



January 21, 2009

WILLIAM (ASHLEY) LYONS
MANAGER, CORPORATE FINANCIAL PLANNING

SUBJECT: Audit Report – Data Quality Issues with the City Carrier Street Time Study
(Report Number CRR-AR-09-001)

This report presents the results of our audit of the City Carrier Street Time Study (CCSTS) (Project Number 08RG012CRR000). Our objective was to evaluate the data quality issues associated with the CCSTS presented to the Postal Regulatory Commission (PRC) during the most recent rate cases, and raised by the PRC and other interested parties. The Postal Accountability and Enhancement Act of 2006 (the Postal Act of 2006) requires the U.S. Postal Service Office of Inspector General (OIG) to audit the data collection systems and procedures the U.S. Postal Service uses in their pricing process. This is a self-initiated audit that addresses both operational and financial risks.

The CCSTS we evaluated was performed in 2002 to establish time and variability factors to use in attributing approximately \$11.1 billion in Postal Service delivery costs. Although updated data was obtained in 2004, the 2002 study was presented in both the 2005 and 2006 rate cases, and current pricing relies on this data. See [Appendix A](#) for additional information about this audit.

Conclusion

The sample design for the CCSTS appears to be reasonable. Although management reduced the sample size from the original sampling plan, we found no inherent statistical problems with this reduction in sample size. However, the data collection process needed better documentation and control. Numerous data quality issues remained in the 1.317 million data records even after a rigorous data cleansing effort. Additionally, the data cleansing process was not well controlled or documented and the survey data is now more than 6 years old.

Data Collection Issues Resulted in Inaccuracies

We found errors such as time data scans outside the normal carrier delivery hours, mismatched ZIP Codes™ and routes, incomplete volume and time pool data, and anomalies in dates and the number of days in which volume and time pool data were collected. These errors affected over 165,000, or 12.6 percent, of the time scan records and 6,528, or 7.4 percent, of the volume records. Additionally, we estimate that about 6.6 percent more time pool records could have been collected had carriers received

adequate training and management exercised daily oversight of data collection activities. See [Appendix B](#) for our detailed analysis of this topic.

Data Processing and Cleansing Procedures Were Not Well Controlled or Documented

The data processing and cleansing effort, after the CCSTS sample data was collected, needed better documentation and control. Management did not document the steps taken to eliminate data errors or ensure that data files used in this process were properly backed up. Management stated that, despite the missing and erroneous data, they believe the study produced more than adequate data sets. See [Appendix B](#) for our detailed analysis of this topic.

The Study Data May be Outdated

The CCSTS survey data is more than 6 years old, as the Postal Service has not updated variability factors used in attributing city carrier street activity costs since the 2002 study. Since that time, there have been significant changes in city carrier street activities due to changes in the mail mix, increased use of Delivery Point Sequencing (DPS), bundle handling, and the increasing popularity of such innovations as the Click-N-Ship package pickup program. Aged, incomplete or missing sampling data could impact the variability factors applied to cost pools, which in turn, could result in inaccurate allocation of costs among and rates for Postal Service products. See [Appendix B](#) for our detailed analysis of this topic.

We recommend the Manager of Corporate Financial Planning:

1. Consult with the Postal Regulatory Commission to begin the process of updating the City Carrier Street Time Study.
2. Continue to solicit active participation and feedback from cross-functional organizations in designing and planning future data collection efforts. Involve the cross-functional team in assessing data collection tools and procedures, designing training materials and outreach programs, and monitoring and resolving data collection issues.
3. Develop tools and procedures to monitor and assess data as it is being collected to identify and resolve individual and systemic data collection issues.
4. Develop training programs to ensure that all personnel, including carriers, understand the importance of and procedures needed to collect reliable data.
5. Ensure that all collected data is backed up and stored offsite.

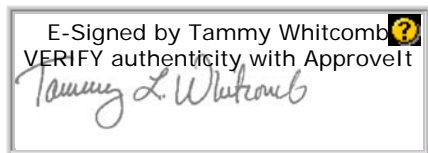
Management's Comments


Management partially concurred with findings 1 and 2, concurred with finding 3, and concurred with recommendations 1 through 5. In their general comments, management stated they believe that carriers received extensive and productive training. Management also provided additional comments on early scan dates and records with missing data fields. Management's comments, in their entirety, are included in [Appendix D](#).

Evaluation of Management's Comments

The OIG considers management's comments responsive to all the recommendations and management's corrective actions should resolve the issues identified in the report. We modified the report slightly to include management's clarification of carrier training, early scan dates, and records with missing data fields.

