Docket No. R2006-1

USPS-LR-L-61

**Christensen Associates Study of Undeliverable-As-Addressed Mail and
Personal-Knowledge-Required Mail
FY 2004**

Preface

This is a Category 2 library reference sponsored by witness Cutting (USPS-T-26). This library reference documents the development of FY 2004 volume, characteristics, and costs of processing Undeliverable-As-Addressed mail (UAA) and Personal-Knowledge-Required mail (PKR). Witness Page (USPS-T-23) uses some of the volume results of this library reference in developing a return-receipt analysis. Witness Mitchum (USPS-T-40) uses some of the volume results of this analysis in determining prices for forwarding service of Standard Mail.

VOLUMES, CHARACTERISTICS, AND COSTS OF PROCESSING UNDELIVERABLE-AS-ADDRESSED MAIL AND PERSONAL-KNOWLEDGE-REQUIRED MAIL

MARCH, 2006

TABLE OF CONTENTS

1.0 INTRODUCTION

1.1 Purpose

This study provides comprehensive information on the volume, characteristics, and costs of Undeliverable-As-Addressed (UAA) and Personal-Knowledge-Required (PKR) mail and on addressing deficiencies by rate category and applicable mail processing category. The last formal study on this matter, *Volumes, Characteristics, and Costs of Processing Undeliverable-As-Addressed Mail*, was conducted in May of 1999 and published in September of 1999 by PriceWaterhouseCoopers (PWC). Partial updates to this study were conducted in September, 2001 and April, 2005.[1]

1.2 Background

Three components of address quality are required for delivery. Inaccuracy in any of the three components can cause mail to become UAA or PKR, thus increasing handling costs and delivery time. The three components are:

a. Physical Address Accuracy: All addressing elements, with the exception of the intended recipient information (name of addressee), that form a specific, valid mailing address. The accuracy of the constructed mailing address can be evaluated with the Postal Service Delivery Point Validation (DPV) products.

b. Address Currency: Whether the intended recipient currently resides at the mailing address on the piece.

c. Address Presentation Accuracy: The printed representation of the mailing address and, if applicable, the mailer-applied barcode. This includes all readability aspects, whether read by an individual or by mail processing equipment, of the address and/or barcode, as well as whether the barcode is correct for the address on the mail piece.

1.3 Definition of UAA Mail

UAA mail is mail that cannot be delivered to the address specified on the mail piece and must be forwarded, returned to sender, or properly treated as waste or dead mail as authorized for the class of mail and ancillary service endorsement on the mail piece. The actions required to process UAA mail create additional

---

[1] Docket No. R2001-1, USPS-LR-J-69; Docket No. R2005-1, USPS-LR-K-59.

costs for the Postal Service and affect the timeliness of mail delivery. A mail piece may become UAA because:

- the individual, family, or business to which it is addressed has moved
- the address is incomplete, incorrect, or illegible
- the addressee is unknown or deceased
- the addressee refuses or fails to claim the mail
- the necessary postage has not been paid

While all the causes of UAA noted above are considered and reported in this study, the primary focus is on address quality-related issues: that is, UAA mail occurring because the addressee has moved, or because the address is incomplete, incorrect, or illegible.

1.4 Definition of PKR Mail

PKR mail is mail that is eventually delivered to the address or addressee specified on the mail piece, but, due to an address quality problem, falls outside Postal Service standard operating procedures for delivery of the particular class of mail. PKR mail requires additional effort by local postal personnel whose knowledge is necessary to deliver the mail piece. The use of local knowledge to correct addressing deficiencies increases costs and delays mail. A mail piece may become PKR because:

- the address contains an incomplete element
- the address contains an incorrect element
- the address contains an illegible element
- the address does not match the mailer-applied POSTNET delivery point barcode on the mail piece

PKR mail may be redirected by local postal personnel to another address on the same delivery route or to another address on a different delivery route but within the same delivery station. Mail that is redirected to another delivery station because of addressing deficiencies is not PKR mail, but is instead UAA mail. One typical example of PKR mail is the absence of an apartment number on a mail piece when the apartment number is required for delivery (incomplete address element).

1.5 Scope

This study reports volume statistics for UAA and PKR mail that are national in scope and inflated to Fiscal Year (FY) 2004 volumes. Volume detail is provided

by mail class, rate category, and shape. Where appropriate, additional characteristics are provided, such as the reason(s) a mail piece is classified as UAA or PKR, ancillary service endorsement(s), and Address Correction Service characteristics.

This study also details the total costs and unit costs associated with each category of UAA and PKR mail. Such costs are derived from processing models which are discussed in later sections.

1.6 Data Sources

The following data sources are used to estimate UAA and PKR volumes:

- Christensen Associates Delivery Unit Route Survey
- Christensen Associates Delivery Unit General Information Survey
- Christensen Associates CFS Unit No-Record and Rekey Survey
- Forwarding Control System (FCS) Database, FY 2003 & 2004
- Address Management System (AMS) Delivery Point Database, FY 2004

The following data sources are used to estimate UAA and PKR costs:

- Christensen Associates Delivery Unit Nixie Survey
- Christensen Associates Delivery Unit Accountable Mail Survey
- Christensen Associates CFS Form 3547 Disposition Survey
- Christensen Associates CFS Form 3547 Batching Survey
- Christensen Associates CFS Postage Due Survey
- Christensen Associates CFS Mail Recovery Center Survey
- Christensen Associates CFS General Information Survey
- In-Office Cost System (IOCS), FY 2004
- Cost and Revenue Analysis (CRA), FY 2004 (USPS Version)
- Revenue, Pieces and Weight (RPW) Report, FY 2004
- USPS Handbook M-39, TL-13, 03-01-98
- Management Operating Data System (MODS), FY 2004

All Christensen Associates surveys were conducted during the period of August 2 to August 28, 2004.

2.0 UAA AND PKR VOLUMES

2.1 Sample Design

2.1.1 Delivery Unit Surveys

The sample universe was all UAA and PKR mail pieces processed by the Postal Service. Because UAA and PKR mail is identified by carriers for delivery routes and by clerks for post office box sections, an accurate estimate of volume could be obtained by sampling mail at the delivery unit.[2]

The survey was conducted at delivery units serving randomly selected 5-digit ZIP Codes (sometimes referred to as "zones" in this study).[3] Due to the limitations of Postal Service delivery unit data sources, it was not possible to obtain comparable estimates of volume across all 5-digit zones.[4] As an alternative, the number of delivery points in each 5-digit zone was used as a proxy for volume in drawing the sample and inflating survey results. Using delivery points was a feasible alternative since the Address Management System (AMS) contains complete delivery point information across city, rural, box section, and highway contract points.

---

[2] The Postal Automation Redirection System (PARS) program is designed to automate the redirection of UAA mail before it reaches the delivery unit. PARS is currently being implemented as part of the automated letter mail stream. At the time of the survey, only two mail processing facilities (Santa Clarita, CA and Mid-Florida, FL) were running significant portions of the PARS program. Of the 160 delivery units selected to participate in the survey, only one (93105–Santa Barbara) was located in the service territory of one of these facilities. This would have a negligible effect on the survey estimates.

[3] Stratification of the 5-digit ZIP Codes to generate a more efficient sample would be beneficial if the mix of UAA mail were correlated with some characteristics of the 5-digit zones. UAA volume may be correlated with delivery point characteristics such as the extent of centralized boxes in the zone. Centralized boxes are associated with apartment buildings which have a high turnover rate, thus generating more forwarded UAA mail. However, no data were available to examine whether the mix of UAA mail was correlated with this variable or other variables such as zone size (as measured by volume). Consequently, the 5-digit zones were not stratified.

[4] The Delivery Operations Information System (DOIS) and the Piece Count Recording System (PCRS)–formerly DUVRS–only measure complete volumes on city routes. Rural route volumes are based on route evaluations made over two or four week sample periods. Not all rural routes are evaluated every year. Rural route volume may not be comparable with city route volume when aggregating rural and city routes in the same zone. Furthermore, post office box volumes are not available on a national basis.

A sample of 160 zones was drawn in anticipation that some offices would not be able to participate. Of these, 151 zones participated in the study. In the PWC UAA study conducted in 1999, 154 zones participated. Due to a longer sample period and different survey protocols, a sample of roughly 60,000 mail pieces was anticipated (compared to the 34,000 pieces sampled in the PWC study).

Once the 5-digit zones were chosen, routes within the zones were selected. Route sizes depend on the number of delivery points and volume. Some routes are designed with fewer than average delivery points because they have higher than average volume. Consequently, delivery points were not used for assigning the probability of selection. Instead, all routes were chosen with equal probability. Auxiliary routes with fewer than 250 delivery points were omitted from the sampling universe. Phantom routes were also excluded.

Because the number of post office boxes varies greatly by 5-digit ZIP Code (from zero to 10,000), "route equivalents" for the box sections were created such that the clerks in the box section would have about the same amount of survey workload as the average route. This was measured by asking several of the 160 selected delivery units two questions: (1) How many boxes are in the 5-digit ZIP Code, and (2) How many clerks are needed to case this mail? Each clerk was found to have cased the mail for approximately 750 post office boxes. In the route selection process, post office boxes were converted to route equivalents using a factor of 750.[5]

Within each of the 160 selected 5-digit ZIP Codes, four routes[6] were randomly chosen to be sampled, one per week over four consecutive weeks. Data collected from these routes were used to develop the majority of the volume results reported in later sections. Throughout this report, this particular survey is referred to as the "Delivery Unit Route Survey."

Two additional surveys were conducted at the selected delivery units to determine some key parameters needed for the cost model parameters:

- The Delivery Unit Nixie Survey
- The Delivery Unit Accountable Mail Survey

Both of these surveys were conducted every delivery day during the four-week period. These additional surveys applied to all mail within the selected delivery unit, not only the mail on the selected routes.

---

[5] The sampled average number of boxes per delivery unit was 828.

[6] Four alternate routes were also chosen in case the first four routes could not be sampled for some reason.

In addition, a Delivery Unit General Information Survey was conducted at the beginning of the survey period. This survey collected box section data needed for an adjustment factor as explained in Section 2.4.

2.1.2 CFS Unit Surveys

The Forwarding Control System (FCS) contains information on processing UAA mail at Computerized Forwarding System (CFS) units. The FCS database provides volume and hours information from every CFS unit in the nation. These data are primarily based on machine counts. Because some mail pieces are keyed multiple times on CFS machines, machine counts do not necessarily reflect the total number of pieces processed at CFS units. To account for this, the National Rekey Rate Survey was conducted at CFS units.

At the time of the National Rekey Rate Survey, there were 204 active CFS units. Machine counts were used to assign the probability of selecting any given CFS unit. The sample consisted of 40 randomly chosen CFS units.[7] Selected CFS units collected data for four consecutive weeks.

Four additional surveys were conducted at the selected CFS units to determine certain parameters for cost modeling:

- The CFS Form 3547 Disposition Survey
- The CFS Form 3547 Batching Survey
- The CFS Postage Due Survey
- The CFS Mail Recovery Center Survey

These surveys were conducted daily for four consecutive weeks.

In addition, a CFS Unit General Information Survey was conducted once at the beginning of the period. This survey provides local supplies and equipment information which is used in the cost calculation in Section 3.10.

---

[7] This was a smaller sample than the 122 units that participated in the PWC study from 1999. An important difference existed in the extent of the data requirements in this study which allowed a smaller sample size. The previous survey needed CFS units to report all volumes by class and disposition during the sample period because there was no immediate access to the FCS database. The observations from the sample units were then inflated to produce national estimates of volumes. Now that national volumes are electronically available for any time period, the current study had complete coverage of some of the most important information needed. The 40-unit sample was used to gather relatively minor information that did not require extensive coverage.

2.2 Survey Instrument and Instructions

The delivery unit and CFS unit data collection forms and instructions are found in Appendix A.

2.3 Data Collection

2.3.1 Delivery Unit Data Collection

A list of the 151 participating zones is reported in Table B.1 of Appendix B. Data collection occurred over a four-week period in August of 2004. At the end of each sample day, personnel at participating delivery units mailed in that day's data collection forms and accompanying materials to be processed for the survey. To identify sampling and/or recording problems, sites returned Monday's form by Express Mail. Those forms were thoroughly reviewed and sites were given needed feedback to correct errors. The materials for all other days (Tuesday to Saturday) were sent in via Priority Mail.

All materials received from each unit were reviewed daily, including materials received on Saturdays. To ensure high data quality, telephone calls were made to delivery units to provide real time feedback to data collection personnel. In total, over 1,000 telephone calls were made during the data collection period.

Every effort was made to ensure that each selected delivery unit participated in the survey. Postal Service headquarters and area personnel worked with local delivery unit personnel to encourage maximum compliance. Of the 160 delivery units originally selected, only 9 units were not able to participate in the study.

A central goal of this study is to provide reliable UAA and PKR mail volumes by mail class and rate category. Rate category detail is a new feature not considered in previous studies. Because of the detailed nature of indicia and other markings on mail pieces, delivery unit personnel did not attempt to identify the mail class or rate category of selected pieces. Instead, delivery unit personnel photocopied all sampled pieces and mailed in the copies, along with the data collection forms.[8] The IOCS rules were applied to identify the class, rate category, and other relevant characteristics of the mail pieces. Overall, roughly 58,000 photocopies of mail pieces were processed.

---

[8] Some delivery units did not have access to photocopy equipment. In these cases, temporary equipment was purchased, leased, or loaned from the area office or local supply center.

2.3.2 CFS Unit Data Collection

All 40 selected CFS units participated in the survey. They are listed in Table B.2 of Appendix B.

Data collection occurred over a four-week period in August of 2004. At the end of each sample week, personnel at participating CFS units mailed in the week's data collection forms and accompanying materials to be processed for the survey. Forms and materials were reviewed and contacts made with the units directly by telephone to clarify any unclear responses.

2.4 Data Entry and Data Inflation

All data collection forms and accompanying materials were manually checked for consistency and completeness. Typically, packets were reviewed on the day they arrived in the mail. Once all materials were manually verified, information was entered into an electronic database. The data entry included several quality-control restrictions to standardize data fields and limit keystroke errors. Additional, automated quality-control procedures were used to account for missing and incomplete data. Data entry software is provided in Appendix C.

For the Delivery Unit Route Survey, the inflation process for each sampled mail piece is based on a string of multiplicative factors.

Equation (2.1) $V_{ijkm} = S_k * B_{im} * R_i * M_{ijk} * Y * O_i$

The subscripts in Equation 2.1 represent:

- i – 5-digit ZIP Code
- j – mail stream type (to CFS, all other)
- k – form type (Form 4D, 5D, 6D)
- m – route type (box section, all other)

Equation 2.1 specifies that the inflated volume, V_{ijkm}, for zone i, mail stream type j, form type k, and route type m, is based on:

- S_k - skip factor on the form
- B_{im} - box adjustment factor
- R_i - number of route equivalents in the 5-digit ZIP Code
- M_{ijk} - number of forms of type k containing pieces in mail stream j completed during the 24-day data collection period (including zero-volume forms)

- *Y* - number of delivery days during FY 2004 relative to the number of delivery days in the data collection period, which is 24
- O_i - inverse of the sampling probability necessary to inflate the delivery unit office to a national level

The box adjustment factor, B_{im}, normalizes data in cases where a delivery unit happened to sample a box section that was larger or smaller than the standard box section "route" (750 delivery points). The inverse of the sampling probabilities, O_i, has been adjusted using the Horvitz-Thompson procedure to ensure unbiased results.[9] This procedure is required for unequal probability samples.

The inflation process for the other delivery unit surveys and for the CFS unit surveys follows a similar procedure.

2.5 Volume Results

Refer to the electronic workbook *PrePARS VolTabs_v.xls* in Appendix C (L61AppendixC\PrePARS\Tables) of the attached CD for all tables referenced in this section.

2.5.1 FCS Control Process

Because the FCS database contains a national census of certain types of UAA mail volumes, it is used to develop fiscal year control factors for portions of the inflated volumes from the delivery unit route survey. Table 2.1 displays how such factors are derived. The data in column C of the table represent the inflated and uncontrolled volumes by disposition.[10] The uncontrolled data in row 1 represent the inflated estimate of the number of pieces sent directly from the route (or box section) to the CFS unit. The uncontrolled data in row 4 represent the inflated estimate of the number of ACS pieces first sent from the route or box section to the nixie unit and then to the CFS unit (ACS is defined in Section 3.8).

The values in rows 9 and 11 are the comparable estimates obtained from the FCS database (after excluding rekeys and no-record mail[11]). The ratio of the survey inflated volume to the FCS database volume is displayed in rows 10 and

---

[9] See W. G. Cochran, *Sampling Technique, 3rd Edition* (1977).

[10] The term "disposition" is defined in section 2.5.2.

[11] No-record mail is defined in Section 3.4.1.

12. The factor in row 10 is applied to both CFS forwards (row 1) as well as mail being hand forwarded directly from the delivery unit (row 2). The factor in row 12 is applied to ACS mail sent to the nixie unit (row 4).

2.5.2 Volumes at the Delivery Unit and CFS Unit

Table 2.2 reports UAA volumes by class and disposition at the delivery unit and the CFS unit. The final disposition of volumes across both locations is displayed at the bottom of the table. "Disposition" is a term used to describe the treatment of mail in the processing stream. "Final disposition" indicates what ultimately happens to a mail piece as it exits the processing stream. There are three types of final disposition of UAA mail: forwarded, returned to sender, or properly treated as waste or dead mail as authorized for the class of mail and ancillary service endorsement(s) on the mail piece.

Once a mail piece arrives at the CFS unit, its final disposition is determined by its class, ancillary service endorsement, age of change-of-address (COA) order, and ACS option. Because the delivery unit route survey provides most all of these characteristics, it is possible to construct a model to estimate the final disposition of all pieces flowing from the route to the CFS unit. This is known as the *CFS Path Model* as supplied in Appendix C, Section 10.4.[12]

2.5.3 Volumes by Disposition, Rate Category, and Shape

Since the delivery unit route survey records the rate category, shape, and machinability characteristics of sampled mail pieces, it is possible to get detailed characteristics of UAA volumes by disposition. The rate category detail is reported in Table 2.3 and the shape/machinability detail is reported in Table 2.4.[13] In each table, RPW volumes are provided for comparison purposes. The percentages reported in each row of these tables represent the proportion of UAA mail in the row relative to total RPW volume in the row.

