate with applicable vice presidents to form a coordination committee that will meet quarterly to develop system interfaces necessary to provide automated data to TRACS for product costing purposes. The committee will evaluate the possibility of alternative means of data collection. Where alternative means of data collection are feasible and cost effective, the committee will lay out a critical path of required elements to garner the necessary data.

Target Implementation Date:

The committee will be formed and have a first meeting by the end of December 2011. The committee will meet quarterly thereafter.

Responsible Official:

Manager, Regulatory Reporting and Cost Analysis, Finance, Postal Service.

Recommendation 2:

Explore using census data for air and highway transportation costing purposes.

Management Response/Action Plan:

Management agrees with this recommendation. We have been exploring, and will continue to explore, the use of census data for air and highway transportation costing purposes. By October 1, 2012, management will provide updates on percentages of TRACS frame (trucks) and containers

¹² Report, HIGHLIGHTS.

covered by SV. Management will also provide a report on the progress of replacing TRACS FedEx Night Turn tests using nested scan data.

Target Implementation Date:

Ongoing.

Responsible Official:

Manager, Regulatory Reporting and Cost Analysis, Finance, Postal Service.

Recommendation 3:

Coordinate with the Postal Regulatory Commission to use census data together with sample verification of mailpiece images for highway and air transportation cost attribution, if using census data proves to be practical.

Management Response/Action Plan:

Management agrees with this recommendation. We will coordinate with the Postal Regulatory Commission to use census data for highway and air transportation cost attribution provided that using census data proves to be practical.

Target Implementation Date:

Ongoing. Target dates for coordinating with the Postal Regulatory Commission will ultimately be derived by the schedules for the various changes to analytical principles proposed to the Commission.

FOIA exemptions are attached.



Joseph Corbett

Attachment

Attachment

The following sections of the Postal Service Management Recommendations to Report Number CRR-AR-11 contain proprietary information on competitive products that should be exempt from disclosure under the Freedom of Information Act (FOIA).