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



E-Signed by Tammy Whitcomb 
VERIFY authenticity with ApproveIt
Tammy L. Whitcomb

Tammy L. Whitcomb
Deputy Assistant Inspector General
for Revenue and Systems

Attachments

cc: J. Ron Poland
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APPENDIX A: ADDITIONAL INFORMATION

BACKGROUND

Prior to the enactment of the Postal Act of 2006, the Postal Service developed cost information for each class of mail, rate category, and type of service for the purpose of establishing rates for Postal Service products and services. Under the act, rate increases for market-dominant Postal Service products are capped by the rate of inflation.¹ However, each class of mail or service is required to cover the direct and indirect costs attributable to it. The Postal Service's financial records do not provide all the necessary information down to the subclass and extra service level to determine product-specific costs. Therefore, the Postal Service uses various statistical systems and special studies that provide data to develop cost estimates for Postal Service operations.

The City Carrier Cost System (CCCS) is an ongoing data collection system that is used to distribute portions of city delivery costs that are attributable to various classes and subclasses of mail and extra services. The Cost and Revenue Analysis (CRA) report uses variability factors determined by the 2002 CCSTS together with CCCS distribution ratios developed using volume information collected in CCCS tests to distribute attributable costs. The CCCS is used to distribute the attributable portion of salaries, benefits, and related costs of city carriers for performing street activities for most of the city delivery carrier routes to specific products and services.²

The information derived from the CCCS is a major input into the CRA report filed with the PRC. City carrier street activity costs constitute \$11.1 billion, or 49 percent, of the \$22.6 billion in the total delivery costs of the Postal Service. The Postal Service's Statistical Programs office, which is under Corporate Financial Planning, manages the CCCS.

In 2002, the Postal Service conducted the CCSTS to establish new time pools and variability factors. The Cost Attribution office under Corporate Financial Planning sponsored the study, which spanned a 6-week period in May and June 2002. The objective of the sample was to estimate the majority of variables of interest with a coefficient of variation – the measure of the relative error of the estimate – of less than 10 percent. To reduce the cost of conducting the study, the Postal Service dropped the sample size from 221 ZIP Codes to 167 ZIP Codes in two successive steps. In the first step, the stratum consisting of more than 60 routes per ZIP Code was reduced from 48 to 12 by selecting every fourth ZIP Code. In the second step, the sample size was

¹ Under the new ratemaking rules the PRC established, the rate increases are capped by the U.S. Bureau of Labor Statistics' Consumer Price Index — All Urban Consumers (*Order No. 43—Order Establishing Ratemaking Regulations for Market Dominant and Competitive Products—Final Rules*, Section 3010.12, Docket No. RM2007-1, Postal Regulatory Commission, November 2007).

² The In-Office Cost System (another data collection system) determines the distribution of costs related to office activities city carriers perform.

further reduced to 167 by selecting one ZIP Code per Finance number. This further reduced the size of the stratum containing more than 60 routes to 10 ZIP Codes. See Table 1 below.

Table 1. Sample Size Reduction

Strata	Routes Per ZIP Code	Number of ZIP Codes	
		Original Sample	Revised Sample
1	10 or less	33	29
2	11 to 60	140	128
3	More than 60	48	10
	Totals	221	167

As a first step to determine the time pools in the 2002 CCSTS, the study defined a set of street activities consistent with the carrier operations that were measurable and complete. During the study, carriers collected time data to determine the time taken to perform various street activities and volume data of different classes and subclasses of mail. Carriers used barcode scanners to scan up to 36 unique barcodes to indicate when they changed from one activity to another. Each barcode represented a unique route activity.

The volume data was collected in the following ways.

- Most of the letters and flats delivery volume was collected using data from the Delivery Operations Information System (DOIS) and the Delivery Support Information System (DSIS).
- Parcels, accountable mail, and collection mail volume data were manually recorded by carriers and carrier supervisors who entered the volume onto paper forms, normally using one form per route.³

The Postal Service calculated the time pools and their variability factors using the time and volume data collected during the study. Time pools were determined by calculating the portion of time carriers spend performing various route activities on the street. The volume variability factors for each time pool were developed by measuring the relationship between changes in activity time with respect to changes in volume. See details of the city carrier cost process in [Appendix C](#).