---

[12] The final disposition of some First-Class Mail pieces and all Periodicals pieces depends on the ACS notification option purchased by the customer. This information is embedded in the ACS participant code. When an ACS mail piece is sent to a CFS unit, the option is revealed only when the participant code is keyed into the FCS database. Although the delivery unit route survey recorded the presence of an ACS pound-sign marking, it did not record the exact participant code of each ACS piece. Lacking this information, the delivery unit survey alone could not be used to determine the ACS option. Instead, the CFS Path Model used proxy shares developed from ACS option counts from the FCS database.

[13] Combined rate category and shape detail for UAA volumes is reported in Section 4.2. Rate category and address quality detail for PKR volumes is reported in Section 5.2.

USPS-LR-L-61

2.5.4 Hold Mail Volumes

Table 2.5 is based on a special component of the delivery unit route survey that measured the amount of hold mail for the selected routes (see Form 3D in Appendix A). The table shows information about hold orders on file. Unlike the other volume tables, the estimates for hold mail volumes are not made on an annual basis but rather reflect a particular point in time. Delivery unit personnel were instructed to provide a census of the total hold orders and associated pieces for each selected route on Saturday at the end of each sample week. Since the entire sample period ran for four consecutive weeks, delivery units provided four separate hold order observations, one for each selected route.

3.0   PRE-PARS BASELINE COST MODEL

Refer to the electronic workbook **PrePARS BaseTabs_v.xls** in Appendix C
(L61AppendixC\PrePARS\Tables) of the attached CD for all tables referenced in
this section.

3.1 Pre-PARS and PARS Environments

Starting in September of 2004, the Postal Service began deploying the first
phase of the Postal Automated Redirection System (PARS). The objective of
PARS is to improve the way that the Postal Service processes automated UAA
letter mail and some types of Postal Service forms and address correction
notices. The introduction of PARS represents a major shift in the way a large
portion of the UAA mail stream is processed. Processing costs are anticipated to
fall once PARS is fully deployed across the entire Postal Service network. PARS
is expected to be fully deployed by FY 08.

This study develops the cost of processing UAA mail, forms, and notices in a pre-
PARS environment. That is, no PARS components are included. Since PARS
deployment did not effectively begin until FY 05, this cost framework represents
the last actual "snapshot" of the UAA processing system before the advent of
PARS. All costs are benchmarked to FY 04.

3.2 Overview of the Pre-PARS Baseline Cost Model

The *Pre-PARS Baseline Cost Model* measures the cost of the entire volume
profile of UAA and PKR mail, irrespective of class and rate category. In this
sense, it measures the cost of the system-average volume profile. Once the
detailed unit costs of the baseline model are established, the costs of any class
and rate category are measured by simply "pushing" volumes through the
baseline model, where pieces "pick up" the baseline costs that are specific to
their characteristics and the services associated with their class and rate
category. Consequently, by fixing the unit costs of the baseline model, the
overall cost of any class and rate category is driven entirely by the mix of volume
over different characteristics such as shape, ancillary service endorsement, and
age of COA. Costs specific to class and rate category are developed in Section
4.

The *Pre-PARS Baseline Cost Model* divides all the procedures associated with
UAA and PKR mail into five distinct modules:

- The Route Module
- The Nixie Module
- The CFS Module
- The Mail Processing and Transportation Module
- The Postage Due Module

Figure 3.1 displays the linkage among these modules.

Figure 3.1
Baseline Cost Model **Flow Chart**
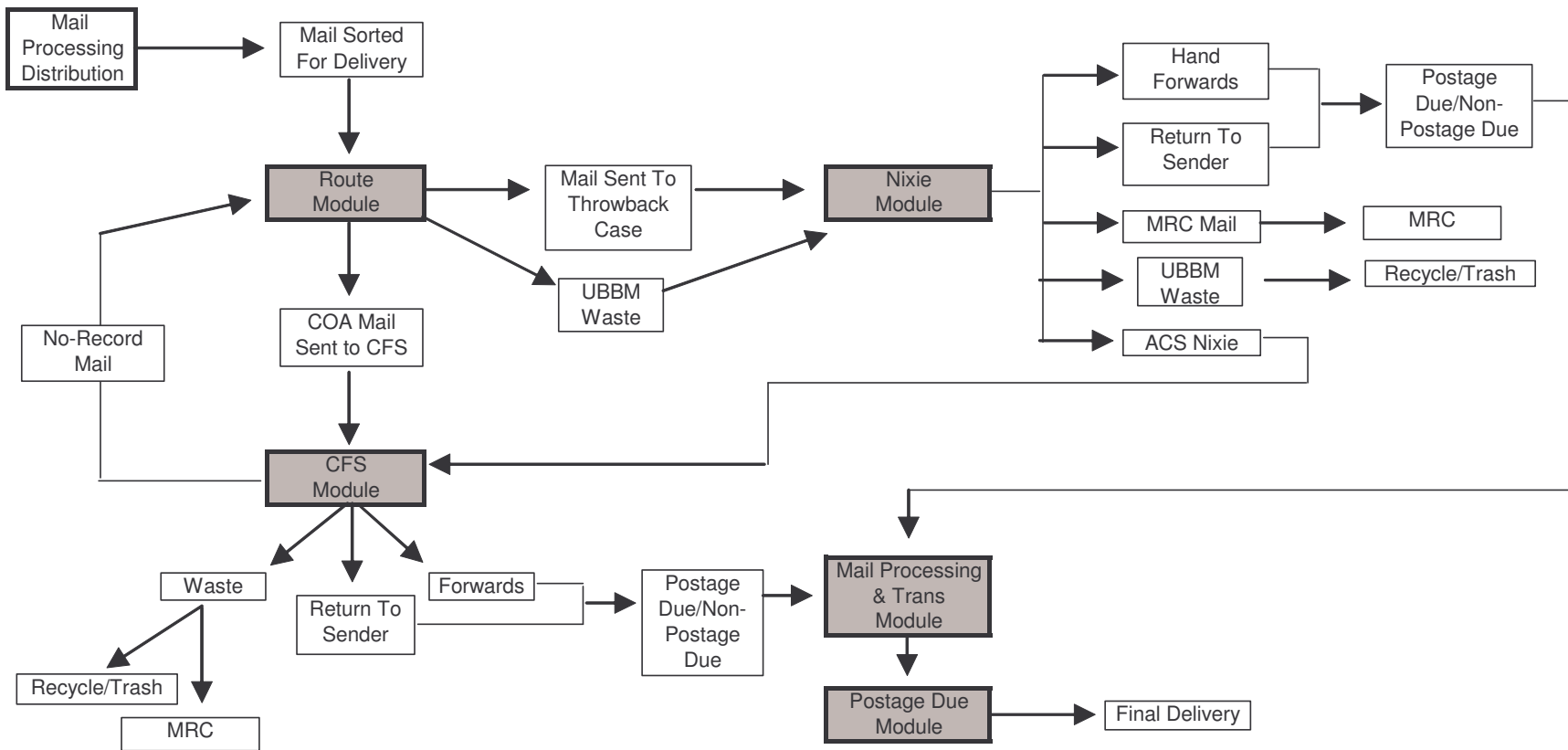
With the exception of the mail processing and transportation module, each module contains specific procedural steps intended to capture the processes of handling UAA and PKR mail at different points in the processing chain. Costs in each step are driven by the shape, disposition, and other characteristics of the pieces processed through the module. Not all piece characteristics are relevant in each module. For instance, in the route module, carriers and box clerks perform different processing steps for mail sent to CFS versus mail to be returned to sender. However, of the mail sent to CFS, carriers and box clerks do not treat ACS pieces differently from non-ACS pieces. The presence of the ACS participant code is only meaningful once the mail piece is keyed at the CFS unit. These concepts are more fully developed in Section 3.8.2.

In addition to piece characteristics, UAA and PKR costs are determined by the productivity of Postal Service personnel in each of the steps used to process mail. The productivities associated with the UAA and PKR procedures are based on a variety of sources. In general, those sources are summarized as follows:

- Route Module: derived productivities based on carrier allowances from USPS Handbook M-39

- Nixie Module: measured productivities from the Delivery Unit Nixie Survey

- CFS Module: derived productivities from the FCS database and measured productivities from the CFS Postage Due Survey and the CFS Mail Recovery Center Survey

- Mail Processing and Transportation Module: no productivities needed

- Postage Due Module: measured productivities from the Delivery Unit Accountable Mail Survey

Where appropriate, measured productivities are adjusted using CRA volume-variability factors. This technique is based on the assumption that measured productivities are "average productivities," meaning they include time which is not fully volume variable.

Once the steps of each module are developed, modeled costs are obtained by converting the total mail pieces within each step to work hours using productivities (pieces per hour), and then converting those work hours to costs using the average labor rate by craft (dollars per hour).[14]

A key feature of the baseline model is to control the resulting modeled costs within each module to CRA values, where such values exist. Costs associated

---

[14] Throughout this study, the term "labor rate" is used to refer to productive hourly wage rates.

with UAA processing are not directly available in the CRA reports. The IOCS, however, contains detailed information about UAA processing attributed to clerks, mail handlers, and city carriers. By merging the direct IOCS tallies associated with UAA processing with the appropriate CRA components, it is possible to develop meaningful CRA control values within each module. The process of merging the IOCS and CRA is documented in Appendix D. The programs and workbooks used to generate the CRA controls are provided in Appendix C. The modules themselves are also provided in Appendix C.

3.3 Total Cost of UAA Mail

The total cost of the UAA system is reported in Table 3.1. These costs are derived from the baseline model after applying the appropriate CRA piggyback factors.[15] Costs are divided into three groups: activities directly associated with UAA mail (referred to in this report as "direct costs"), address correction (COAs and address notices), and administration and support. As shown at the bottom of the table, the total annual cost for processing UAA mail is approximately $1.86 billion.

By final disposition, the costs for activities directly associated with UAA mail are as follows:

	Total Cost	Unit Cost
• Forward:	$422 million	$0.213
• Return to Sender:	$822 million	$0.513
• Wasted:	$270 million	$0.044

The total cost of the address correction is $318 million while the total cost for administration and support is $24 million.

Tables 3.2 through 3.4 provide a breakdown of direct costs associated with mail pieces being forwarded, returned, and wasted, respectively. Table 3.5 summarizes the cost of processing manual address notices 3547 and 3579, while Table 3.6 reports the costs of processing COA orders (Forms 3575, 3575Z, and 3546). Detail for administration and support costs is reported in Table 3.24.

---

[15] Piggyback factors account for activities not directly associated with mail such as supervising, maintenance work, and administrative work.

3.4 Costs at Originating Delivery Unit

The route and nixie modules encompass the steps for processing UAA and PKR mail within the originating delivery unit. These modules are expanded in this section. The "originating delivery unit" is defined as the location associated with the original address on the mail piece.

3.4.1 Route Module

The route module calculates the cost of processing UAA and PKR mail once the mail reaches the route or P.O box section of the original address. Such activities are performed by city carriers, rural carrier, clerks sorting to P.O. box sections, and clerks sorting to highway contract routes (throughout this study, this entire group is often referred to simply as "carriers").   A listing of the activities within the route module is provided below.

Activities associated with UAA pieces forwarded to the CFS unit:
- identifying and separating mail[16]
- placing mail in CFS trays or tubs

Activities associated with UAA pieces that are hand forwarded[17]:
- identifying and separating mail
- marking up pieces with the forwarding address
- placing mail in the throwback case

Activities associated with UAA pieces that are returned to sender:
- identifying and separating mail
- marking up and bundling pieces with the appropriate carrier endorsement[18]
- placing mail in the throwback case

Activities associated with UAA pieces that are wasted:
- identifying and separating mail

---

[16] This activity is performed at the carrier case as well as out on the route during delivery. Letter productivities are adjusted to account for Delivery Point Sequenced (DPS) mail.

[17] Hand forwarded mail is defined as mail that is forwarded to the final address without redirection at the CFS unit.

[18] Productivities are adjusted based on the fact that not every return-to-sender mail piece is marked up or bundled.

- placing mail in the waste tub

Activities associated with PKR pieces:

- identifying and separating mail
- handing off mail to other carriers where applicable

Parts 1, 2, and 3 of Table 3.7 summarize the costs of performing UAA activities. Mail pieces are separated by route type in order to apply appropriate labor rates and piggyback factors.

Parts 4 and 5 of Table 3.7 indicate how costs of processing CFS "no-record mail" are attributed to the disposition of UAA mail. Some mail pieces that are sent to the CFS unit as UAA mail are sent back to the delivery unit for further processing when a COA order is not on file in the FCS database. This mail is referred to as no-record mail. No-record mail is caused by a variety of factors. Some examples include:

- A carrier sends mail to the CFS unit after the COA order is expired and no longer contained in the FCS database. These pieces should be returned to sender through the nixie unit.

- A carrier inadvertently sends mail to the CFS unit that is deliverable (not UAA) or should be returned to sender by the nixie unit.

- A carrier sends mail to the CFS unit that should have been treated as waste at the delivery unit (e.g., unendorsed Standard Mail).

- A carrier sends mail to the CFS unit for someone who has moved, but the COA order is not yet in the FCS database.

- A CFS clerk does not enter the correct extract code,[19] and this mistake is not caught during CFS quality-control procedures.

For costing purposes, it is assumed that no-record mail makes one complete trip between the delivery unit and the CFS unit before being resolved. Table 3.8 displays the costs associated with this trip. After a piece returns to the delivery unit, it is assumed that it is processed correctly (placed in the appropriate UAA processing stream, returned to CFS for additional processing, delivered as non-UAA mail, etc.).

---

[19] The extract code is a 7-character code entered by a CFS clerk into the FCS database. The code consists of the first four letters of the customer surname and the last three digits of the original street address. The extract code may be extended to include abbreviations for the class of mail and ancillary service endorsements. Using the extract code, the FCS program finds potential matches in its COA database and displays them on a terminal screen for the CFS clerk. The clerk chooses the correct match based on the full name and address.

PKR mail is resolved either within the original route or within some other route associated with the same delivery unit. Most costs associated with PKR mail are captured in the route module itself. Some costs are attributed to manual sortation of PKR automation rejects (i.e., pieces that are rejected due to certain missing or incorrect address elements). The costs of processing PKR mail are discussed more fully in Section 3.11.

3.4.2 Nixie Module

The nixie module is used to calculate the cost of processing UAA mail after it has been handled at the route and directed to the nixie unit or comparable operations within the delivery unit. A listing of the activities within the nixie module is provided below.

Activities associated with UAA pieces being hand forwarded:
- separating local forwards from all other forwards
- routing local forwards to the hot case
- rating postage due mail when necessary

Activities associated with UAA pieces being returned to sender:
- preparing mail
- separating ACS nixie pieces to be routed to the CFS unit
- rating postage due mail when necessary
- verifying mail to be sent to the Mail Recovery Center (MRC), also known as the "dead letter office"
- retrieving mail inadvertently placed in waste tubs

Activities associated with UAA pieces being wasted:
- verifying mail placed in waste tubs
- separating recyclable waste from all other waste

Table 3.9 summarizes the costs of performing these activities.

3.5 Costs at the CFS Unit

The CFS module is used to calculate the cost of processing UAA mail after it has reached the CFS unit. The CFS module calculates the cost of handling mail pieces with COAs that have been directed to the CFS unit from the route of the originating delivery unit. It also calculates the cost of handling "ACS nixie" pieces sent from the originating delivery unit's nixie unit (ACS nixie activities are more

fully discussed in Section 3.8.2). A listing of the activities within the CFS module is provided below.

Activities associated with UAA pieces being forwarded:

- preparing mail
- loading mail onto equipment where applicable
- keying extract code and generating yellow redirection label
- keying ACS codes where applicable
- sweeping mail from equipment where applicable
- rating postage due mail when necessary

Activities associated with UAA pieces being returned to sender:

- preparing mail
- loading mail onto equipment where applicable
- keying extract code and generating yellow redirection label
- keying ACS codes where applicable
- sweeping mail from equipment where applicable
- rating postage due mail when necessary
- verifying mail to be sent to the Mail Recovery Center (MRC)

Activities associated with UAA pieces being wasted:

- preparing mail
- loading mail onto equipment where applicable
- keying extract code and generating yellow label
- keying ACS codes where applicable
- sweeping mail from equipment where applicable

Tables 3.10 and 3.11 summarize the costs of performing these activities. Table 3.12 shows the measured keying productivities and rekey rates used in the CFS module. The rekey rates are derived from data collected during the CFS Unit No-Record and Rekey Survey.

3.6 Mail Processing and Transportation Costs

After leaving the delivery unit or CFS unit, UAA mail enters the Postal Service mail processing and transportation network. Depending on its disposition, a UAA mail piece is either forwarded to its final address or returned to its original sender. The mail processing and transportation module calculates the costs of these activities. Unlike the other modules, however, costs are not built up from a set of procedural steps and productivities. Instead, system averages are obtained from the CRA.

The mail processing costs measured in this section are only associated with activities <u>after</u> mail pieces have been redirected from the originating delivery unit or CFS unit; that is, after pieces have already been identified as being UAA mail. No costs are included for mail processing activities to process mail from the initial, network induction point to the originating delivery unit. This becomes an important issue when determining how to calculate mail processing costs in a PARS environment because, for many pieces, PARS moves the UAA identification point "farther up" the processing chain.

Unit cost averages for post-redirection mail processing activities are developed by shape from CRA cost component 3.1, disaggregated between UAA forwarded and return-to-sender activities using IOCS direct tallies.[20] For transportation, a proxy is developed using the total transportation costs for First-Class Mail, as detailed in CRA cost segment 14, divided by the total pieces for First-Class Mail, as reported in the RPW report.

The cost to transport UAA mail is constant across disposition because the activities for each disposition are the same. Mail processing activities for forwarded mail, however, differ from those for return-to-sender mail. Even though pre-PARS automation processing has improved, return-to-sender mail is treated differently than forwarded mail. Some of the differences include:[21]

- all return-to-sender letters are sent to the Letter Mail Labeling Machine (LMLM) operation

- all return-to-sender letters receive Input Subsystem – Output Subsystem (ISS-OSS) treatment on Optical Character Readers (OCRs)

- all OCR images for return-to-sender letters are sent to a Remote Encoding Center (REC) rather than automatically processed through the Remote Computer Reading (RCR) program

- all return-to-sender flats and parcels are sorted manually

Because of these differences, the mail processing unit cost for return-to-sender mail is higher than for forwarded mail. These costs are detailed in Table 3.13.

For forwarded parcels, notice that machinable and non-machinable pieces are reported separately. Unlike return-to-sender parcels, some forwarded parcels are processed on mechanized and automation equipment. The cost difference

---

[20] Because IOCS tallies cover the entire mail processing network, the link between an originating delivery unit and its CFS unit is implicitly included in the system averages.