Prior to performing the calculations, the Postal Service performed data cleansing on the raw time pool data file containing 1.48 million records. The PRC adopted the resulting file containing 1.317 million records in Docket No. R2005-1 and reviewed and accepted

³ This volume data is often measured in linear feet and inches and conversion factors are applied. Carriers and supervisors added volume counts for pieces that required deviations and small parcels and accountables that required customer contact. They also provided linear measurements of collected mail by shape and indicia for letters and flats.

it in Docket No. R2006-1. The Postal Service did not perform any data cleansing on the volume data files. Although additional data to update the results was collected in April 2004, and presented to the PRC upon request, the data was not used in Docket No. R2006-1, or to update variability factors. [Appendix B](#) explains the 2004 CCSTS.

OBJECTIVE, SCOPE, AND METHODOLOGY

Our objective was to evaluate the data quality issues associated with the CCSTS presented to the PRC during the most recent rate cases, and raised by the PRC and other interested parties. We conducted this performance audit from February 2008 through January 2009 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 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 officials on December 8, 2008, and included their comments where appropriate. We used manual and automated processes to assess the reliability of computer generated data used for our analysis and concluded the data used were sufficient to support the audit objective.

To obtain information on the study, we reviewed documentation obtained from the Postal Service and the PRC. We also interviewed Postal Service personnel involved in the study.

To evaluate the data quality issues, we obtained the original time pool data and the time pool data submitted to the PRC. We also obtained the volume data files submitted to the PRC, as well as other files the Postal Service used in their data analysis. We performed an independent analysis of the data files and compared our results with data quality issues raised by the PRC and other interested parties, such as the Office of Consumer Advocate (OCA).⁴ We used automated data analysis techniques to compare the time pool data and the respective volume data at the ZIP Code, route and date levels.

The results of our analysis were in some instances similar to the issues stated by the PRC and others; however, our analysis revealed additional data quality issues. We did not evaluate the relationship between activity time and volume by shape, nor did we review any data files related to the 2004 CCSTS.

PRIOR AUDIT COVERAGE

There were no prior audits of the CCSTS or the CCCS.

⁴ The OCA is an office independent of the PRC and the Postal Service that represents the interests of the general public in ratemaking proceedings.

APPENDIX B: DETAILED ANALYSIS

Data Collection Issues Resulted in Inaccuracies

The data from the 2002 CCSTS presented to the PRC contained numerous data quality issues, even after data cleansing was performed. The data collection process was not well controlled and as a result, there was uneven participation in the CCSTS by facilities and carriers and inconsistent data collection by the carriers.

These data collection errors occurred for several reasons.

- The study coordinators from headquarters and the field received extensive training on their roles and responsibilities and how scanning and volume collection would be done. However, the carriers received limited training – only about an hour, which included reading the manual, a short group training session, and about 5 minutes of individual training.
- During the study, carriers entered time data by scanning up to 36 unique barcodes each day, depending on which activities they performed. The numerous required barcode scans may have confused many of the carriers. For example, the carriers were required to use a start and stop scan in transitioning from one activity to another, when only one scan may have been sufficient.
- There were no controls for supervisors to verify time pool scan data before it was uploaded to the mainframe.
- Finally, carriers were required to manually record volume data on parcels and accountable mail. We found many of the manually recorded forms difficult to read, which may have contributed to data entry errors.

The Postal Service stated it had controls in place, which included study coordinators checking and verifying carriers' mail counts and headquarters staff reviewing the scan data for completeness. However, these controls were not always enforced as evidenced by the numerous errors. The Postal Service later acknowledged that there was “. . .no way for study supervisors to verify scans made by the carriers.”⁵

Issues with the data collection process resulted in incomplete volume and time pool data, and anomalies in dates and the number of days in which volume and time pool data were collected. We also found mismatched ZIP Codes and routes, and time data scans outside the normal carrier delivery hours. These errors affected over 165,000, or 12.6 percent, of the time pool records and 6,528, or 7.4 percent, of the volume records.

⁵ *Opinion & Recommended Decision (Docket No. R2005-1)*, Appendix I, page 10, Postal Regulatory Commission, November 1, 2005.

Table 2. Inconsistencies in Data Collection

Type of Error	Percent of Records Affected		
	Parcels and Accountables (PA)	Letters and Flats (LF)	Time Scans
Time pool scans outside normal delivery hours			0.6
Data collected for less than 11 days	4.2	6.4	5.3
Volume data collected prior to starting date	0.8	0.8	-
PA volume recorded but no time pool data	1.4	-	-
LF volume recorded but no time pool data	-	1.3	-
Time pool data recorded but no PA volume	-	-	4.3
Time pool data recorded but no LF volume	-	-	1.5
Time pool data recorded but no volume at all	-	-	2.7
Records with missing fields in time pool and volume observations	-	-	0.8

Uneven Participation in Data Collection

Although the CCSTS design scope encompassed 167 ZIP Codes and 3,736 routes, participation in the data collection effort was uneven. For example, the revised sampling plan for strata 3 (i.e., more than 60 carrier routes) encompassed 10 ZIP Codes; however, an examination of the data files indicated that carriers in only six ZIP Codes in strata 3 collected both time pool and volume data. Time pool data was collected by carriers in nine ZIP Codes; but carriers in four ZIP Codes did not report any parcels or accountable volume data, and carriers in three ZIP Codes did not report any letters and flats volume data.

In general, the number of routes reporting parcels and accountable volume data should match the number of routes reporting letters and flats volume data and time pool scans. Development of automated tools (such as scripts) to examine the data as it was collected and reported could be used to highlight facilities and carriers that are not fully participating in the data collection sampling plan.

We noted that the number of ZIP Codes and routes reported in the parcel and accountable data, letters and flats data, and time pool scan data were different. We found that time pool scans were reported for 3,987 routes, or 251 more than in the sample design. We also found differences in the number of routes collecting data for parcels and accountable mail, and for letters and flats, as shown in Table 3.

Table 3. Number of ZIP Codes and Routes

Number	Parcels and Accountables File	Letters and Flats File	Time Scan File	Sample Design
ZIP Codes	159	161	165	167
Routes	3,503	3,667	3,987	3,736

The number of routes reported for the same ZIP Code was different in different data files. Fifty-four out of 161 ZIP Codes had differences in the number of routes within ZIP Codes between the Parcel and Accountable volume data files and the Letter and Flats data file. Additionally, 140 out of 165 ZIP Codes had differences in the number of routes within ZIP Codes between the time pool data file and one or both of the volume data files.

Inconsistencies in Data Collection

Data Collected For Less Than 11 Days

The study was intended to last for 14 calendar days, covering 11 to 12 business days excluding holidays and Sundays, when no mail delivery occurs. However, we observed that 589 of the 3,987 routes (15 percent) collected time pool data for less than 11 days, 289 of the 3,503 routes (8 percent) collected parcel and accountable volume data for less than 11 days, and 96 of the 3,667 routes (3 percent) collected letters and flats volume data for less than 11 days.

When this issue was raised in the R2005-1 rate case, the Postal Service stated that not all routes provided data for all days for either scan data or the volume data. The PRC stated that it was evident there were many routes for which sample data were completely missing and others for which the sequence of sampled days was incomplete. The pattern implied fairly large-scale reporting failures of various kinds as CCSTS time data was collected. The Postal Service stated they understood and accounted for the fact that there would be days where scan or volume data would not be usable for a particular ZIP Code/route.

Collecting data for the full sampling period could improve the overall reliability of the data. These routes generated 2,008 parcel and accountable volume records, 2,609 letters and flats volume records and over 70,000 time pool scan records. If these routes collected volume and time data for at least 11 days, we estimate this could have produced an additional 1,398 parcel and accountable records, 845 letter and flat records, and 86,319 time pool scans.

Volume Data Collected Prior to Start Date

The official start date of the CCSTS was May 18, 2002. However, the data file submitted to the PRC contained data for dates earlier than the start date. We found 345

out of 40,668 (0.8 percent) records in the letters and flats volume data file, and 376 out of 47,352 (0.8 percent) records in the parcels and accountable volume data file, dated prior to the start date. We also found that 17 ZIP Codes had differences in the start and end dates and the number of days the time pool data and volume data was collected. For accurate results, the start and end dates and the number of days should be the same for the time pool and volume data files. According to the Postal Service, this data was deleted prior to the time scan pool and variability calculations.

Mismatches Between Volume and Time Pool Data

Not all time pool data were matched by corresponding volume data. We identified 646 of 47,352 records (1.4 percent) that had parcel and accountable volume recorded but had no time pool data, and 544 of 40,668 (1.3 percent) records that had letters and flats volume recorded but had no time pool data. Furthermore, 56,363 of 1.317 million (4.3 percent) records had time pool data and letters and flats volume recorded but had no parcel and accountable volume; and 20,057 of 1.317 million (1.5 percent) records had time pool data and parcels and accountable volume data recorded, but had no letters and flats volume data. Also, 35,907 of 1.317 million (2.7 percent) records had time pool data recorded but had no volume data. One ZIP Code did not have any volume data collected.

In the R2005-1 rate case, the Postal Service stated there were many occasions when no time data was reported, even though mail was delivered for these routes. According to the Postal Service, while the potential impact of this error could be significant at the route level, these errors become less significant when the data is aggregated at the ZIP Code level.