[21] See USPS Handbook PO-441, *Rehandling of Mail Best Practices*.

between machinable and non-machinable forwarded parcels is developed from productivity differentials found in the MODS database.

3.7 Costs at the Destinating Delivery Unit

3.7.1 Processing Postage Due Pieces

Once a UAA mail piece exits the mail processing and transportation network and reaches the delivery unit of the final address (i.e., the "destinating delivery unit"), it must be cased and delivered by a carrier or sorted to a box by a clerk. Because these activities represent the normal flow of operations that was interrupted when the mail piece was identified as UAA, they are <u>not</u> included in the UAA cost calculations. Only the costs associated with postage due processing are included since these activities are caused by UAA mail. The costs for these activities, as determined in the postage due module, are developed in this section.

Before examining the postage due module, it is important to note that there are some UAA postage due activities that occur upstream from the destinating delivery unit. Both the originating delivery unit and the CFS unit have postage due operations. The costs associated with CFS postage due operations are reported in part 2 of Table 3.11. The costs associated with the originating delivery unit postage due operations are reported in Table 3.14. These operations concern rating postage due UAA mail (weighting pieces and applying rate markings).

When a postage due mail piece reaches the destinating delivery unit, it is first held in the accountable mail unit before being dispersed to carriers for delivery. Return-to-sender pieces are sometimes directly delivered to large businesses through the caller window. If a carrier is not able to make delivery of a postage due piece, he/she will complete and leave Form 3849 *Delivery Notice / Reminder / Receipt* at the final address. In order to receive the piece, the customer must present this form to a window service clerk for collection of postage due charges.

The postage due module is based on the UAA-related activities of accountable mail clerks, carriers, and window service clerks. A listing of the activities within the postage due module is provided below. Unless noted, each activity applies to both forwarded mail and return-to-sender mail.

Activities associated with accountable mail clerk:

- preparing mail at the beginning of the delivery day[22]
- distributing mail to carriers and window service clerks
- distributing mail to the caller window (return-to-sender mail only)
- accepting and clearing pieces at the end of the delivery day

Activities associated with the carrier:

- signing for pieces at the beginning of the delivery day
- collecting postage due charges from customers
- leaving delivery notices
- processing refused pieces
- clearing pieces at the end of the delivery day

Activities associated with the window service clerk:

- collecting postage due charges from customers
- processing refused pieces

Tables 3.15, 3.16 and 3.17 summarize the costs of performing these activities.

3.7.2 Processing Form 3546

A customer who has moved may refuse to pay postage due on all forwarded Package Services pieces. If this occurs, the accountable mail clerk and the carrier at the new address fill out and process Form 3546 *Forwarding Order Change Notice* with the "*Refuses to pay postage due on ALL fourth-class*" box checked on line 12. The form is then sent to the accountable mail unit of the originating delivery unit where it is processed and filed. Table 3.18 summarizes the costs associated with this form. In the last line of Table 3.2, these costs are directly attributed to forwarded mail.

When a customer refuses a postage due forwarded mail pieces, it becomes a return-to-sender postage due piece. Yet, unlike Form 3546, it is not necessary to track separately the costs associated with the extra trip that this piece takes (from the refusing customer back to the sender). The delivery unit route survey and all UAA volume surveys were designed to measure the <u>current</u> disposition of mail pieces, not the prior disposition. Any pieces that were once forwarded postage due but are now return-to-sender postage due were recorded in the surveys as return to sender. Thus, the cost to account for the extra trip these pieces take is implicitly built into the return-to-sender calculations in Table 3.3.

---

[22] This includes leaving notices in P.O boxes instructing customers to go to the customer-service counter.

3.8 Costs of Fulfilling Address Correction Requests

The Postal Service's Address Correction Service provides mailers with a notification when an address on a mailed piece is out of date or incorrect, or when the mail piece cannot be delivered for some other reason (addressee deceased, mail refused, etc.) This notification occurs manually on Forms 3547 and 3579, or electronically through the Address Change Service (ACS).[23] Mailers who use this manual or electronic notification service are required to display an appropriate ancillary service endorsement on their mail pieces (excluding Periodicals). In this section, the costs associated with the Address Correction Service are determined. More detailed ACS costs are reported in Section 6.

3.8.1 Manual Notifications

Form 3547 is associated with all major mail classes excluding Periodicals. It is most often generated within CFS units, although it is occasionally generated within nixie units as well. There are three notification methods used with Form 3547:

- Photo-and-Forward: A photocopy of the mail piece is printed onto a card, which becomes Form 3547. The mail piece is forwarded to its final address and the card is sent to the mailer. The card shows the customer's old and new address information.

- Photo-and-Discard (3547-D): Same procedures as Photo-and-Forward except the mail piece is wasted after the photocopy is made.

- On-Piece-Correction: An address correction label is generated and applied to the original mail piece which is returned to the sender. In this case, the label itself represents Form 3547.

The class, ancillary service endorsement, and age of the COA of the mail piece determine the notification method that is used. In most cases, Form 3547 (Photo-and-Forward or Photo-and-Discard) is returned to the mailer as a single piece. Sometimes, however, multiple forms are bundled together before being returned to the mailer (a process referred to as "batching").

---

[23] The term "Address Correction Service" is used in this study to refer to the entire notification system, including both manual and electronic notices. The term "Address Change Service" is used to refer to only the electronic notification system. Throughout this study, the acronym "ACS" always stands for Address Change Service.

Form 3579 is associated with Periodicals. Like Form 3547, it is usually generated within CFS units, although it is also generated within nixie units. A clerk removes the front cover of the mail piece, affixes a change-of-address label (Form 3579) to the cover, and places it into an envelope to be sent to the mailer. The remainder of the piece is wasted. Generally, envelopes containing batches of these forms are sent to mailers on a weekly basis. In most cases, multiple covers are placed in the envelope before being returned to the mailer. In some rare instances, there are so many covers that they are bundled in a box or sack before being returned to the mailer.

Table 3.19 displays the major inputs needed to calculate the cost of both types of manual notification. As noted in the table, there were 139.0 million Form 3547s and 24.8 million Form 3579s generated in FY 2004.[24] Of the Form 3547s, the majority (69%) were Photo-and-Forward notifications followed by On-Piece-Correction notifications (22%) and Photo-and-Discard notifications (9%).

Table 3.20 shows the distribution of Form 3547 by notification method at CFS units and nixie units. Data collected from the *CFS Unit 3547 Disposition Survey* were used to develop distributions both at the CFS unit and the nixie unit. It is assumed that nixie units do not generate on-piece notices.[25]

Table 3.21 displays mail processing and transportation costs for Forms 3547, 3579, and 3575. Per-piece proxies are developed from Table 3.13. Form-to-envelope conversion factors are based on estimates from the *CFS 3547 Batching Survey* and the FCS database.

Table 3.22 summarizes the unit costs of Forms 3547 and 3579 and develops the unit cost for both types of notices combined. The overall cost of processing Form 3547, including all activities at the CFS unit, mail processing and transportation, accountable mail unit, and carrier delivery, is $0.571 per form. The overall cost for processing Form 3579 is $0.579 per form. The combined cost is $0.572 per form.

3.8.2 Electronic Notification

The Address Change Service (ACS) program allows participating mailers to receive electronic address correction notifications. ACS customers are identified

---

[24] Form counts for the CFS unit are based on data from the FCS database. Form counts for the nixie unit are based on data from the *Delivery Unit Nixie Survey*.

[25] Although nixie clerks manually mark up returned-to-sender pieces, such markings are not considered to be Form 3547 on-piece notices.

by a unique 7-character code, called a participant code, printed above the address block on a mail piece. At a CFS unit, this code is entered into the FCS database after the extract code has been entered. In some cases, ACS mail pieces also have a keyline code (4 to 16-characters, including a check digit) that is entered into the FCS database. Refer to Table 3.12 for the ACS keying productivities used in the baseline model.

Carriers (and other appropriate route personnel) direct ACS pieces to the CFS unit as part of the normal forwarding process. Once at the CFS unit, ACS pieces are either forwarded, returned to sender, or wasted depending on the class, ancillary service endorsement, age of COA order, and ACS option. Once the ACS participant code is entered into the FCS database, an electronic notice is generated and sent to the mailer.[26]

Electronic notices are also generated for so-called ACS nixie mail pieces that reach the CFS unit. These pieces are first identified at the route as return-to-sender mail. After being directed to the nixie unit, clerks remove these pieces from the regular return-to-sender stream and direct them to the CFS unit. At the CFS unit, the appropriate ACS codes are entered into the FCS terminal and an electronic notice may be generated, depending of the ACS option and age of the COA. All ACS nixie pieces must have a keyline code in order for the mailer to uniquely identify the incorrect address.

Table 3.23 summarizes the unit cost of generating an ACS electronic notice for letters, non-letters (flats and parcels), and all shapes, combined. As shown at the bottom of the table, the overall unit cost for all shapes is $0.256. ACS COA notification is separated from ACS nixie processing. The unit cost of generating an ACS COA notice is $0.246, while the unit cost for generating an ACS nixie notice is $0.270. The processing cost of nixie clerks sorting ACS nixie pieces is included in the unit cost derivation of ACS nixie pieces. More detailed estimates of ACS costs are reported in Section 6.

3.9 Costs of Processing Change-Of-Address Orders

An important part of the UAA system is the processing of change-of-address orders. There are four ways in which change-of-address orders are created:

- Manual Form 3575 – Change-of-address orders submitted by customers on hardcopy form.

---

[26] For some ACS options, no electronic notice is generated if the age of the COA order is too old. Instead, the mail piece is usually returned to sender with manual notification attached. For more details, see *USPS Publication 8, Address Change Service (May, 2004)*.

- Manual Form 3575Z – Change-of-address orders submitted by Postal employees on hardcopy form to indicate an occurrence of a customer moving without providing a forwarding address.

- Internet Form 3575 – Change-of-address orders submitted by customers via the Postal Service's internet website.

- Telephone Form 3575 – Change-of-address orders submitted by customers via the Postal Service's telephone call center.

When a customer submits a COA order, that order is first directed to the carrier of the originating delivery unit. The carrier is responsible for verifying the order and adding its information to Form 3982. Form 3982 is used to consolidate multiple COA orders for a route.[27] After the carrier has processed an order, it is sent to the CFS unit where its information is keyed into the change-of-address database. The order is then returned to the originating delivery unit where it is filed.

Occasionally, it is necessary to modify or delete a change-of-address order. Modifications to COA orders are submitted by Postal employees on hardcopy Form 3546. Deletions to COA orders are submitted by Postal employees on hardcopy Form 3575. After a carrier or other Postal employee generates a modified or deleted order, it is sent to the CFS unit where its information is keyed into the change-of-address database. The order is then returned to the originating delivery unit where it is filed.

Table 3.6 summarizes the cost of processing change-of-address orders. The table is divided between activities associated with original orders and activities associated modified and deleted orders. The overall unit cost for processing COA orders is $2.816. At the bottom of the table, notice that the denominator of this unit cost is based only on the total number of original orders. This is because the count of modified and deleted orders is already included in the count of original orders. That is, for a COA order to become modified or deleted, it must first be originally created.

3.10 Costs of Support Operations

USPS Address Management at the National Customer Support Center (NCSC) in Memphis, Tennessee, is chartered with administering address management

---

[27] Carriers use Form 3982 as a quick reference to determine which mail must be set aside for UAA processing. Form 3982 is also used for entering special instructions for a route such as building vacant, temporary absence, etc.

policies. These policies are divided into two categories: Address Currency and Address Quality. The support costs associated with these policies is illustrated on lines 1-3 of Table 3.24.

CFS Headquarters operations in Washington, D.C., include staff members responsible for overseeing CFS field operations, monitoring performance, handing equipment deploys, establishing policy, and developing future enhancements. It also covers the cost of programming changes and support for the existing software. The support costs associated with CFS Headquarters operations is found on line 4 of Table 3.24. Non-labor costs include local supplies and equipment purchases as determined from the CFS Unit General Information Survey.

Costs for all support operations are summarized at the bottom of Table 3.1. These costs contribute to the total cost of the UAA system but are not proportioned to any of the components of the system (COAs, forwards, RTS, waste, ACS).

3.11 Cost of PKR Mail

As noted in Section 3.4.1, costs associated with PKR mail are attributed to carrier redirection within the original route or within some other route in the same delivery unit. Because PKR mail pieces may have missing or incorrect address elements, they may be rejected from mail processing automation equipment. These pieces require an additional manual sortation before being directed to the delivery unit.

Table 3.25 displays the detailed costs of processing PKR mail by route type and shape. At the bottom of the table, the average unit cost over each route type and shape is reported. Notice that the identify/redirection unit cost for "station redirect" PKR mail is about 5 times larger than "route redirect" PKR mail ($0.100 / $0.019). Carriers that encounter PKR mail that needs to be redirected to other routes must walk that mail to the cases of those routes or to the hot case. This extra procedure increases the cost of handling this type of PKR mail. After factoring in the cost of manual sortation of DPS/automation rejects, the average unit cost for route redirects increases to $0.054 and the average unit cost for station redirects increases to $0.134.

Table 3.26 summarizes the cost of processing PKR mail. As shown at the bottom of the table, the overall unit cost for PKR mail is $0.069.

Costs by rate category and PKR reason are developed in Section 5.2.

4.0   UAA PRE-PARS RATE CATEGORY COSTS

Refer to the electronic workbook **PrePARS ClassTabs_v.xls** in Appendix C (L61AppendixC\PrePARS\Tables) of the attached CD for all tables referenced in this section.

4.1 Overview

The *Pre-PARS Baseline Cost Model* calculates unit costs associated with UAA and PKR mail irrespective of class and rate category. As such, the model determines the overall cost of UAA and PKR mail based on the average volume profile across the entire system; that is, the average profile across shape, age of COA order, ancillary service endorsement, and all other meaningful cost drivers at each point in the processing chain.

Once baseline unit costs are known, they are used to develop cost measures that are specific to individual classes and rate categories. This is accomplished by fixing the units costs of every step within every module to the baseline values, and then "pushing" volumes through the baseline model that are specific to each individual rate category. Although the unit cost at any one step is fixed, the average unit cost across all steps varies based on relative volume, service level of the rate category, and other piece characteristics. The extent to which the volume profile of an individual rate category differs from the system-wide profile determines how different the average unit cost of that rate category is relative to the average unit cost of the system.

To clarify these principles, consider the following example. Suppose the entire UAA/PKR system consists of only two rate categories, A and B, and one shape, and that these characteristics uniquely identify the entire volume profile. Suppose further that the UAA/PKR processing chain is composed of only one module containing two distinct processing steps, 1 and 2. Then, the overall cost for the UAA/PKR system can be calculated as follows:

Equation (4.1) $C = \sum_{i=A}^{B} \sum_{j=1}^{2} V_{ij} * UC_j$

The average unit cost for the entire system is:

Equation (4.2) $UC = C \Big/ \sum_{i=A}^{B} \sum_{j=1}^{2} V_{ij}$

Subscript "i" indexes rate category, and subscript "j" indexes processing step. Equation 4.1 specifies that the total cost for the UAA/PKR system, *C*, is the

31

product of volume, V_{ij}, and the unit cost, UC_j, for each step, summed over all categories and steps. As specified in Equation 4.2, the average unit cost for the entire system is simply total cost from Equation 4.1 divided by total volume.

By plugging in some illustrative cost and volume values, it is easy to see the relationship between average unit cost for the entire system and for each rate category. Table 4.1 displays the example.

Table 4.1
Simplified Unit Cost Example

All Rate Categories Combined

Processing Step	[1] Volume By Step	[2] Unit Cost	[3] = [1] x [2] Total Cost
Step 1	1,000	0.50	500
Step 2	500	0.25	125
Total	1,500		625

	Average Unit Cost --->	0.417	= [3] / [1]

Rate Category A

Processing Step	[4] Volume By Step	[5] Unit Cost	[6] = [4] x [5] Total Cost
Step 1	900	0.50	450
Step 2	100	0.25	25
Total	1,000		475

	Average Unit Cost --->	0.475	= [6] / [4]

Rate Category B

Processing Step	[7] Volume By Step	[8] Unit Cost	[9] = [7] x [8] Total Cost
Step 1	100	0.50	50
Step 2	400	0.25	100
Total	500		150

	Average Unit Cost --->	0.300	= [9] / [7]

The top panel of the table reports the average unit cost derivation for all rate categories combined (i.e., the system-average volume profile). Based on 1,000 pieces processed in step 1 at $0.50 per piece and 500 pieces processed in step 2 at $0.25 per piece, the total cost to process all 1,500 pieces is $625 or $0.417

per piece. Notice that twice as many pieces are processed through step 1, the more costly step, than step 2.

The middle panel of the table reports the average unit cost derivation for rate category A. Because nine times as many pieces are processed in step 1 than step 2, the average unit cost for rate category A is above the system average. As shown in the bottom panel of the table, because more pieces are processed in step 2 than step 1, the average unit cost for rate category B is below the system average.

The same principles illustrated in this example are used to develop the actual rate category unit costs values. The only difference is that there are more rate categories, shapes, modules, and processing steps.

4.2 Cost Results

The UAA cost results for all classes and rate categories are developed in Table 4.2 through 4.64.[28] For each rate category, a separate table is developed by disposition. Each table reports volumes, costs, and unit costs by shape. Activities directly associated with UAA mail are reported separately from address correction activities. All calculations for the *Pre-PARS Rate Category Cost Model* are provided in Appendix C.