Management stated that the time scan data and volume data sets were first matched at the route level, and only those matching scan time/volume pairs were included in the ZIP Code level data. However, when the data is aggregated up to the ZIP Code level, mismatch of time scan and volume data could result in not all routes in a ZIP Code being included in a given day's data. Thus, these inaccuracies in the data collection process impact the eventual study results which continue to be used to attribute costs.

Missing Fields in Time Pool and Volume Observations

The time pool data file used in the rate case filing contained 11,119 records with missing data fields. The missing fields included time data for delivery and collection for curblines, Neighborhood Delivery and Collection Box Units, and central boxes for business and residential areas. According to the Postal Service, not all routes include these delivery types. We were unable to verify the delivery types in these routes because an intermediate data file was not available. In the parcel and accountable volume data file, there were approximately 34 records where the route number was labeled with an "X" instead of a number, making it difficult to match with a corresponding route number in the time pool data file.

Data Processing and Cleansing Procedures Were Not Well Controlled or Documented

The Postal Service performed data cleansing on the raw data files to minimize errors introduced during data collection. For example, missing route numbers or route numbers entered in the wrong format required correction. Some ZIP Codes were modified if more than one ZIP Code was assigned to a city. Management deleted 171,010 records from the raw time scan files, including 148,957 records that were outside the survey time period. However, it appears the Postal Service did not alter the corresponding volume data, other than masking the ZIP Codes, since the raw data and the data submitted for the rate case contained the same number of volume records and contained dates prior to the start date of the study.

Additionally, the Postal Service did not document the steps taken to cleanse the data files. While programming codes were available for the computer program used to convert the raw time pool data to the time pool data file the PRC submitted, no other documentation was available explaining the changes made to the data and the reasoning behind them. Management also did not use any data backup procedures to ensure it did not lose critical data. Management did not have action plans to formally document the cleansing efforts to remove the unanticipated errors, or to backup intermediate data files. Best practices⁶ require that there should be defined policies and procedures for the backup of systems, applications, data and documentation as well as application controls over data integrity, validity, accuracy, and completeness. Not having these controls resulted in the Postal Service losing one intermediate data file containing ZIP Code information, which it used in the data conversion process. The Postal Service was unable to provide us a copy of this data file. Loss of documentation or data files could lead to the inability to recreate any data cleansing procedures.

The Study Data May be Outdated

The CCSTS survey data is more than 6 years old. There have been changes in the last 6 years in city carrier street activities due to changes in the mail mix, increased use of DPS, bundle handling changes, and the increasing popularity of such innovations as the Click-N-Ship package pickup program. For example, the Postal Service machine sorted 82.8 percent and 87.5 percent of all letters into DPS in FYs 2007 and 2008, respectively. In 2010, the DPS goal increases to 95 percent. Significant changes are continuing with the roll-out of the Flats Sequencing System, which will sequence flats mail in delivery order. This implementation began in 2008, is to be completed by 2010, and will change bundle handling processes, with particular impact on carriers on walking sections of routes.

The PRC based its decisions in both the 2005 and 2006 rate cases on the data from the 2002 study. Current pricing analysis continues to use the 2002 data for the cost

⁶ *Control Objectives for Information and Related Technology*, Version 4.1, Sections AC & DS11, IT Governance Institute, 2007.

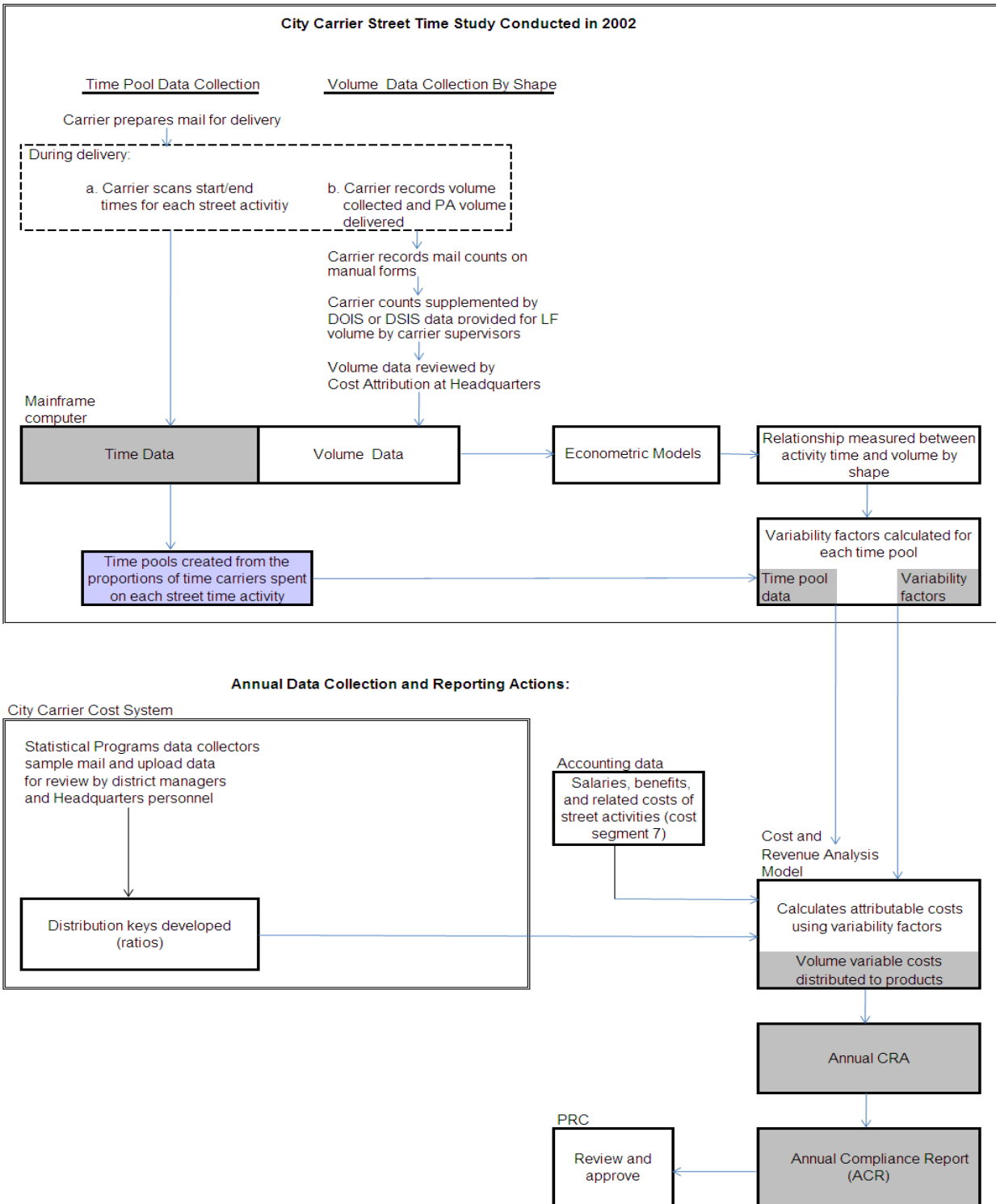
attribution calculations. The PRC accepted the 2002 data, the resulting models and the associated variabilities, despite substantial concerns about the quality of the 2002 data and its effect on econometric modeling.

The Postal Service repeated the CCSTS in 2004 but continues to rely upon the variability factors derived from the 2002 study. The goal of the 2004 study was to determine whether a smaller sample size would yield comparable results to the 2002 study, thus simplifying the role of the data collectors. Although the sampling techniques and data collection procedures were similar, the study included fewer ZIP Codes, the study did not verify DOIS volume information, and collection and mail volumes were recorded using container measures instead of linear feet and inches. In this study, the carriers were given additional responsibilities, which included obtaining scans for packages scheduled for pickup, hand recording pickup mail, and collecting scans to indicate a route pivot while on the street. In addition, the 2004 study included careful evaluation of time scan pairs that were difficult to assign. These additional measures were intended to improve the reliability of the collected data. A comparison of the 2004 variability estimates with those based on the 2002 data revealed an increase in the expected coefficient of variation from 4.9 percent to 6.1 percent; however, both were within the targeted 10 percent coefficient of variation.

The existence of the 2004 study was revealed too late in the proceedings for the Commission to use in the 2005 rate case. Similarly, the 2002 CCSTS data, the models and the variabilities were used for the 2006 rate case because the Postal Service responded too late to the PRC's requests for additional analyses. Conducting a new study will require the Postal Service to expend additional resources. Additionally, under the Postal Act of 2006 environment, the Postal Service cannot unilaterally undertake and implement changes in the carrier costing methodologies. Management stated that they would work with the PRC in adopting a methodology for any new carrier study.

The Postal Act of 2006 requires an accurate determination of direct and indirect costs attributable to each class of mail or type of mail service. The results of the CCSTS are important because they are still used as the basis for allocating certain costs to competitive and market-dominant products. Incomplete, missing, invalid or aged sampling data could impact the variability factors applied to cost pools, which, in turn, could result in inaccurate allocation of costs among and rates for Postal Service products. Management stated that, despite the missing and erroneous data, they believe the study, together with their data cleansing effort, produced more than adequate data sets. However, the percentage of data quality issues remaining in the cleansed data set, combined with changes that have occurred in the delivery environment subsequent to the completion of this study, indicate that another study may be warranted.