The following classes and rate categories are reported:
- First-Class Mail
  - Single-Piece: Tables 4.2 – 4.4
  - Nonautomation Presort ("Presorted"): Tables 4.5 – 4.7
  - Automation Presort ("Automation"): Tables 4.8 – 4.10
- Periodicals Mail
  - Nonautomation Presort ("Presorted"): Tables 4.12 – 4.14
  - Carrier Route: Tables 4.15 – 4.17
  - Automation Presort ("Automation"): Tables 4.18 – 4.20
- Standard Mail
  - Nonautomation Presort ("Presorted"): Tables 4.22 – 4.24
  - Enhanced Carrier Route: Tables 4.25 – 4.27
  - Automation Presort ("Automation"): Tables 4.28 – 4.30
- Package Services Mail
  - Parcel Post: Tables 4.32 – 4.34
  - Parcel Select: Tables 4.35 – 4.37

---

[28] PKR cost results for all classes and rate categories are reported in Tables 5.15 through 5.20 as explained in Section 5.

        o   Bound Printed Matter: Tables 4.38 – 4.40
        o   Media Mail/Library Mail: Tables 4.41 – 4.43
- Other Mail Classes
  - International: Tables 4.45 – 4.47
  - Priority: Tables 4.48 – 4.50
  - USPS Mail: Tables 4.51 – 4.53
  - Free Mail for the Blind: Tables 4.54 – 4.56
  - Express Mail: Tables 4.57 – 4.59

Summary tables are provided from each class and across all classes. The summary tables for each class are as follows:

- First-Class Mail: Table 4.11
- Periodicals: Table 4.21
- Standard Mail: Table 4.31
- Package Services: Table 4.44
- Other Mail Classes: Table 4.60

The summary tables across all classes are as follows:

- All Dispositions: Table 4.61
- Forwarded Mail: Table 4.62
- Returned Mail: Table 4.63
- Wasted Mail: Table 4.64

Note that the values between the baseline tables and these rate category tables are completely consistent. In particular, the derived unit cost value across all dispositions, rate categories, and shapes from the rate category tables matches the comparable unit cost value from the baseline tables. For instance, the grand total cost in Table 4.61, $1.700 billion, matches the sum of forwarded mail, returned-to-sender mail, wasted mail, and electronic notice processing, and manual notice processing in Table 3.1 ($.422 + $.822 + $.270 + $.093 + $.094). Likewise, total UAA volume in Table 4.61, 9.724 billion, matches the sum of volume by disposition in Table 3.1.[29]

---

[29] When reconciling volumes between Tables 3.1 and 4.61, it is not necessary to include address correction volumes since these pieces are already accounted for in the disposition volumes.

5.0 OTHER PRE-PARS COSTS

Refer to the electronic workbook *PrePARS OthTabs_v.xls* in Appendix C (L61AppendixC\PrePARS\Tables) of the attached CD for all tables referenced in this section.

5.1 Overview

Based on unit costs by class and rate category, it is possible to derive additional detailed costs estimates. Of particular interest are those volumes and costs by the reasons that mail pieces become UAA or PKR or, alternatively, by ancillary service endorsements.

At this level of detail, it becomes burdensome to use the full costing technique discussed in the previous section. It is not feasible to keep track of volumes for every UAA/PKR characteristic across every processing step in every cost module. Instead, a more tractable method is used. Unit costs are fixed at the rate category-shape-disposition level, similar to those presented in Section 4,[30] but above the processing step-module level. In this manner, the unit cost for an individual UAA/PKR characteristic and rate category is driven completely by the volume mix across shape and disposition for that characteristic across all modules and steps.

5.2 Volume and Cost Results

The volume and cost results by rate category and UAA reason are displayed in Tables 5.1 through 5.6. The costs values in these tables are "direct costs," meaning they exclude costs associated with address correction activities. The reasons listed in each table represent subtotals within a grouping of dispositions. The "Moved, To CFS/Hand Forward" line is based on the grouping of all hand forwarded mail and mail sent to CFS (regardless of the final disposition) as specified from the delivery unit route survey. All other lines are based on the grouping of delivery unit returned-to-sender and wasted mail. Within this grouping, the lines specifically related to address quality (incomplete, incorrect, or illegible address elements) are based on mail pieces in which the carrier used the endorsement *Attempted Not Known* (ANK), *Insufficient Address* (IA), *No*

---

[30] Section 4 costs are not used directly, although similar costs are calculated at a higher level of aggregation.

Such Number (NSN), or *Illegible.*[31] Tables 5.7 through 5.12 provide the same information as Tables 5.1 through 5.6, except "total costs" are reported. Total costs include direct costs and address correction costs.

The volume and cost results by ancillary service endorsement are displayed in Tables 5.13 and 5.14. The volume and cost results by rate category and PKR reason are displayed in Tables 5.15 through 5.20. All calculations for each characteristic are provided in the *Pre-PARS Address Quality Cost Model* and the *Pre-PARS Ancillary Service Endorsement Cost Model* in Appendix C.

The total costs and volumes in all the tables in this section are completely consistent with those totals from the tables in Section 3 and 4. For example, referring to Table 5.1, total cost and volume across all UAA reasons for First-Class Single-Piece ($369 million and 1,210 million, respectively) match the totals across shape and disposition for the rate category as reported in Tables 4.2 through 4.4.

---

[31] In cases where a mail piece is associated with more than one UAA reason, equal weight is assigned to each reason. Volumes across all reasons are then normalized to the total volume of the rate category as developed in Section 4.

6.0   DETAILED ACS COSTS

Refer to the electronic workbook **PrePARS ACSTabs_v.xls** in Appendix C
(L61AppendixC\PrePARS\Tables) of the attached CD for all tables referenced in
this section.

6.1   ACS COA and Nixie Costs

Using the *Pre-PARS Rate Category Cost Model* outlined in Section 4, it is
possible to expand the ACS cost estimates from Table 3.23 by shape and class.
Costs by processing step can also be provided. Such estimates are important in
developing ACS pricing policies. These estimates are developed in this section.
All calculations are provided in the *Pre-PARS Rate Category Cost Model* in
Appendix C.

Mail pieces with ACS markings are redirected from the route to the CFS unit
either because of move-related reasons or because of nixie reasons (bad
address elements, deceased, etc.). ACS pieces sent to the CFS unit because of
move-related reasons are called "ACS COA" pieces. These pieces are sent
directly from the route to the CFS unit where their ACS information is keyed into
the FCS database as part of the normal label-generation process. ACS pieces
sent to the CFS unit because of nixie reasons are called "ACS nixie" pieces.
These pieces are first directed from the route to the nixie unit as part of the
normal return-to-sender stream. At the nixie unit, clerks isolate these pieces, sort
them into 14 separate groups according to nixie reason, and then direct them to
the CFS unit. Once at the CFS unit, ACS nixie pieces are keyed into the FCS
database. In order for the mailer to uniquely identify mail pieces, each ACS nixie
piece must have a keyline code. Once processed through the CFS, ACS mail is
forwarded, returned, or wasted, depending on the ACS option and age of COA.
ACS COA pieces may be forwarded, returned, or wasted. ACS nixie pieces may
be returned or wasted.

Tables 6.1 and 6.2 provide ACS cost and volume detail by shape and class for all
dispositions. As in Table 3.23, information for ACS COA mail is separated from
ACS nixie mail. For each combination of class and shape, notice that the CFS
keying cost for ACS COA mail is not equal to the keying cost for ACS nixie mail.
For instance, in Table 6.1, the MT unit cost to key a First-Class Mail ACS COA
letter is $.160, while the comparable unit cost to key an ACS nixie letter is only
$.128. This difference in unit costs is due to the keying productivities associated
with these activities being derived from the FCS database which maintains
separate statistics for these activities.

Table 6.3 provides ACS cost and volume detail by class, aggregated over all shapes. As shown in the lower right-hand corner of the table, the overall unit cost across all classes and shapes is $.256. This is equivalent to the value derived in Table 3.23, indicating that the rate category cost model is completely consistent with the baseline cost model. Table 6.4 is reserved for PARS analysis.

6.2 Electronic Versus Physical Returns

An important exercise in evaluating ACS mail is to consider the cost differences between UAA mail pieces that are physically returned to mailers versus UAA mail pieces in which the mail piece is wasted and an electronic address correction notice is sent to the mailer—so-called electronic returns. Such costs are developed in this section. All calculations are provided in the *Pre-PARS Rate Category Cost Model* in Appendix C.

Electronic returns are ACS mail pieces that are wasted after being processed at the CFS unit. ACS pieces that are forwarded or returned after CFS processing are not considered to be electronic returns for the purposes of this analysis. ACS COA pieces that are wasted consist of pieces with the "Change Service Requested" endorsement (First-Class,[32] Standard, and Package Services) and of Periodicals with a COA age greater than 60 days. ACS nixie pieces that are wasted consist of pieces with the "Change Service Requested" endorsement (First-Class, Standard, and Package Services) and of Periodicals excluding those with the "Address Service Requested" endorsement.

Physical returns are non-ACS mail pieces that are physically returned to the sender. Most physical returns are identified by a carrier, sent through the nixie unit of the original delivery unit, and then directed to mail processing to be returned to the sender. These are called "delivery unit returns." A smaller portion of physical returns are routed first from a carrier to the CFS unit. These are called "CFS unit returns." They are move-related pieces that are determined at the CFS unit to be returned to the sender. They consist mainly of pieces with the "Return Service Requested" endorsement and unendorsed First-Class Mail pieces with a COA age greater than 12 months.[33]

Tables 6.5 through 6.8 report costs and volumes of electronic returns by class and shape. Tables 6.9 through 6.12 provide comparable detail of physical

---

[32] Specifically, all CSR option 1 pieces and the portion CSR option 2 pieces whose COA age is greater than 12 months.

[33] According to DMM F010.5.1, Exhibit 5.1, First-Class Mail pieces with no endorsement are treated the same as pieces with the "Forwarding Service Requested" endorsement. Such pieces are returned to the sender if the COA age is greater than 12 months.

returns. The activities listed in the tables cover all activities from the time a mail piece is identified as UAA until its final disposition. For physical returns, this includes carrier preparation, nixie clerk handling, CFS processing, and postage due activities. For electronic returns, this includes carrier preparation, nixie clerk handling, CFS processing, and ACS code identification and keying.

As specified at the bottom of Tables 6.5 through 6.8, the class and shape differentials are reported. In most cases, the unit cost of physical returns is greater than the unit cost of electronic returns. This difference is most pronounced for Standard Mail and Package Services due to costly postage due activities for physical returns. The gray-highlighted section of Table 6.8 provides the differentials across all shapes and classes.

7.0 STANDARD ERRORS OF UAA AND PKR VOLUMES

The pre-PARS cost models rely on volumes developed from survey data. In this section, the standard errors of these volumes are reported. Refer to the electronic workbook *PrePARS StdErrTabs_v.xls* in Appendix C (L61AppendixC\PrePARS\Tables) of the attached CD for all tables referenced in this section.

Direct computation of the standard errors of UAA and PKR volume estimates is not tractable. This is due to the complexity of the statistic. An unbiased estimate of standard errors can be found by employing a technique known as "bootstrapping" the sample. In this procedure, the sample is redrawn from itself. Zones and routes are drawn based on their original sampling probabilities. Observations may be drawn multiple times. Once the original sample size is drawn (151 zones, 4 routes per zone), volume estimates are recomputed. This procedure is repeated and the variance of the statistic across multiple iterations forms the estimated variance of the point estimate.

The results of the bootstrapping routine are displayed in Tables 7.1 through 7.9. These results are based on 1,000 bootstrap iterations. Point estimates and coefficients of variation (i.e., the standard error divided by the point estimate mean) are reported.

8.0 APPENDIX A – DATA COLLECTION FORMS AND INSTRUCTIONS

8.1 Delivery Unit Surveys Instructions and Forms

2004 USPS Undeliverable-as-Addressed Mail Study
Delivery Unit Instruction Packet

August 2 — August 28, 2004

Christensen Associates

Page Index

2004 USPS Undeliverable-as-Addressed Mail Study

Delivery Unit Instruction Packet

I. Purpose

This survey is designed to measure the volume and characteristics of Undeliverable-as-Addressed (UAA) Mail, including change-of-address (COA) services, mail pieces with erroneous addresses, and pieces that, due to the personal knowledge of postal personnel, are delivered despite having incorrect addresses. For the purpose of this study, this last type of mail is referred to as Personal Knowledge Required (PKR) mail. Please see the discussion of PKR mail in section VI.B.1b.

II. Key Dates

Survey Training	July 28 — July 29, 2004
Data Collection Begins	August 2, 2004
Data Collection Ends	August 28, 2004

III. Responsibilities

Product Redesign at USPS Headquarters will use the information gathered in this study to develop cost models and pricing proposals for use in future rate filings. A team effort is required to collect accurate and reliable data, which are critical for developing effective rates. This section describes the responsibilities of Christensen Associates, the site coordinators, and the delivery unit personnel for completing this survey successfully.

A. Christensen Associates

Christensen Associates has been hired to design and implement this mail characteristics survey. Christensen Associates is responsible for:

1. Selecting and notifying survey offices.

2. Providing all survey materials to the survey offices including forms, instructions, and other information.

3. Conducting training sessions and responding to questions from the survey sites.

4. Entering the data received and compiling survey results.

B. Site Coordinators

Each site coordinator is responsible for the integrity of the survey's data collection activities. Typically, the site coordinator is a delivery unit manager or supervisor. Survey materials, including forms, instructions, and other information, will be sent to the site coordinator. Each site coordinator must:

1. Notify Christensen Associates if survey materials are not received or if additional materials are needed.

2. Participate in a conference call training session with Christensen Associates to receive training.

3. Ensure that all personnel involved in data collection, including substitute carriers and clerks, are adequately trained and understand the need for data integrity and reliability.

4. Copy and distribute relevant instructions for distribution to data collectors.

5. Contact Christensen Associates concerning any problems or questions about the survey.

6. Review the completed survey forms to verify accuracy, completeness, and agreement with all survey instructions.

7. Ensure that the survey materials are submitted to Christensen Associates on a timely basis.

C. Delivery Unit Personnel

Delivery unit personnel are responsible for collecting the survey data. The detailed information required from this survey necessitates the use of Postal Service personnel who are familiar with delivery unit processing of UAA mail. Specifically, delivery unit personnel must:

1. Be familiar with the procedures of this survey, asking for clarification if necessary.

2. Record UAA mail piece volumes and characteristics on data collection forms provided by Christensen Associates.

3. Coordinate efforts to link information on survey forms to photocopied mail pieces. This will include determining and completing the appropriate survey forms at carrier cases or box sections, photocopying selected mail pieces, and providing them to the site coordinator for submission to Christensen Associates. Delivery personnel on selected routes will sample their UAA mail every day for a designated week.

4. Nixie clerks and postage due clerks will provide daily detailed mail piece counts during the sample period.

IV.   Training

Eleven conference call training sessions will be held on Wednesday, July 28, and Thursday, July 29, 2004. Your scheduled training session is listed on the front cover of your survey binder. Site coordinators and/or other staff members from each survey site should participate. At your scheduled time, please call the telephone number listed and enter the passcode to participate in the training session. If no one from your facility is able to participate in your assigned training session, please contact Christensen Associates at (608) 238-1602 to join a different session. Since each conference call is limited to 16 incoming telephone lines, it is important that you call in at your scheduled time unless you have made other arrangements with Christensen Associates.

If you have questions after the training sessions or encounter problems during the survey period, please contact Jess Reaser at Christensen Associates at (608) 238-1602 or by email at du@LRCA.com.

V.   Submitting Data Collection Forms

All completed survey forms, accompanying photocopied mail pieces, and other documentation corresponding to this survey should be stapled or otherwise bundled together. It is a good idea to designate a single location where all completed survey materials are stored before they are submitted.

At the end of the first day of each survey week, completed survey forms and accompanying documentation should be sent to Christensen Associates via Express Mail. Christensen Associates will review survey forms for completeness as soon as they are received so that any apparent data collection problems can be identified and corrected immediately.

Completed survey forms and documentation for the remainder of each survey week should be mailed to Christensen Associates each day by Priority Mail.

Completed forms should be mailed to:

CHRISTENSEN ASSOCIATES
ATTN: JESS REASER
4610 UNIVERSITY AVENUE, SUITE 700
MADISON, WI 53705-2164

Preprinted mailing labels have been provided for your convenience.

Contact Jess Reaser at Christensen Associates at (608) 238-1602 if additional mailing labels or survey forms are needed. Requests also can be made by email at du@LRCA.com.

VI.   Survey Overview and Instructions

The Undeliverable-as-Addressed (UAA) Mail Study will take place over the period August 2 through August 28. The survey will measure UAA volume and/or piece characteristics at four areas in the delivery unit:

A.   General delivery unit

B.   At the route, either by carriers or clerks (in the case of box sections)

C.   At the nixie unit

D.   At the postage due/accountables unit

A.   Form 1: Delivery Unit General Information (white)

The site coordinator or other appropriate personnel should complete Form 1D (white) at the beginning of the survey period. This form asks questions about the delivery unit's service territory, postage due operations, and nixie operations. Once completed, the form should be faxed to Christensen Associates at (608) 231-3273, with attention to Sam Cutting. If a fax machine is not available, enclose the form with the other forms being Express Mailed to Christensen Associates on the first day of the survey period.

B.   Route Survey

1.   General Information on the Route Survey

a.   Survey Design

City, rural, highway contract, and box section routes are included in this survey. Four routes were randomly selected in each of 150 randomly selected postal zones. Each of the selected routes is to be surveyed every day for a week. The survey will take place over a four week period. Surveys are coordinated so that in each delivery unit only one route is being surveyed in a survey week. (If this is not the case for your delivery unit, please contact Jess Reaser at Christensen Associates at (608) 238-1602.)

The forms used in this survey record UAA mail piece volumes, characteristics, the reasons for undeliverable mail, and the disposition of UAA mail at the delivery unit.

Photocopies will be made of the pieces sampled as part of the survey and submitted with the data collection forms. This aspect of the survey requires special coordination among data collectors so that photocopies can be matched to the piece information on survey forms. This approach represents a cost-effective method for getting detailed information on UAA class and subclass, barcode characteristics, ancillary service endorsements, and other detailed mail piece information.

All classes and shapes of mail are included in this survey. Photocopies should include:

- The address block.

- The postage area.

- The barcode, including the barcode clear zone.

- The return address block.

For large mail pieces, it may be necessary to use more than one photocopy to capture each of the areas listed above.

In addition, the route survey will capture information on the volume and characteristics of mail that is delivered despite poor address quality. This volume is referenced throughout the survey and documentation as **Personal Knowledge Required** (PKR) mail.

b.   Definition of Personal Knowledge Required Mail

Personal Knowledge Required (PKR) mail is mail that is delivered to the address or addressee specified on the mail piece, but, due to an address quality problem, could not have been delivered without the clerk's or carrier's personal knowledge. The application of local knowledge to overcome addressing deficiencies to allow delivery comes at a cost to the Postal Service and affects the timeliness of delivery. Capturing the characteristics of PKR mail is an important component of this study. Examples of PKR mail include:

- A mail piece with a missing apartment number that is delivered based on the recipient's name.

- A mail piece that is forwarded from one address to another address on the same route without CFS processing. For example, a recipient has moved from apartment 213 to apartment 175 in the same apartment building, both on the same route. If the carrier delivers a mail piece addressed to the OLD address (apt. 213) to the new address without routing it through CFS, the piece is considered PKR mail.