APPENDIX C: RELATIONSHIP OF CITY CARRIER STREET TIME STUDY AND THE CITY CARRIER COST SYSTEM



Note: For illustration purposes only. There are multiple other inputs into the CRA and ACR.

APPENDIX D: MANAGEMENT'S COMMENTS

FINANCE



January 15, 2009

LUCINE WILLIS, DIRECTOR AUDIT OPERATIONS

Subject: Data Quality Issues with the City Carrier Street Time Study (Report Number CRR-AR-09-DRAFT)

The OIG Report had three findings. Each is stated and discussed below.

OIG Finding: Data Collection Issues Resulted in Inaccuracies.

USPS Response: Partially Agree. The City Carrier Street Time Study (CCSTS) was, as its name suggests, a one-time study of carrier street time activities over a period of several weeks in 2002. The CCSTS was not part of an ongoing data system, such as the Carrier Cost Systems (CCS), which collects data each delivery day and has the ability to adjust instructions, training, etc as data collection issues arise. The CCSTS, as with all surveys, did not have that luxury and was expected to have some data omissions and inaccuracies. It was designed to have a large enough sample size to account for missing and some erroneous data without materially impacting the results. The Postal Service acknowledges that for future studies additional steps will be taken as a survey is being conducted to improve the response and quality of the data being collected.

OIG Finding: Data Processing and Cleansing Procedures Were Not Well Controlled or Documented.

USPS Response: Partially Agree. The CCSTS was designed to be part of a rate case filing on city carriers. Consequently, the Postal Service followed the accepted documentation standards for omnibus rate cases established by the Postal Rate Commission, now Postal Regulatory Commission (PRC). The results of the CCSTS and its documentation were accepted by the PRC. The Postal Service recognizes, however, that its data cleaning documentation as well as its file storage procedures can and will be improved for similar data collection efforts in the future.

OIG Finding: The Study Data May be Outdated

USPS Response. Agree. If, in fact, city carrier street operations have changed then an update to the CCSTS is warranted. The Postal Service is looking

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forward to working with the PRC and other interested parties to update the CCSTS in the near future.

The OIG Report had five recommendations. Each is stated and discussed below.

1. OIG Recommendation: Consult with the Postal Regulatory Commission to begin the process of updating the City Carrier Street Time Study.

USPS Response. Agree. The Postal Service has already had initial discussions with the PRC about updating the CCSTS. The Postal Service is waiting for a rulemaking, initiated by the PRC, to proceed with a specific action plan to update the study. Within the Postal Service, Cost Attribution is responsible for working with the PRC to ensure that the CCSTS is updated, and Cost Attribution will report to the OIG on the status of the CCSTS update by July of 2009.

2. OIG Recommendation: Continue to solicit active participation and feedback from cross-functional organizations in designing and planning future data collection efforts. Involve the cross-functional team in assessing data collection tools and procedures, designing training materials and outreach programs, and monitoring and resolving data collection issues.

USPS Response. Agree. In preparation for the CCSTS, Cost Attribution worked extensively with postal delivery operations personnel in designing the data collection procedures used for the CCSTS. In addition, the results of the study were shared with delivery operations personnel for reasonability checks before they were submitted by the Postal Service for an omnibus rate case. For future studies, Cost Attribution will again create a cross-functional team to design and assess data collection procedures, devise and implement training methods, and evaluate the results. This will be done as a new study proceeds subsequent to a PRC rulemaking regarding a new carrier study. Cost Attribution will report to the OIG on the status of the CCSTS update by July of 2009.

3. OIG Recommendation: Develop tools and procedures to monitor and assess data as it is being collected to identify and receive individual and systemic data collection issues.

USPS Response. Agree. The CCSTS used the following instruments to collect data: 1) carrier scanners, 2) Delivery Operation Information System (DOIS), and 3) paper volume forms. At the time, the letter carriers carrying scanners was relatively new and DOIS was just recently implemented at many offices. Since 2002, significant improvements have been made to both of those instruments which would allow for improved monitoring as the data is being collected. Technological improvements combined with previous lessons learned will enable Cost Attribution to develop tools to better monitor and assess data as it is being

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collected. This will be done as a new study proceeds subsequent to a PRC rulemaking regarding a new carrier study. Cost Attribution will report to the OIG on the status of the CCSTS update by July of 2009

4. OIG Recommendation: Develop training programs to ensure that all personnel, including carriers, understand the importance of and procedures needed to collect reliable data.