- A mail piece that should be endorsed "No Such Number" that is delivered based on the recipient's name. For example, a letter is addressed to Joe Smith at 210 S. Oak, but 210 S. Oak does not exist and Joe Smith lives at 214 S. Oak. If the delivery is made to Mr. Smith at 214 S. Oak, the piece is considered PKR mail.

- A mail piece that is forwarded within the delivery unit without going through CFS or marking up the mail. For example, a recipient has moved from one route to an address on another route in the same delivery unit. If the carrier redirects a mail piece addressed to the recipient at her old address to her new carrier without going through CFS or marking it up, the mail piece is considered PKR mail.

c. Definition of Undeliverable-as-Addressed Mail

The Undeliverable-as-Addressed (UAA) Mail included in this survey corresponds to the following mail flows or separations:

- Mail sent to CFS for forwarding services.

- Endorsed (marked-up) mail for forwarding by the delivery unit.

- Undeliverable mail with mailer ancillary service endorsements, including ACS nixie mail (carrier endorsed mail) and mail going directly to CFS. Mailer endorsements (with slight variations) are:

  o Address Service Requested

  o Forwarding Service Requested

  o Return Service Requested

  o Change Service Requested

- Carrier endorsed (marked-up) mail, where endorsements include (not an exhaustive list):

  o Attempted Not Known

  o Insufficient Address

  o Not Deliverable as Addressed—Unable to Forward

  o No Such Number

  o No Such Street

  o Deceased

  o Temporarily Away

  o No Mail Receptacle

  o Vacant

  o Box Closed—No Order

  o In Dispute

  o Lottery Mail

  o Outside Delivery Limits

  o Returned for Postage

  o Unclaimed

- Loop mail.

- Mail with an incomplete, illegible, or incorrect address that the carrier is able to deliver based on personal knowledge (PKR mail).

- Mail forwarded by the carrier to another route in the delivery unit, including PKR mail.

o   Mail with a bad address that is handed directly to another carrier based on personal knowledge.

o   Mail on which the <u>carrier corrects the address</u> and places in the "In-Zone Missort" separation of a throwback case for delivery to another address in the same delivery unit.

The following are examples of pieces that <u>should</u> be included in the study.

- Any piece that is addressed to a recipient whose OLD address from Form 3575 is part of your route, that is mail for a customer with a COA order on file.

- Mail returning to your route from CFS marked "No Record on File" should be recorded if you still cannot deliver it as addressed.

- Mail going to the Loop Mail separation in the throwback case, or mail where the barcode, ZIP Code or other address element is obliterated by the carrier or a nixie clerk in the delivery unit before being returned to mail processing.

- Mail with insufficient postage *when the recipient refuses to pay the shortage*.

- Mail that you pick up on the route because the recipient has refused it or has applied a forwarding address to it.

- Mail with bad address elements (including recipient names and bad barcodes or ZIP Codes) or forwarded/undeliverable mail returned by a caller window customer. Such mail should be recorded by a clerk if he/she is sampling his/her PO Box section and the caller window customer is associated with that box section.

d.   Mail Pieces <u>Not</u> Included as Undeliverable-as-Addressed (UAA) Mail

UAA mail does <u>not</u> include pieces that arrive at their final destination at your case through a mail processing/sorting stream with the correct or a corrected address. Do not record them in this study. Examples include:

- A mail piece that was routed through CFS from another route to its NEW address on your route. That is, do not record mail with a yellow CFS address label that destinates to an address on your route.

   NOTE: Yellow label mail should be included as UAA only if the yellow label is incorrect, incomplete, or illegible or if the mail piece must be forwarded again due to another forwarding order.

- Mail hand forwarded from another route in the same delivery unit. That is, mail pieces that were missorted to another route but which destinate to your route (that is, mail coming to your route from the hot case) should not be recorded.

- Mail that is forwarded to your route by another carrier in the same delivery unit based on that carrier's personal knowledge. That is, PKR mail pieces <u>given to you</u> should be treated as if their addresses have been corrected. They should not be sampled or recorded.

- Mail pieces with alternative addressing formats for the addressee, such as "Occupant," "Postal Customer," or "Jane Doe or Current Occupant," do not need to be recorded as long as all other address elements are correct.

In addition, missorted or misthrown mail pieces which are redirected to the throwback case or back to mail processing <u>without</u> endorsement, address correction, or obliterating the ZIP Code, barcode, or other address element are <u>not</u> included in the survey. Missorted and missent mail needs to be recorded only if it has a bad address element or is treated as loop mail (either by the carrier or the delivery unit's nixie clerk).

> NOTE: This survey is aimed at capturing the cost of UAA mail. Missorted or misthrown mail pieces may have a good current address *with* a matching barcode. In such cases, the pieces are not UAA. If you are not obliterating barcodes or other address elements and are uncertain about whether a piece will be treated as loop mail, ask the nixie clerk how it will be processed at the delivery unit. Include the piece as UAA if it is loop mail.

Please contact Jess Reaser at Christensen Associates, (608) 238-1602, or email du@LRCA.com if you have questions.

2. Instructions for Selecting Box Sections

The sampling schedule indicates weeks when PO Boxes need to be sampled at your ZIP Code. When PO Boxes are sampled, the site coordinator should randomly select one clerk to participate in the survey. Select from all of the clerks delivering to PO Boxes in the selected ZIP Code. **The clerk must be selected at random. Do not select based on workload or any other factors.**

The selected clerk (or his/her sub) should conduct the survey for the week. The clerk should deliver to the same set of boxes each day during the survey week.

> NOTE: The set of boxes, or *route*, is the unit being sampled, not individual clerks. Once the sample boxes for the week have been set—by selecting a particular clerk—continue to survey those boxes even if a different clerk delivers the mail.

> **If clerks at your delivery unit are not assigned to deliver a specific range of boxes, contact Jess Reaser (Christensen Associates) at (608) 238-1602 to set up alternative data collection procedures.**

The clerk should sample the UAA mail from all of the boxes and all caller window customers associated with his/her boxes.

If the schedule indicates that PO Boxes have been included for a subsequent week (or weeks), randomly choose a participant from the <u>remaining</u> clerks delivering to another set of PO Boxes. Once the survey has been conducted on

a particular set of boxes for a week, that set should not be surveyed again until all other box "routes" have been selected at least once.

If the total size of the box section in your ZIP Code and the number of weeks boxes are sampled require you to repeat sampling of some clerks/boxes, do so only after all clerks/boxes have been in the survey at least once. It is possible that a single clerk will need to conduct the survey on all boxes for the entire month—that is when one clerk at the office delivers to PO Boxes and four weeks of PO Box data collection were selected for your unit.

If you have questions about selecting clerks delivering to PO Boxes, contact Jess Reaser (Christensen Associates) at (608) 238-1602 or by email at du@LRCA.com.

3.   Route Survey Form Instructions

a.   Instructions for the Survey Coordinator for Data Collection at the Route

- Photocopy and distribute the relevant sections of this instruction packet to selected delivery staff, staff responsible for photocopying mail pieces, nixie clerks, and accountable clerks prior to their participation in the survey so that they can review data collection procedures and resolve questions.

- Find the route sampling schedule on the cover sheet of this instruction packet.

- Select the clerks responsible for conducting the study on PO Boxes. PO Box sections are included in this study, see Section VI.2 above for instructions on how to select data collectors for PO Boxes.

- Inform the carriers and clerks delivering to sampled routes of the dates they will be collecting data.

- Instruct the carrier/clerk and relevant subs (T6s) how to fill out the forms.

- Designate one or more clerks or carriers who will be responsible for photocopying pieces.

- Remind the carrier/clerks of the sampled route on the Friday/Saturday preceding their start date of their upcoming survey tasks.

- Verify that tasks are completed each day.

- Check with the clerks or carriers designated to make photocopies to be sure that the copies are made each day.

- Review the forms and photocopies daily for completeness and accuracy.

- Establish procedures for reviewing and returning completed survey packets to Christensen Associates.

- Every Monday, completed Forms 2D and 4D– 6D for that day must be Express Mailed to Christensen Associates. Christensen Associates will review the forms and provide feedback if they are not filled out correctly. All completed survey forms can be sent to Christensen Associates in the same envelope.

- Verify that the completed forms and mail piece photocopies are bundled together each day.

  o   On each Monday, when a new carrier/clerk begins data collection, verify that completed forms and photocopies are Express Mailed to Christensen Associates so that they can be reviewed and data collection problems can be addressed.

  o   On other days, verify that completed forms and photocopies are Priority Mailed to Christensen Associates. Mailing labels are provided.

- If additional forms are needed, they can be copied on white paper using the sample forms available in Appendix A of this instruction packet. The

carrier/clerk collecting data should continue lettering additional forms in sequence from the last sheet provided.

Questions regarding this survey can be directed to Jess Reaser at Christensen Associates, (608) 238-1602 or submitted by email to du@LRCA.com.

**b.	Instructions Photocopying Mail Pieces**

Each day, a clerk or carrier will be designated to make photocopies of mail pieces identified as UAA by selected delivery unit personnel. Whether a clerk or carrier should be assigned this task will depend on local staffing and workload.

Carriers who have time to photocopy their own pieces will best be able to keep the photocopies labeled correctly and connected to the survey forms. It may also be beneficial to have another carrier who is scheduled or finished the survey to help with forms or photocopying. Another option is to have two clerks dedicated to the photocopy task for the entire survey period, alternating days depending on schedules. All these options lessen the need to train extra staff.

The delivery unit personnel will apply an identification sticker to each UAA mail piece to maintain the link between the information collected on the survey form and the photocopy of the mail piece. The staff making photocopies should be sure that the image of the sticker or the proper handwritten identification number is on each photocopy. The staff making copies of sampled mail pieces should follow these procedures:

- Photocopy all of the mail pieces made available by the carrier or clerk whose route is being sampled. Carriers/clerks will provide pieces for photocopying before leaving for their routes (or after their box sections are finished). Carriers will likely provide additional pieces to photocopy after they have returned from their routes.

- Maintain the separations made by the carrier/clerk so that the mail pieces are directed to their appropriate mail processing streams after copying.

- Photocopy the face of the mail, providing a clear image of the address block, the return address block, barcode(s), mailer endorsement(s), and postage. If the mail piece is large, use multiple pages to get copies of all relevant areas of the mail piece.

- Be sure that the photocopy includes an image of the identification sticker that the carrier/clerk placed on the piece. This will permit the copy to be matched to other important piece characteristics. For pieces needing multiple pages to capture all of the important mail piece areas, make sure the identification number is on all photocopies (the identification number can be handwritten <u>on the photocopy</u>).

- Copy mail pieces that the carrier brings back from the route after the carrier has recorded the information and has put identification stickers on the mail pieces.

- After the mail pieces have been photocopied, remove the stickers and direct the pieces back to the carrier/clerk or to the appropriate mail processing streams. The carrier/clerk will identify those pieces that should be returned to his/her case.

- After the carrier has returned from the route and recorded information for any additional pieces, the carrier will give you the day's completed route data

collection sheets. When finished copying the pieces, bundle the photocopies with the data collection sheets and give them to the site coordinator so that they can be sent to Christensen Associates with the other data collection forms completed during the day.

Questions should first be directed to the site coordinator. Unresolved questions should be directed to Jess Reaser at Christensen Associates, (608) 238-1602.

c. Instructions for the Carrier/Clerk of Selected Routes

The carrier/clerk should fill out Form 2D once at the beginning of the survey week, Form 3D once at the end of the survey week, and Forms 4D – 6D **each day**.

Separate and prepare UAA mail as usual, then record the characteristics of this mail on the appropriate form and provide this mail to the staff who is designated to make photocopies. The delivery person and photocopying staff will need to coordinate data collection efforts in order to maintain the quality and integrity of the data.

Information on all flows of UAA mail will be collected. That is, all mail that is sent to CFS for forwarding or address correction services, endorsed (or "marked-up") for processing by a nixie clerk, hand forwarded, or treated as waste because of a bad address, needs to be included. In addition, include all of the mail that you would deliver *with* a bad address; that is, Personal Knowledge Required (PKR) mail.

Definition of Personal Knowledge Required Mail

Personal Knowledge Required (PKR) mail is mail that is delivered to the address or addressee specified on the mail piece, but, due to an address quality problem, could not have been delivered without the clerk or carrier's personal knowledge. The application of local knowledge to overcome addressing deficiencies to allow delivery comes at a cost to the Postal Service and affects the timeliness of delivery.

See B.1-b and B.1-c above for definitions and examples of PKR mail.

<u>Sampling UAA Mail</u>

UAA mail will be identified at the carrier case or box section.

- For carriers, UAA mail may also be identified while on the route.
- For clerks, all caller window services assigned to the box section are included. UAA mail identified by clerks for caller boxes, including pieces returned by customers to the delivery unit, should be included in this survey.

All UAA mail, including mail encountered on the route, at the caller window, and PKR mail, is part of this survey and should be sampled.

The carrier/clerk should case mail as he/she would normally. The carrier/clerk should maintain normal UAA separations. Typical separations include:

- Mail going to CFS for forwarding or address correction services.
- Loop mail – that is, incorrectly barcoded and/or ZIP Coded mail discovered at a destination for which it is not addressed.

- Carrier endorsed ("marked-up") mail, including mail pieces with mailer ancillary services endorsements (such as "Change Service Requested").

- Undeliverable bulk business mail (UBBM).

- Accountable mail that is refused by the customer.

- ***For this survey, the carrier should keep an additional separation for Personal Knowledge Required (PKR) mail.***

Skip Rate

Not every UAA mail piece will be selected for data recording. Forms 4D and 5D apply skip rates for recording data. Skip rates are used to sample a subset of the mail. A skip rate of 4 specifies that every fourth piece should be selected. To conduct the piece survey, you will need to know the skip rate for the form you are filling out. The skip rates for each form are tabulated in Figure 1. The skip rate is listed in the top right corner of forms 4D – 6D.

Form	Skip Rate	Description	Sample Pieces
Form 4D: Non-UBBM (salmon)	4	Sample every 4th piece	4,8,12,…
Form 5D: UBBM (purple)	20	Sample every 20th piece	20,40,60,…
Form 6D: PKR (green)	1	Sample every piece	1,2,3,…

Figure 1, Skip Rates for Survey Forms: UAA Profile at the Route

The carrier/clerk should match UAA mail separations to the appropriate data collection forms and then sample mail pieces according to the skip rate. Include all shapes of mail in each separation. Forms and their matched UAA mail types are the following:

- Form 4D (salmon) - should be used to collect information on mail pieces going to CFS, loop mail, carrier endorsed mail, and accountable mail refused by the customer (non-UBBM mail pieces). The skip rate for Form 4D (salmon) is 4, which means that you should select the 4th piece, 8th piece, 12th piece, and so on.

  Be sure to apply the skip rate across all shapes of mail, including letters, flats, and parcels. Maintain the separations you used while casing the mail so that you can record the mail piece correctly and direct the piece to its correct mail flow after it has been photocopied.

- UBBM mail should be reported using Form 5D (purple). The skip rate for Form 5D (purple) is 20, which means that you should select the 20th piece, 40th piece, 60th piece, and so on.

Be sure to apply the skip rate across all shapes of mail, including letters, flats, and parcels. Maintain the UBBM separation so that you can record the mail piece correctly and direct the piece back to the waste container after it has been photocopied.

> NOTE: Include only the relevant mail from the current sampling day. Do not include UBBM from previous days that has not yet been disposed of.

> NOTE: Do not sample leftover (extra) boxholder mail that you have banded together and stored with waste mail. Do count all leftover boxholder mail separately and enter this number in line 53, sheet A of Form 5D (purple). Leftover boxholder mail does not need to be photocopied.

- PKR mail should be reported using Form 6D (green). Sample every PKR piece. Include all shapes of mail, including letters, flats, and parcels. Maintain the PKR separation so that you can record the mail piece correctly and deliver the pieces on the next delivery day, after they have been photocopied.

Sample UAA mail at the case (or box section) in the morning before leaving for delivery. Continue on the same data collection sheets when returning from the route.

Record the UAA mail identified on the route according to the same UAA mail type-form relationships described above, continuing with the skip rates begun in the morning. That is, if you ran out of mail in the morning at a count of two, then in the afternoon continue counting with three. Note where you end in the morning by writing the number on the data collection sheet. Select pieces according to the skip rates, record information on the appropriate sheet, apply identification stickers, make the pieces available for photocopying, and provide completed forms to the photocopying staff for mailing to Christensen Associates.

Documenting Sample Pieces

- Begin data collection on new forms every morning.

- When returning from the route with UAA mail, continue filling out the data collection forms started that morning.

- After a piece has been recorded, apply an identification sticker to it.

  NOTE: THE IDENTIFICATION STICKER IS USED TO MAINTAIN CORRESPONDENCE BETWEEN THE PHOTOCOPY AND THE MANUALLY RECORDED INFORMATION. THIS LINK IS ESSENTIAL TO THE STUDY.

- Be sure to label the sticker so that it corresponds to the location of the recorded piece on data collection forms. The stickers have spaces for a form number, a sheet letter, and a column number.

EXAMPLE: If recording a non-UBBM mail piece in column 8 of sheet B, fill out the sticker spaces as in Figure 2.

> Form__*4D*__ - Sht__*B*__ - Col__*8*__

Figure 2, Filling Out Identification Stickers

- Place the sticker on the mail piece where it will be included in the photocopy image. The photocopy should capture the address block, barcode area(s), the return address block, mailer endorsement(s), and the postage area. Be sure not to obscure these areas.

    NOTE: Do not obliterate any address elements or the barcode before the photocopy is made.

- Record mail piece information and submit pieces for photocopying. Stickers are removable and should be removed after photocopying is completed.

- After you have finished recording your UAA mail for the day, provide the pieces for photocopy. Also give the day's data collection sheets to the staff designated for photocopying. He/she will bundle the data collection sheets and photocopies for mailing to Christensen Associates.

- Record sample pieces 1—10 for each form on sheet A and sample pieces 11-20 on sheet B. If you run out of sheets and/or stickers, use supplemental forms which can be copied from the forms in Appendix A of the instruction packet. Continue lettering additional data collection forms in sequence from the last sheet provided. Use Post It[©] (sticky) notes or similar products to link the collected data to the photocopied mail piece. Write piece identification information on sticky notes using the format illustrated in Figure 2.

Instructions for Forms 2D — 6D

Questions should first be directed to the site coordinator. Unresolved questions should be directed to Jess Reaser at Christensen Associates, (608) 238-1602.

Form 2D: General Information for Selected Routes (yellow) Instructions

Fill out Form 2D (yellow) once on the *first* day of the survey week.

- Indicate today's date.

- Indicate the route's ZIP Code for the route or box section.

- Indicate the route number or box section number.

- Indicate the number of active deliveries on your route/box section. An active delivery is an address currently receiving mail.

- Indicate the total number of deliveries on your route/box section. Total deliveries includes vacant deliveries and holds.

- Indicate the number of active deliveries in centralized boxes on your route/box section.

- Indicate the total number of deliveries in centralized boxes on your route/box section.

- Indicate whether you send *all* COA orders to the CFS servicing your route/box section by circling "Yes" or "No."

- Indicate the percentage of COA orders that get sent to CFS.

Form 3D: Hold Mail (blue) Instructions

Fill out Form 3D (blue) once on the *last* day of the survey week. Form 3D (blue) provides an inventory of the total volume of "hold mail" currently on the selected route.

- Indicate today's date.

- Indicate the ZIP Code for the route/box section.

- Indicate the route number/box section number (if applicable).

- List each hold order's start and stop dates in the first two columns. Enter "None" if no stop date is given.

- Count all accumulated mail count the number of pieces by class and shape for each hold order. Please enter the totals in the appropriate boxes.

- If the route/box section has more than 20 hold orders, use an additional form. Please copy it from Appendix A of the instruction packet.

Form 4D: UAA Profile at the Route, Non-UBBM Pieces (salmon) Instructions

Provide piece characteristics for non-UBBM UAA mail using Form 4D (salmon). Fill out a new form each day.

- Turn the form sideways and enter today's date, the ZIP Code, and the route/box section number (near the "Comments" section of Form 4D (salmon). See Figure 3.

Figure 3, Date, ZIP Code and Route/Box Section Number on Form 4D

- Mail Characteristics

    a. Enter the shape of the mail piece by placing an "X" in the appropriate box in one of the lines numbered 1-4.

    b. Indicate whether the piece is machinable or non-machinable by placing an "X" in the appropriate box in one of the lines numbered 5-6.

- Change of Address Information (Form 3575)

    a. In line 7 indicate whether the recipient of the mail piece has a COA order on file by entering "X" for yes or leaving it blank for no.

    b. If the answer to line 7 is Yes, record the effective (begin) date of the COA order, from Form 3575 or 3982, as illustrated in Figure 4.

		1	2	3	4	5	6	7	8	9	10		
FORM 4D: UAA PROFILE AT THE ROUTE, NON-UBBM PIECES (COLOR = SALMON)												SKIP RATE = 4	
Complete a separate column for each UAA piece. Include postage due and pieces brought back to the office from your route. Make pieces available for photocop... See UAA Mail Characteristics Data Collection – Sampled Routes, Instructions For The Carrier/Clerk Of Selected Routes												SHEET A	
	Mail Piece:	1	2	3	4	5	6	7	8	9	10		
Mail Characteristics	1 Letter	X	X	X			X		X	X	X	Place a sticker with the appropriate sheet letter and column number on the photocopy of the corresponding sample piece. See the instructions for an example.	
	2 Flat				X	X		X					
	3 SPR/IPP/Chunk/Roll												
	4 Parcel												
	5 Machinable	X	X				X		X				
	6 Non-Machinable			X	X	X		X		X	X		
COA Info	7 Mark "X" if the recipient for this piece has a COA order (Form 3575) on file?				X	X				X		Col:	COA Eff. Date
	8 If COA order is on file, enter its Effective Date at right in the row corresponding to the data entry column for this piece →											1	
	9 Mark "X" if this a "No Record Found" piece being returned from CFS?					X						2	
New Address Data	If this mail piece is not associated with a COA order, skip to line 21											3	
	The forwarding address for this mail piece is a:											4	4/10/2004
	10 Local (Delivery Unit) address									X		5	"
	11 Non-local address				X	X						6	
	12 No forwarding address (Moved, left no address)											7	
	The mail piece was sent by a:											8	
	13 Household / Individual					X						9	6/17/2004
	14 Business or institution				X					X		10	
	15 Not known												
	The COA order associated with this mail piece is from a:												
	16 Family				X	X							
	17 Individual									X			
	18 Business												
	19 Carrier/Clerk												
	20 Not known												

Figure 4, Filling in COA Effective Date

Figure 4 provides an illustration of entering COA effective dates. Note that the pieces in columns 4, 5, and 9 are associated with COA orders as indicated by the "X" in line 7 of their respective columns. Consequently, lines 4, 5, and 9 of the "COA Eff. Date" data collection area are filled in with the appropriate effective dates. Quotation marks in line 5 indicate that the effective date is the same as for line 4.

> NOTE: It may be helpful to have the hold order forms (Form 3575) on hand at your case during the survey week.

c. In line 9, indicate that the piece has a yellow "No Record Found" sticker and is being returned from CFS by entering "X" for yes or leaving it blank for no.

> NOTE: To answer yes to this question the piece should be *returned* from CFS, not forwarded by CFS to a NEW address on your route. If the piece is forwarded with a good address on a yellow sticker, it should <u>not</u> be a part of this survey.

- New Address Data

> NOTE: If this mail piece is not associated with a COA order, skip to line 21.

a. Indicate where the forwarded mail piece will be sent by placing an "X" in the appropriate box in one of the lines numbered 10-12.

b. Indicate what type of sender mailed the piece by placing and "X" in the appropriate box in one of the lines numbered 13-15.

c. Indicate the category that best describes the type of move (that is, the entity that filed the COA order) associated with this mail piece by placing an "X" in the appropriate box in one of the lines numbered 16-20.

- Carrier Endorsement

> NOTE: If this mail piece is not endorsed or is not being redirected to the throwback case as carrier-endorsed mail (that is, marked-up mail), skip to line 33.

a. Indicate the endorsement given the mail piece by placing an "X" in the appropriate box in one of the lines numbered 22-32. If the piece will be bundled, indicate the endorsement the bundle will get.

b. If you have placed an "X" in line 30 indicating that the mail piece is "Not Deliverable as Addressed--Unable to Forward," please use line 31 to indicate whether this endorsement is because the COA order is expired.

c. If the endorsement is not included, place an "X" in line 32 for "Other". Indicate the endorsement in the "Comments" section at the right of the page.

- Disposition

a. In this section, select the line that best describes where the mail piece will be redirected. Do not indicate what a Nixie clerk will finally do with the mail piece. (For instance, some stations send "Return to Sender" mail to the CFS for processing. If this mail first goes to the Nixie clerk at the delivery unit, the carrier should mark "The throwback case with a carrier endorsement," not "Include with mail sent to CFS.")

b. If none of the lines provides a good description of where the mail piece will be redirected, place an "X" indicating "Other," and describe where the piece will be redirected using the "Comments" section at the right of the page.

- Address Quality

a. If this mail piece has a bad address that makes it undeliverable, indicate why the address is bad. Mark all that apply. **Please be careful to distinguish address elements that are incomplete, incorrect, or illegible.**

b. Indicate whether the barcode matches the address.

c. Indicate whether the piece is a piece from the accountable mail clerk. Note, the mail pieces you get from the accountable mail clerk are UAA only if the pieces have bad addresses, the recipients have a COA order on file, or the pieces are refused by postal customers. Do not record pieces as UAA only because they are short on postage.

d. If none of lines 46-65 describes why the address is bad, mark "Other," and describe why the address is bad in the "Comments" section at the right of the page.

Form 5D: UAA Profile at the Route, UBBM Pieces (purple) Instructions

Provide piece characteristics for UAA UBBM mail by entering the requested information on Form 5D (purple). Fill out a new form each day.

Do <u>not</u> include leftover boxholder mail in the sample. Boxholder mail is defined for the purpose of this study as saturation mailings with a simplified address format—that is the "Postal Customer" format for rural routes, highway contract routes, and box sections. Leftover boxholder mail is frequently disposed of with UBBM. <u>Do</u> make an independent count of leftover boxholder mail and enter it in line 53 of Form 5D: Sheet A.

- Enter today's date

- Enter the ZIP Code for the route

- Enter the route number/box section

- Mail Characteristics

    a. Enter the shape of the mail piece by placing an "X" in the appropriate box in one of the lines numbered1-4.

    b. Indicate whether the piece is machinable or non-machinable by placing an "X" in the appropriate box in one of the lines numbered 5-6.

- Change of Address Information (Form 3575)

    a. In Line 7 indicate whether the recipient of the mail piece has a COA order on file by entering "X" for yes or leaving it blank for no.

    b. If you marked an "X" in line 7, record the effective (begin) date of the COA order, from Form 3575 or 3982 (see Figure 4 above for an example of filling out the "COA Eff. Date" area).

        NOTE: It may be helpful to have the hold order forms (Form 3575) on hand at your case during the survey week.

    c. In line 9, indicate that the piece has a yellow "No Record Found" sticker and is being returned from CFS by entering "X" for yes or leaving it blank for no.

- New Address Data

        NOTE: If this mail piece is not associated with a COA order, skip to line 21.

    a. Indicate where the forwarded mail piece will be sent by placing an "X" in the appropriate box in one of the lines numbered 10-12.

    b. Indicate what type of sender mailed the piece by placing and "X" in the appropriate box in one of the lines numbered 13-15.

    c. Indicate the category that best describes the type of move (that is, the entity that filed the COA order) associated with this mail piece by placing an "X" in the appropriate box in one of the lines numbered 16-20.

- Other Reasons for Non-Delivery

    NOTE: Since UBBM mail is not endorsed, indicate the endorsement ("mark up") the piece *would* get if it were a First-Class mail piece. That is, if applicable, mark the reason the piece was directed to the waste mail bin. For instance, if the address is valid but the delivery has no occupants, mark "Vacant." If none apply, skip to line 34.

    a. Indicate the reason this piece is waste mail by placing an "X" in the appropriate box in one of the lines numbered 22-33.

    b. If you have placed an "X" indicating that the mail piece is "Not Deliverable as Addressed--Unable to Forward," please use line 31 to indicate whether this endorsement is because the COA order is expired (FOE).

    c. If the endorsement is not included, mark "Other". Indicate the endorsement in the "Comments" section at the right of the page.

- Address Quality

    a. If this mail piece has a bad address that makes it undeliverable, indicate why the address is bad. Mark all that apply. **Please be careful to distinguish address elements that are incomplete, incorrect, or illegible.**

    b. Indicate whether the barcode matches the address.

    c. If none of the lines 35 — 53 describes why the address is bad, place an "X" indicating "Other," and describe why the address is bad in the "Comments" section at the right of the page.

- Leftover boxholder mail. Enter the total number of leftover boxholder mail pieces for the day in line 55 of sheet A.

Form 6D: UAA Profile at the Route, PKR Pieces (green) Instructions

Provide piece characteristics for PKR mail on Form 6D (purple). Fill out a new form each day.

- Enter today's date
- Enter the ZIP Code for the route/box section
- Enter the route/box section number
- Indicate whether you are the regular carrier/clerk for this route.
- Mail Characteristics

a. Indicate the shape of the mail piece by placing an "X" in the appropriate box in one of the lines numbered 1-4.

b. Indicate whether the piece is machinable or non-machinable by placing an "X" in the appropriate box in the lines numbered5-6.

- Change of Address Information (Form 3575)

a. In line 7 indicate whether the recipient of the mail piece has a COA order on file by entering "X" for yes or leaving it blank for no.

b. If you place an "X" in line 7, record the effective (begin) date of the COA order, which is available on Forms 3575 or 3982 (see Figure 4 above for an example of filling out the "COA Eff. Date" area).

c. In line 9, indicate that the piece has a yellow "No Record Found" sticker and is being returned from CFS by entering "X" for yes or leaving it blank for no.

- New Address Data

> NOTE: If this mail piece being described is not associated with a COA order, skip to line 18.

a. Indicate what type of sender mailed the piece by placing and "X" in the appropriate box in one of the lines numbered 10-12.

b. Indicate the category that best describes the type of move (that is, the entity that filed the COA order) associated with this mail piece by placing an "X" in the appropriate box in one of the lines numbered 13-17.

- Address Quality

a. If this mail piece has a bad address that required use of personal knowledge in order to deliver it, indicate why the address is bad. Mark all that apply. **Please be careful to distinguish address elements that are incomplete, incorrect, or illegible.**

b. Indicate whether the barcode matches the address.

c. Indicate whether the piece is an accountables piece. Note, the mail pieces you get from the accountable mail clerk are UAA only if the pieces have bad addresses, the recipients have a COA order on file, or the pieces are refused by postal customers.   Do not record pieces as UAA simply because they are short on postage.

d. If none of the lines describes why the address is bad, place an "X" indicating "Other," and describe why the address is bad in the "Comments" section at the right of the page.

C. Nixie Volume Survey

Instructions for Form 7D (Pink) Nixie Operations at the Delivery Unit

Form 7D (pink) is used to record the volume and disposition of mail handled at the delivery unit's Nixie operation. It is also used to record the time spent handling this mail. The Nixie operation includes processing forwarded mail (other than CFS), processing return-to-sender mail, processing ACS Nixie mail, processing waste mail, and processing mail destined for the Mail Recovery Center (MRC).

Form 7D (pink) is a daily form – one Form 7D (pink) should be completed for each day during the four week survey period.

- Enter today's date.

- Enter the delivery unit's ZIP Code(s).

- Enter the name of the clerk completing the form. This information is used for contact purposes only, to help answer any follow-up questions regarding the form.

- The next steps involve separating and counting mail by disposition, class, and shape. It will also be necessary to keep track of the time spent marking up pieces, rating postage due mail, and sorting pieces for their final disposition.

- Separate and count the number of mail pieces that need to be forwarded (and are not sent to CFS). Make separate counts by mail class and shape for mail forwarded within the delivery unit, mail forwarded with no postage due, and mail forwarded with postage due. The "other" mail classes include International Mail, US Postal Service Mail, and Free Mail for the blind. Enter the counts in the appropriate boxes on the form.

- Separate and count the number of mail pieces that need to be returned to sender. Make separate counts by mail class and shape for return-to-sender mail with no postage due and return-to-sender mail with postage due. Enter the counts in the appropriate boxes on the form.

- Keep track of the time spent on forwarded and return-to-sender mail. Keep separate track of time spent on postage due mail and mail with no postage due. It is not necessary to keep time for forwarded mail separate from return-to-sender mail within either postage due or no postage due mail. Do not include the time needed to complete this survey. Enter the time spent on no postage due forwarded and return-to-sender mail in row 1 in the table at the bottom of the form. Enter the time spent on postage due forwarded and return-to-sender mail in row 2 in the table at the bottom of the form.

- Separate and count the number of mail pieces that need to be sent to CFS as ACS Nixie. Make separate counts by mail class and shape and enter the counts in the appropriate boxes on the form. Keep track of the time needed to mark up and sort ACS Nixie mail to the CFS. Do not include the time needed to complete this survey. Enter the time spent on ACS Nixie mail in row 3 in the table at the bottom of the form.

- Separate and count the number of mail pieces that need to be disposed or recycled as waste. Separate and count the number of mail pieces that need to be sent to the Mail Recovery Center. Make separate counts by mail class and shape and enter the counts in the appropriate boxes on the form. Keep track of the time needed to process mail that is treated as waste or sent to the Mail Recovery Center. Do not include the time needed to complete this survey. Enter the time spent on waste mail or mail sent to the Mail Recovery Center in row 4 in the table at the bottom of the form.

- Count the number of Form 3547s and Form 3579s and enter the counts in the appropriate boxes in the form.

The site coordinator should verify that this form is completed accurately each day.

For the first two days of the survey, please fax the completed forms to Christensen Associates at 608-231-3273, with attention to Sam Cutting.

At the end of each day, bundle this form with the other forms completed at the delivery unit and Priority Mail them to Christensen Associates. Use the mailing labels provided.

D. Postage Due/Accountables Unit Survey

Instructions for Form 8D: Postage Due Operations at the Delivery Unit (grey)

Form 8D (grey) is used to record the volume and disposition of postage due mail handled at the accountable cage at the delivery unit. It is also used to record the time spent handling this mail.

Form 8D (grey) is a daily form – one Form 8D (grey) should be completed for each day during the four-week survey period.

- Enter today's date.

- Enter the delivery unit's ZIP Code(s).

- Enter the name of the clerk completing the form. This information is used for contact purposes only, to help answer any follow-up questions regarding the form.

- Separate and count forwarded postage due mail pieces by mail class and shape. The "other" mail classes include International Mail, US Postal Service Mail, and Free Mail for the blind. Make separate counts for each of the six final dispositions listed below and enter the counts in the appropriate boxes on the form:

  1. Forwarded mail claimed and paid at the customer service window.
  2. Forwarded mail refused at the customer service window.
  3. Forwarded mail claimed and paid at a carrier delivery.
  4. Forwarded mail refused at a carrier delivery.
  5. Forwarded mail for which a carrier left a notice.
  6. Forwarded mail that has gone unclaimed and will be returned or otherwise disposed (forwarded mail only – return-to-sender unclaimed is counted below).

- Separate and count return-to-sender postage due mail pieces by mail class and shape. Make separate counts for each of the eight final dispositions listed below and enter the counts in the appropriate boxes on the form:

  1. Return-to-sender mail claimed and paid at the caller window.
  2. Return-to-sender mail refused at the caller window.
  3. Return-to-sender mail claimed and paid at the customer service window.
  4. Return-to-sender mail refused at the customer service window.
  5. Return-to-sender mail claimed and paid at a carrier delivery.
  6. Return-to-sender mail refused at a carrier delivery.

7. Return-to-sender mail for which a carrier left a notice.

8. Return-to-sender mail that has gone unclaimed and will be otherwise disposed (return-to-sender mail only - unclaimed forwarded mail is counted in the previous section).

- The next steps involve recording the time spent in handling all accountable pieces. First, an overall workload estimate is needed. Count the total number of all accountable pieces handled in this day – all COD, Registered, Postage Due, etc. This figure should include all accountable pieces, not just the forwarded and return-to-sender postage due counts made earlier. Record the number in row 1 of the table at the bottom of the form.

- Keep track of the time spent in preparing (sorting and other organizing) all the pieces counted and recorded in row 1. Record this time in row 2 of the table at the bottom of the form.

- Keep track of the time spent accepting and clearing with carriers and clerks all the pieces counted and recorded in row 1. Record this time in row 3 of the table at the bottom of the form.

- Count the number of Form 3546s (Refuse Postage Due) received today and enter the number in row 4 of the table at the bottom of the form.

- Keep track of the time spent processing any Form 3546s. Record this time in row 5 of the table at the bottom of the form.

- The delivery unit manager should verify that this form is completed accurately each day.