USPS Response. Agree. Training was an important and emphasized part of the CCSTS and would again be so in a future study. For example, the training booklet provided to the carriers for the CCSTS included information regarding the purpose and importance of the study. To the extent carriers are involved in a future study, Cost Attribution will work to ensure that the carriers understand the purpose and importance of a new carrier study. This will be done as a new study proceeds subsequent to a PRC rulemaking regarding a new carrier study. Cost Attribution will report to the OIG on the status of the CCSTS update by July of 2009.

5. OIG Recommendation: Ensure that all collected data is backed up and stored offsite.

USPS Response. Agree. This was done for the CCSTS and will be done for a future study. For the CCSTS, the scan data was [REDACTED]. The letter and flat volume data was in DOIS which is backed up on the [REDACTED]. The parcel and accountable data was recorded electronically and on paper forms which were kept off site with a consultant. Future efforts will probably have less data collected on paper and Cost Attribution will ensure that all electronic data is either backed up on the mainframe or on compact disks and stored offsite. This will be done as a new study proceeds subsequent to a PRC rulemaking regarding a new carrier study. Cost Attribution will report to the OIG on the status of the CCSTS update by July of 2009.

General Comment

The City Carrier Street Time Study was a one-time survey of carrier street activities and volumes designed to improve the attribution of city carrier street time costs to products. It was designed to support an omnibus rate case filing and was generally consistent with the associated standards for accuracy and documentation. Nevertheless, the Postal Service is always looking for ways to improve its costing system and takes the OIG recommendations seriously. It looks forward to working with the PRC in taking the appropriate next steps for analysis of city carrier street time costs. The Postal Service cautions, however, that studies requiring field data collection are quite expensive and that some consideration of the tradeoff between additional precision and resource consumption are appropriate.

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Several of the statements in the OIG Report were not accurate. The statements and the corrections are presented below.

OIG Statement: "These data collection errors occurred because carriers received limited training and management oversight controls were ineffective. The study coordinators from headquarters and the field received extensive training on their roles and responsibilities and how scanning and volume collection would be done. The carriers received approximately an hour of training, which included reading the manual, a short group training session and about 5 minutes of individual training."

USPS Response: The Postal Service maintains that the carrier training was extensive and productive. Each carrier received approximately one hour of training which consisted of fifteen to twenty minutes to read the manual, thirty to forty minutes of group training taught by the study coordinator and five minutes of individual training with the study coordinator to answer specific questions.

OIG Statement: "The official start date of the CCSTS was May 18, 2002. However, the data file submitted to the PRC contained data for dates earlier than the start date. . . We also found that 17 ZIP Codes had differences in the start and end dates and the number of days the time pool data and volume data was collected. For accurate results, the start and end dates and the number of days should be the same for the time pool and volume data files... According to the Postal Service, this data was deleted prior to the time scan pool and variability calculations."

USPS Response: ZIP Codes were allowed to practice taking scans before the official study period started but these practice scans were deleted. As noted in the OIG audit, this data was not used in the study. In addition, a small number of ZIP Codes had activities, such as route evaluation, that precluded collecting the data on a concurrent basis with the other ZIP Codes. Rather than dropping these ZIP Codes, the data was collected in the next available two week period.

OIG Statement: "The time pool data file used in the rate case filing contained 11,119 records with missing data fields. The missing fields included time data for delivery and collection for curblines, Neighborhood Delivery and Collection Box Units (NDCBU), and central boxes for business and residential areas. According to the Postal Service, not all routes include these delivery types. We were unable to verify the delivery types in these routes because an intermediate file was not available."

USPS Response: This OIG comment suggests that an error exists when one does not. This is because it assumes that all routes include all types of deliveries. But the geography of city carrier routes differs, and not every route includes curblines, NDCBU, and central route sections. When these types of

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route sections do not exist on a route, no time data are recorded for delivery in these types of sections. This is not a case of missing data, but the case of an activity that did not take place and should not be recorded. The unavailable file is an extract from the Address Management System which contains the number of deliveries by mode for each city letter route. The file is updated quarterly and is also used to select the City Carrier Cost System (CCCS) sample. While this file may have audit value, it was not necessary or useful for the original study. Hence, this file was not submitted as part of the omnibus rate case documentation for CCCS nor was it requested by the PRC during R2005-1.

Finally, neither this report nor management's response to it contain information that is exempt from disclosure under the Freedom of Information Act.



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