For the first two days of the survey, fax the completed forms to Christensen Associates at 608-231-3273, with attention to Sam Cutting.

At the end of each day, bundle this form with the other forms completed at the delivery unit and Priority Mail them to Christensen Associates. Use the mailing labels provided.

APPENDIX A: BLANK FORMS

Copy these forms if you run out during data collection. When appropriate, the carrier/clerk collecting data should continue lettering additional forms in sequence from the last sheet provided.   You may also want to make a set of form copies on which to take notes during the training session.

FORM 1D: DELIVERY UNIT GENERAL INFORMATION
U.S. Postal Service Undeliverable-as-Addressed Mail Study

INSTRUCTIONS FOR SITE COORDINATOR

Provide complete answers to the questions on this form at the beginning of the survey period. Fax the completed form to Christensen Associates at (608) 231-3273, with attention to Sam Cutting. Direct questions about this form to Sam Cutting at (608) 238-1602.

DELIVERY UNIT NAME, ZIP CODE:

SERVICE TERRITORY QUESTIONS

1. What 5-digit zone(s) does your delivery unit serve?

2. Does any other delivery unit also serve routes in the same 5-digit zone(s)?

    YES ☐   **NO** ☐

    If yes, please specify which zones and delivery units below:

3. What is the name of the CFS unit that serves your delivery unit (e.g., city name, plant name)? If your delivery unit is not served by a CFS unit, please indicate by entering "none".

    Name of CFS Unit:

4. How many routes does your delivery unit have? Fill in the table below.

    City _____   Highway Contract _____

    Rural _____   Other _____

    If you entered a number next to "Other," please specify the route types below:

5. How many active and possible P.O. boxes does your delivery unit have?

> Total Number of Active P.O. Boxes: _____
> Total Number of Possible P.O. Boxes: _____

> Are any of these P.O. boxes located in a facility separate from your main customer service lobby (e.g., in a Post Office Canteen)?

> **YES** ☐   **NO** ☐

> If yes, how many P.O. boxes are located in a separate facility?

> Number of off-site possible P.O. boxes: _____

6. How many businesses does your delivery unit serve that use the call window to pick up mail rather than a P.O. box?

> Number of Call Window Businesses: _____

7. Is your delivery unit part of the electronic Undeliverable Address Resolution System (eUARS)?

> **YES** ☐   **NO** ☐

POSTAGE DUE QUESTIONS

8. Does your delivery unit have an accountable mail unit that rates postage due mail?

> **YES** ☐   **NO** ☐

> If yes, does this accountable mail unit regularly receive and rate mail (excluding address correction Forms 3547 and 3579) that has been processed by the CFS unit that serves your delivery unit?

> **YES** ☐   **NO** ☐

NIXIE QUESTIONS

9. Does the nixie clerk or other appropriate personnel at your delivery unit route return-to-sender nixie mail (excluding ACS nixie mail) to your CFS unit for labeling before it re-enters the mail processing stream?

> **YES** ☐   **NO** ☐

FORM 2D: GENERAL INFORMATION FOR SELECTED ROUTES
US Postal Service Undeliverable-as-Addressed Mail Study

To be filled out once by the Carrier/Clerk of selected route or box section.
If a box section is selected, the information below should pertain to the P.O. boxes worked by the randomly-selected clerk. The box section "route" numbers (i.e. carrier route identification or CRID) should be based on the Address Management System (AMS) definition which defines a route as a section of boxes approximately four feet wide.

See Form 2D Instructions in the Instruction Packet for more information.

The delivery person should complete this form on first day of data collection. Send the completed form with other delivery unit forms by Express Mail to Christensen Associates. Direct questions about this form to Jess Reaser at (608) 238-1602 or du@LRCA.com.

1. Today's date: _____

2. Route/Box Section 5-digit ZIP Code: _____

3. Route number or P.O. box section numbers (i.e. CRID) _____

4. Number of active deliveries (or P.O. boxes): _____

5. Number of possible deliveries (or P.O. boxes): _____

8. If a COA order is filed, is it always sent to CFS, even if the move
   is to a new address on your route? *(circle one)*   **YES**   **NO**

9. If you circled "No" above, what percentage of COA orders are sent to CFS?   _____%

FORM 3D: HOLD MAIL
US Postal Service Undeliverable-as-Addressed Mail Study

To be filled out once by the Carrier/Clerk of selected route or box section.
See Form 3D Instructions in the Instruction Packet for more information.

Delivery person should complete form on last day of data collection. Send the completed form with other delivery unit forms by Priority Mail. Direct questions about this form to Jess Reaser at (608) 238-1602 or du@LRCA.com.

Today's Date: _____

Route/Box Section 5-digit ZIP Code: _____

Route Number/Box Section Number: _____

Hold Order	Start Date	Stop Date	First Class		Periodicals		Standard Mail		Package Services		Other	
			Letter/Flat	Parcel	Letter/Flat	Parcel	Letter/Flat	Parcel	Letter/Flat	Parcel	Letter/Flat	Parcel
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												

Comments:

FORM 4D: UAA PROFILE AT THE ROUTE, NON-UBBM PIECES (COLOR = SALMON)

Complete a separate column for each UAA piece. Include postage due and pieces brought back to the office from your route. Make pieces available for photocopying.
See Form 4D Instructions in the Instruction Packet for more information.

SKIP RATE = 4
(sample every 4th piece)

SHEET A

Place a sticker with the appropriate form number, sheet letter, and column number on the photocopy of the corresponding sample piece. See the instructions for an example.

Mail Piece:	1	2	3	4	5	6	7	8	9	10

Mail Characteristics
1 Letter
2 Flat
3 SPR/IPP/Chunk/Roll
4 Parcel
5 Machinable
6 Non-Machinable

COA Info
7 Mark 'X' if the recipient for this piece has a COA order (Form 3575) on file
8 *If COA order is on file, enter its Effective Date at right in the row corresponding to the data entry column for this piece* →
9 Mark 'X' if this a "No Record Found" piece being returned from CFS

Col:	COA Eff. Date
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

New Address Data
If this mail piece is not associated with a COA order, skip to line 21
The forwarding address for this mail piece is a:
10 Local (Delivery Unit) address
11 Non-local address
12 No forwarding address (Moved, left no address)
The mail piece was sent by a:
13 Household / Individual
14 Business or institution
15 Not known
The COA order associated with this mail piece is from a:
16 Family
17 Individual
18 Business or institution
19 Carrier/Clerk
20 Not known

Carrier Endorsement
21 *If this mail piece does not have a carrier endorsement, skip to line 33*
Indicate the reason this mail piece is endorsed:
22 Attempted Not Known
23 No Such Number / No Such Street
24 Insufficient Address
25 Refused
26 Deceased
27 No Mail Receptacle
28 Unclaimed
29 Vacant
30 Not Deliverable as Addressed--Unable to Forward
31 If you marked line 30, mark 'X' if the COA order has expired
32 Other *(Please explain in the 'Comments' section at the right of this page)*

Disposition
33 **This mail piece will be redirected to which of the following mail flows:**
(Choose the one that best explains where you will redirect the mail piece)
34 Include with mail sent to CFS
35 Mark 'X' if this is the first time this mail piece will be sent to CFS
36 If 35 is blank, how many times has this mail piece been sent to CFS?
37 *Please explain in the 'Comments' section at this page*
38 Another address on your route
39 Directly to another carrier for delivery to another route in your delivery unit
40 The throwback case with a carrier endorsement *(such as 'Insufficient Address')*
41 The throwback case for "Hand Forwarding"
42 The throwback case for delivery to another route in your delivery unit
43 Hold for a recently vacated address
44 Treated as waste
45 Other *(Please explain in the 'Comments' section at the right of this page)*

Address Quality
If this mail piece has a bad address, indicate the specific reason the address is bad? *(Select all that apply)*
Incomplete address
46 Missing recipient
47 Missing apartment number
48 Missing a directional prefix/suffix
49 Missing a rural route or a box number
50 Missing number (i.e. house or street number)
51 Missing a street name
52 Missing a city/state/ZIP Code
Incorrect address
53 Incorrect recipient
54 Apartment number is incorrect
55 Directional prefix/suffix is incorrect
56 Rural route or a box number is incorrect
57 Number is incorrect (i.e. house or street number)
58 Street name is incorrect
59 City/state/ZIP Code is incorrect
60 ZIP+4 is incorrect
Illegible Address
61 Illegible handwritten address
62 Illegible machine-printed address
63 Illegible delivery point barcode
64 **Address and delivery point barcode do not match**
65 **The mail piece is an "accountable" piece**
66 **Other** *(Please explain in the 'Comments' section at the right of this page)*

U.S. Postal Service Undeliverable-as-Addressed Mail Study

Route Number/Box Number: ____ ZIP Code: ____

Comments (please preface the comment with the column and line numbers so that we know which piece it applies to): ____

Date: ____

FORM 4D: UAA PROFILE AT THE ROUTE, NON-UBBM PIECES (COLOR = SALMON)

Complete a separate column for each UAA piece. Include postage due and pieces brought back to the office from your route. Make pieces available for photocopying.
See Form 4D Instructions in the Instruction Packet for more information.

SKIP RATE = 4
(sample every 4th piece)

SHEET B

Place a sticker with the appropriate form number, sheet letter, and column number on the photocopy of the corresponding sample piece. See the instructions for an example.

		Mail Piece:	1	2	3	4	5	6	7	8	9	10
Mail Characteristics	1	Letter										
	2	Flat										
	3	SPR/IPP/Chunk/Roll										
	4	Parcel										
	5	Machinable										
	6	Non-Machinable										
COA Info	7	Mark 'X' if the recipient for this piece has a COA order (Form 3575) on file										
	8	*If COA order is on file, enter its Effective Date at right in the row corresponding to the data entry column for this piece* →										
	9	Mark 'X' if this a "No Record Found" piece being returned from CFS										

Col:	COA Eff. Date
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

			1	2	3	4	5	6	7	8	9	10
New Address Data		*If this mail piece is not associated with a COA order, skip to line 21*										
		The forwarding address for this mail piece is a:										
	10	Local (Delivery Unit) address										
	11	Non-local address										
	12	No forwarding address (Moved, left no address)										
		The mail piece was sent by a:										
	13	Household / Individual										
	14	Business or institution										
	15	Not known										
		The COA order associated with this mail piece is from a:										
	16	Family										
	17	Individual										
	18	Business or institution										
	19	Carrier/Clerk										
	20	Not known										
Carrier Endorsement	21	*If this mail piece does not have a carrier endorsement, skip to line 33*										
		Indicate the reason this mail piece is endorsed:										
	22	Attempted Not Known										
	23	No Such Number / No Such Street										
	24	Insufficient Address										
	25	Refused										
	26	Deceased										
	27	No Mail Receptacle										
	28	Unclaimed										
	29	Vacant										
	30	Not Deliverable as Addressed--Unable to Forward										
	31	If you marked line 30, mark 'X' if the COA order has expired										
	32	Other *(Please explain in the 'Comments' section at the right of this page)*										
Disposition	33	**This mail piece will be redirected to which of the following mail flows:**										
		(Choose the one that best explains where you will redirect the mail piece)										
	34	Include with mail sent to CFS										
	35	Mark 'X' if this is the first time this mail piece will be sent to CFS										
	36	If 35 is blank, how many times has this mail piece been sent to CFS?										
	37	*Please explain in the 'Comments' section at the right of this page*										
	38	Another address on your route										
	39	Directly to another carrier for delivery to another route in your delivery unit										
	40	The throwback case with a carrier endorsement *(such as 'Insufficient Address')*										
	41	The throwback case for "Hand Forwarding"										
	42	The throwback case for delivery to another route in your delivery unit										
	43	Hold for a recently vacated address										
	44	Treated as waste										
	45	Other *(Please explain in the 'Comments' section at the right of this page)*										
Address Quality		**If this mail piece has a bad address, indicate the specific reason the address is bad?** *(Select all that apply)*										
		Incomplete address										
	46	Missing recipient										
	47	Missing apartment number										
	48	Missing a directional prefix/suffix										
	49	Missing a rural route or a box number										
	50	Missing number (i.e. house or street number)										
	51	Missing a street name										
	52	Missing a city/state/ZIP Code										
		Incorrect address										
	53	Incorrect recipient										
	54	Apartment number is incorrect										
	55	Directional prefix/suffix is incorrect										
	56	Rural route or a box number is incorrect										
	57	Number is incorrect (i.e. house or street number)										
	58	Street name is incorrect										
	59	City/state/ZIP Code is incorrect										
	60	ZIP+4 is incorrect										
		Illegible Address										
	61	Illegible handwritten address										
	62	Illegible machine-printed address										
	63	Illegible delivery point barcode										
	64	**Address and delivery point barcode do not match**										
	65	**The mail piece is an "accountable" piece**										
	66	**Other** *(Please explain in the 'Comments' section at the right of this page)*										

U.S. Postal Service Undeliverable-as-Addressed Mail Study

Route Number/Box Number:

ZIP Code:

Comments (please preface the comment with the column and line numbers so that we know which piece it applies to):

Date:

FORM 4D: UAA PROFILE AT THE ROUTE, NON-UBBM PIECES (COLOR = SALMON)

Complete a separate column for each UAA piece. Include postage due and pieces brought back to the office from your route. Make pieces available for photocopying.
See Form 4D Instructions in the Instruction Packet for more information.

SKIP RATE = 4
(sample every 4th piece)

SHEET _____

Place a sticker with the appropriate form number, sheet letter, and column number on the photocopy of the corresponding sample piece. See the instructions for an example.

U.S. Postal Service Undeliverable-as-Addressed Mail Study

		Mail Piece:	1	2	3	4	5	6	7	8	9	10
Mail Characteristics	1	Letter										
	2	Flat										
	3	SPR/IPP/Chunk/Roll										
	4	Parcel										
	5	Machinable										
	6	Non-Machinable										
COA Info	7	Mark 'X' if the recipient for this piece has a COA order (Form 3575) on file										
	8	*If COA order is on file, enter its Effective Date at right in the row corresponding to the data entry column for this piece* →										
	9	Mark 'X' if this a "No Record Found" piece being returned from CFS										
New Address Data		*If this mail piece is not associated with a COA order, skip to line 21*										
		The forwarding address for this mail piece is a:										
	10	Local (Delivery Unit) address										
	11	Non-local address										
	12	No forwarding address (Moved, left no address)										
		The mail piece was sent by a:										
	13	Household / Individual										
	14	Business or institution										
	15	Not known										
		The COA order associated with this mail piece is from a:										
	16	Family										
	17	Individual										
	18	Business or institution										
	19	Carrier/Clerk										
	20	Not known										
Carrier Endorsement	21	*If this mail piece does not have a carrier endorsement, skip to line 33*										
		Indicate the reason this mail piece is endorsed:										
	22	Attempted Not Known										
	23	No Such Number / No Such Street										
	24	Insufficient Address										
	25	Refused										
	26	Deceased										
	27	No Mail Receptacle										
	28	Unclaimed										
	29	Vacant										
	30	Not Deliverable as Addressed--Unable to Forward										
	31	If you marked line 30, mark 'X' if the COA order has expired										
	32	Other *(Please explain in the 'Comments' section at the right of this page)*										
Disposition	33	**This mail piece will be redirected to which of the following mail flows:**										
		(Choose the one that best explains where you will redirect the mail piece)										
	34	Include with mail sent to CFS										
	35	Mark 'X' if this is the first time this mail piece will be sent to CFS										
	36	If 35 is blank, how many times has this mail piece been sent to CFS?										
	37	*Please explain in the 'Comments' section at the right of this page*										
	38	Another address on your route										
	39	Directly to another carrier for delivery to another route in your delivery unit										
	40	The throwback case with a carrier endorsement *(such as 'Insufficient Address')*										
	41	The throwback case for "Hand Forwarding"										
	42	The throwback case for delivery to another route in your delivery unit										
	43	Hold for a recently vacated address										
	44	Treated as waste										
	45	Other *(Please explain in the 'Comments' section at the right of this page)*										
Address Quality		**If this mail piece has a bad address, indicate the specific reason the address is bad?** *(Select all that apply)*										
		Incomplete address										
	46	Missing recipient										
	47	Missing apartment number										
	48	Missing a directional prefix/suffix										
	49	Missing a rural route or a box number										
	50	Missing number (i.e. house or street number)										
	51	Missing a street name										
	52	Missing a city/state/ZIP Code										
		Incorrect address										
	53	Incorrect recipient										
	54	Apartment number is incorrect										
	55	Directional prefix/suffix is incorrect										
	56	Rural route or a box number is incorrect										
	57	Number is incorrect (i.e. house or street number)										
	58	Street name is incorrect										
	59	City/state/ZIP Code is incorrect										
	60	ZIP+4 is incorrect										
		Illegible Address										
	61	Illegible handwritten address										
	62	Illegible machine-printed address										
	63	Illegible delivery point barcode										
	64	**Address and delivery point barcode do not match**										
	65	**The mail piece is an "accountable" piece**										
	66	**Other** *(Please explain in the 'Comments' section at the right of this page)*										

Col:	COA Eff. Date
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

Route Number/Box Number:

ZIP Code:

Comments (please preface the comment with the column and line numbers so that we know which piece it applies to):

Date:

A-40

FORM 5D: UAA PROFILE AT THE ROUTE, UBBM PIECES (COLOR = PURPLE)

Complete a separate column for each piece. Include postage due and pieces brought back to the office from your route. Make pieces available for photocopying.
See Form 5D Instructions in the Instruction Packet for more information.

Skip Rate = 20
(sample every 20th piece)

Date:

ZIP Code:

Route Number/Box Section:

SHEET A

Place a sticker with the appropriate form number, sheet letter, and column number on the photocopy of the corresponding sample piece. See the instructions for an example.

U.S. Postal Service Undeliverable-as-Addressed Mail Study

	Mail Piece:	1	2	3	4	5	6	7	8	9	10
Mail Characteristics	1 Letter										
	2 Flat										
	3 SPR/IPP/Chunk/Roll										
	4 Parcel										
	5 Machinable										
	6 Non-Machinable										
COA Info	7 Mark 'X' if the recipient for this piece has a COA order (Form 3575) on file										
	8 *If COA order is on file, enter its Effective Date at right in the row corresponding to the data entry column for this piece* →										

Col:	COA Eff. Date
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

New Address Data

		1	2	3	4	5	6	7	8	9	10
9	*If this mail piece is not associated with a COA order, skip to line 21*										
	The forwarding address for this mail piece is a:										
10	Local (Delivery Unit) address										
11	Non-local address										
12	No forwarding address (Moved, left no address)										
	The mail piece was sent by a:										
13	Household / Individual										
14	Business or institution										
15	Not known										
	The COA order associated with this mail piece is from a:										
16	Family										
17	Individual										
18	Business or institution										
19	Carrier/Clerk										
20	Not known										

Carrier Endorsement

		1	2	3	4	5	6	7	8	9	10
21	**Indicate the reason this mail piece was directed to waste mail:**										
22	Mail piece is associated with a COA order										
23	Attempted, Not Known										
24	No Such Number / No Such Street										
25	Insufficient Address										
26	Refused										
27	Deceased										
28	No Mail Receptacle										
29	Unclaimed										
30	Vacant										
31	Not Deliverable as Addressed--Unable to Forward										
32	If you marked line 31, mark 'X' if the COA order is expired										
33	Other *(Please explain in the 'Comments' section at the right of this page)*										

Address Quality

		1	2	3	4	5	6	7	8	9	10
34	**If this mail piece has a bad address, indicate the specific reason the address is bad?** *(Select all that apply)*										
	Incomplete address										
35	Missing recipient										
36	Missing apartment number										
37	Missing a directional prefix/suffix										
38	Missing a rural route or a box number										
39	Missing number (i.e. house or street number)										
40	Missing a street name										
41	Missing a city/state/ZIP Code										
	Incorrect address										
42	Incorrect recipient										
43	Apartment number is incorrect										
44	Directional prefix/suffix is incorrect										
45	Rural route or a box number is incorrect										
46	Number is incorrect (i.e. house or street number)										
47	Street name is incorrect										
48	City/state/ZIP Code is incorrect										
49	ZIP+4 is incorrect										
	Illegible Address										
50	Illegible handwritten address										
51	Illegible machine-printed address										
52	Illegible delivery point barcode										
53	**Address and delivery point barcode do not match**										
54	**Other** *(Please explain in the 'Comments' section at the right of this page)*										
55	**How many pieces are banded together as leftover boxholder mail (do not sample this mail)?**										

Comments (please preface the comment with the column and line numbers so that we know which piece it applies to):

A-41

FORM 5D: UAA PROFILE AT THE ROUTE, UBBM PIECES (COLOR = PURPLE)

Complete a separate column for each piece. Include postage due and pieces brought back to the office from your route. Make pieces available for photocopying.
See Form 5D Instructions in the Instruction Packet for more information.

Skip Rate = 20
(sample every 20th piece)

SHEET B

Date:

ZIP Code:

Route Number/Box Section:

Place a sticker with the appropriate form number, sheet letter, and column number on the photocopy of the corresponding sample piece. See the instructions for an example.

U.S. Postal Service Undeliverable-as-Addressed Mail Study

		Mail Piece:	1	2	3	4	5	6	7	8	9	10	
Mail Characteristics	1	Letter											
	2	Flat											
	3	SPR/IPP/Chunk/Roll											
	4	Parcel											
	5	Machinable											
	6	Non-Machinable											
COA Info	7	Mark 'X' if the recipient for this piece has a COA order (Form 3575) on file											
	8	*If COA order is on file, enter its Effective Date at right in the row corresponding to the data entry column for this piece* →											

Col:	COA Eff. Date
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

New Address Data

			1	2	3	4	5	6	7	8	9	10
	9	*If this mail piece is not associated with a COA order, skip to line 21*										
		The forwarding address for this mail piece is a:										
	10	Local (Delivery Unit) address										
	11	Non-local address										
	12	No forwarding address (Moved, left no address)										
		The mail piece was sent by a:										
	13	Household / Individual										
	14	Business or institution										
	15	Not known										
		The COA order associated with this mail piece is from a:										
	16	Family										
	17	Individual										
	18	Business or institution										
	19	Carrier/Clerk										
	20	Not known										

Carrier Endorsement

			1	2	3	4	5	6	7	8	9	10
	21	**Indicate the reason this mail piece was directed to waste mail:**										
	22	Mail piece is associated with a COA order										
	23	Attempted, Not Known										
	24	No Such Number / No Such Street										
	25	Insufficient Address										
	26	Refused										
	27	Deceased										
	28	No Mail Receptacle										
	29	Unclaimed										
	30	Vacant										
	31	Not Deliverable as Addressed--Unable to Forward										
	32	If you marked line 31, mark 'X' if the COA order is expired										
	33	Other *(Please explain in the 'Comments' section at the right of this page)*										

Address Quality

			1	2	3	4	5	6	7	8	9	10
	34	**If this mail piece has a bad address, indicate the specific reason the address is bad?** *(Select all that apply)*										
		Incomplete address										
	35	Missing recipient										
	36	Missing apartment number										
	37	Missing a directional prefix/suffix										
	38	Missing a rural route or a box number										
	39	Missing number (i.e. house or street number)										
	40	Missing a street name										
	41	Missing a city/state/ZIP Code										
		Incorrect address										
	42	Incorrect recipient										
	43	Apartment number is incorrect										
	44	Directional prefix/suffix is incorrect										
	45	Rural route or a box number is incorrect										
	46	Number is incorrect (i.e. house or street number)										
	47	Street name is incorrect										
	48	City/state/ZIP Code is incorrect										
	49	ZIP+4 is incorrect										
		Illegible Address										
	50	Illegible handwritten address										
	51	Illegible machine-printed address										
	52	Illegible delivery point barcode										
	53	**Address and delivery point barcode do not match**										
	54	**Other** *(Please explain in the 'Comments' section at the right of this page)*										
	55	**How many pieces are banded together as leftover boxholder mail (do not sample this mail)?**	Fill in daily on Form 5 Sheet A									

Comments (please preface the comment with the column and line numbers so that we know which piece it applies to):

FORM 5D: UAA PROFILE AT THE ROUTE, UBBM PIECES (COLOR = PURPLE)

Complete a separate column for each piece. Include postage due and pieces brought back to the office from your route. Make pieces available for photocopying. See Form 5D Instructions in the Instruction Packet for more information.

Skip Rate = 20 (sample every 20th piece)

Date:

ZIP Code:

Route Number/Box Section:

SHEET _____

		Mail Piece:	1	2	3	4	5	6	7	8	9	10	
Mail Characteristics	1	Letter											*Place a sticker with the appropriate form number, sheet letter, and column number on the photocopy of the corresponding sample piece. See the instructions for an example.*
	2	Flat											
	3	SPR/IPP/Chunk/Roll											
	4	Parcel											
	5	Machinable											
	6	Non-Machinable											
COA Info	7	Mark 'X' if the recipient for this piece has a COA order (Form 3575) on file											Col: / COA Eff. Date
	8	*If COA order is on file, enter its Effective Date at right in the row corresponding to the data entry column for this piece* →											1
New Address Data	9	*If this mail piece is not associated with a COA order, skip to line 21*											2
		The forwarding address for this mail piece is a:											3
	10	Local (Delivery Unit) address											4
	11	Non-local address											5
	12	No forwarding address (Moved, left no address)											6
		The mail piece was sent by a:											7
	13	Household / Individual											8
	14	Business or institution											9
	15	Not known											10
		The COA order associated with this mail piece is from a:											
	16	Family											
	17	Individual											
	18	Business or institution											
	19	Carrier/Clerk											
	20	Not known											
Carrier Endorsement	21	**Indicate the reason this mail piece was directed to waste mail:**											
	22	Mail piece is associated with a COA order											
	23	Attempted, Not Known											
	24	No Such Number / No Such Street											
	25	Insufficient Address											
	26	Refused											
	27	Deceased											
	28	No Mail Receptacle											
	29	Unclaimed											
	30	Vacant											
	31	Not Deliverable as Addressed--Unable to Forward											
	32	If you marked line 31, mark 'X' if the COA order is expired											
	33	Other *(Please explain in the 'Comments' section at the right of this page)*											
Address Quality	34	**If this mail piece has a bad address, indicate the specific reason the address is bad?** *(Select all that apply)*											
		Incomplete address											
	35	Missing recipient											
	36	Missing apartment number											
	37	Missing a directional prefix/suffix											
	38	Missing a rural route or a box number											
	39	Missing number (i.e. house or street number)											
	40	Missing a street name											
	41	Missing a city/state/ZIP Code											
		Incorrect address											
	42	Incorrect recipient											
	43	Apartment number is incorrect											
	44	Directional prefix/suffix is incorrect											
	45	Rural route or a box number is incorrect											
	46	Number is incorrect (i.e. house or street number)											
	47	Street name is incorrect											
	48	City/state/ZIP Code is incorrect											
	49	ZIP+4 is incorrect											
		Illegible Address											
	50	Illegible handwritten address											
	51	Illegible machine-printed address											
	52	Illegible delivery point barcode											
	53	**Address and delivery point barcode do not match**											
	54	Other *(Please explain in the 'Comments' section at the right of this page)*											
	55	**How many pieces are banded together as leftover boxholder mail (do not sample this mail)?**											

Comments (please preface the comment with the column and line numbers so that we know which piece it applies to):

A-43

FORM 6D: UAA PROFILE AT THE ROUTE, PERSONAL KNOWLEDGE REQUIRED MAIL PIECES (COLOR = GREEN)													Skip Rate = 1 (sample each piece)
Complete a separate column for each UAA piece. Include postage due and pieces brought back to the office from your route. Make pieces available for photocopying.													
See Form 6D Instructions in the Instruction Packet for more information.													

Date:

ZIP Code:

Route Number/Box Section:

SHEET A

Are you the regular carrier/clerk for this route/box section? (circle one)   YES   NO

Place a sticker with the appropriate form number, sheet letter, and column number on the photocopy of the corresponding sample piece. See the instructions for an example.

		Mail Piece:	1	2	3	4	5	6	7	8	9	10	
Mail Characteristics	1	Letter											
	2	Flat											
	3	SPR/IPP/Chunk/Roll											
	4	Parcel											
	5	Machinable											
	6	Non-Machinable											
COA Info	7	Mark "X" if the recipient for this piece has a COA order (Form 3575) on file											Col: COA Eff. Date
	8	*If COA order is on file, enter its Effective Date at right in the row corresponding to the data entry column for this piece* →											1
	9	Mark "X" if this a "No Record Found" piece being returned from CFS											2
New Address Data		*If this mail piece is not associated with a COA order, skip to line 18*											3
		The mail piece was sent by a:											4
	10	Household / Individual											5
	11	Business or institution											6
	12	Not known											7
		The COA order associated with this mail piece is from a:											8
	13	Family											9
	14	Individual											10
	15	Business or institution											
	16	Carrier/Clerk											
	17	Not known											
Disposition	18	**This mail piece will be redirected to which of the following mail flows:**											
		(Choose the one that best explains where you will redirect the mail piece)											
	19	Another address on your route											
	20	Directly to another carrier for delivery to another route in your delivery unit											
	21	Other *(Please explain in the 'Comments' section at the right of this page)*											
Address Quality	22	**If this mail piece has a bad address, indicate the specific reason the address is bad?** *(Select all that apply)*											
		Incomplete address											
	23	Missing recipient											
	24	Missing apartment number											
	25	Missing a directional prefix/suffix											
	26	Missing a rural route or a box number											
	27	Missing number (i.e. house or street number)											
	28	Missing a street name											
	29	Missing a city/state/ZIP Code											
		Incorrect address											
	30	Incorrect recipient											
	31	Apartment number is incorrect											
	32	Directional prefix/suffix is incorrect											
	33	Rural route or a box number is incorrect											
	34	Number is incorrect (i.e. house or street number)											
	35	Street name is incorrect											
	36	City/state/ZIP Code is incorrect											
	37	ZIP+4 is incorrect											
		Illegible Address											
	38	Illegible handwritten address											
	39	Illegible machine-printed address											
	40	Illegible delivery point barcode											
	41	**Address and delivery point barcode do not match**											
	42	**The mail piece is an "accountable" piece**											
	43	**Other** *(Please explain in the 'Comments' section at the right of this page)*											

U.S. Postal Service Undeliverable-as-Addressed Mail Study

Comments (please preface the comment with the column and line numbers so that we know which piece it applies)

FORM 6D: UAA PROFILE AT THE ROUTE, PERSONAL KNOWLEDGE REQUIRED MAIL PIECES (COLOR = GREEN)	Skip Rate = 1 (sample each piece)

Complete a separate column for each UAA piece. Include postage due and pieces brought back to the office from your route. Make pieces available for photocopying.
See Form 6D Instructions in the Instruction Packet for more information.

Date:

ZIP Code:

Route Number/Box Section:

SHEET B

Are you the regular carrier/clerk for this route/box section? (circle one)   YES   NO

Place a sticker with the appropriate form number, sheet letter, and column number on the photocopy of the corresponding sample piece. See the instructions for an example.

		Mail Piece:	1	2	3	4	5	6	7	8	9	10		
Mail Characteristics	1	Letter												
	2	Flat												
	3	SPR/IPP/Chunk/Roll												
	4	Parcel												
	5	Machinable												
	6	Non-Machinable												
COA Info	7	Mark "X" if the recipient for this piece has a COA order (Form 3575) on file											Col:	COA Eff. Date
	8	*If COA order is on file, enter its Effective Date at right in the row corresponding to the data entry column for this piece* →											1	
	9	Mark "X" if this a "No Record Found" piece being returned from CFS											2	
New Address Data		*If this mail piece is not associated with a COA order, skip to line 18*											3	
		The mail piece was sent by a:											4	
	10	Household / Individual											5	
	11	Business or institution											6	
	12	Not known											7	
		The COA order associated with this mail piece is from a:											8	
	13	Family											9	
	14	Individual											10	
	15	Business or institution												
	16	Carrier/Clerk												
	17	Not known												
Disposition	18	**This mail piece will be redirected to which of the following mail flows:**												
		(Choose the one that best explains where you will redirect the mail piece)												
	19	Another address on your route												
	20	Directly to another carrier for delivery to another route in your delivery unit												
	21	Other *(Please explain in the 'Comments' section at the right of this page)*												
Address Quality	22	**If this mail piece has a bad address, indicate the specific reason the address is bad?** *(Select all that apply)*												
		Incomplete address												
	23	Missing recipient												
	24	Missing apartment number												
	25	Missing a directional prefix/suffix												
	26	Missing a rural route or a box number												
	27	Missing number (i.e. house or street number)												
	28	Missing a street name												
	29	Missing a city/state/ZIP Code												
		Incorrect address												
	30	Incorrect recipient												
	31	Apartment number is incorrect												
	32	Directional prefix/suffix is incorrect												
	33	Rural route or a box number is incorrect												
	34	Number is incorrect (i.e. house or street number)												
	35	Street name is incorrect												
	36	City/state/ZIP Code is incorrect												
	37	ZIP+4 is incorrect												
		Illegible Address												
	38	Illegible handwritten address												
	39	Illegible machine-printed address												
	40	Illegible delivery point barcode												
	41	**Address and delivery point barcode do not match**												
	42	**The mail piece is an "accountable" piece**												
	43	**Other** *(Please explain in the 'Comments' section at the right of this page)*												

U.S. Postal Service Undeliverable-as-Addressed Mail Study

Comments (please preface the comment with the column and line numbers so that we know which piece it applies

FORM 6D: UAA PROFILE AT THE ROUTE, PERSONAL KNOWLEDGE REQUIRED MAIL PIECES (COLOR = GREEN)

Complete a separate column for each UAA piece. Include postage due and pieces brought back to the office from your route. Make pieces available for photocopying. See Form 6D Instructions in the Instruction Packet for more information.

Skip Rate = 1 (sample each piece)

Date: _____

ZIP Code: _____

Route Number/Box Section: _____

SHEET _____

Are you the regular carrier/clerk for this route/box section? (circle one)   YES   NO

Place a sticker with the appropriate form number, sheet letter, and column number on the photocopy of the corresponding sample piece. See the instructions for an example.

		Mail Piece:	1	2	3	4	5	6	7	8	9	10		
Mail Characteristics	1	Letter												
	2	Flat												
	3	SPR/IPP/Chunk/Roll												
	4	Parcel												
	5	Machinable												
	6	Non-Machinable												
COA Info	7	Mark "X" if the recipient for this piece has a COA order (Form 3575) on file											**Col:**	**COA Eff. Date**
	8	*If COA order is on file, enter its Effective Date at right in the row corresponding to the data entry column for this piece* →											1	
	9	Mark "X" if this a "No Record Found" piece being returned from CFS											2	
New Address Data		*If this mail piece is not associated with a COA order, skip to line 18*											3	
		The mail piece was sent by a:											4	
	10	Household / Individual											5	
	11	Business or institution											6	
	12	Not known											7	
		The COA order associated with this mail piece is from a:											8	
	13	Family											9	
	14	Individual											10	
	15	Business or institution												
	16	Carrier/Clerk												
	17	Not known												
Disposition	18	**This mail piece will be redirected to which of the following mail flows:**												
		(Choose the one that best explains where you will redirect the mail piece)												
	19	Another address on your route												
	20	Directly to another carrier for delivery to another route in your delivery unit												
	21	Other *(Please explain in the 'Comments' section at the right of this page)*												
Address Quality	22	**If this mail piece has a bad address, indicate the specific reason the address is bad?** *(Select all that apply)*												
		Incomplete address												
	23	Missing recipient												
	24	Missing apartment number												
	25	Missing a directional prefix/suffix												
	26	Missing a rural route or a box number												
	27	Missing number (i.e. house or street number)												
	28	Missing a street name												
	29	Missing a city/state/ZIP Code												
		Incorrect address												
	30	Incorrect recipient												
	31	Apartment number is incorrect												
	32	Directional prefix/suffix is incorrect												
	33	Rural route or a box number is incorrect												
	34	Number is incorrect (i.e. house or street number)												
	35	Street name is incorrect												
	36	City/state/ZIP Code is incorrect												
	37	ZIP+4 is incorrect												
		Illegible Address												
	38	Illegible handwritten address												
	39	Illegible machine-printed address												
	40	Illegible delivery point barcode												
	41	**Address and delivery point barcode do not match**												
	42	**The mail piece is an "accountable" piece**												
	43	**Other** *(Please explain in the 'Comments' section at the right of this page)*												

U.S. Postal Service Undeliverable-as-Addressed Mail Study

Comments (please preface the comment with the column and line numbers so that we know which piece it applies

FORM 7D: NIXIE OPERATIONS AT THE DELIVERY UNIT
U.S. Postal Service Undeliverable-as-Addressed Mail Study

INSTRUCTIONS FOR SITE COORDINATOR

1. Fill out one of these forms each day during the four-week survey period.

2. Each day, instruct the Nixie clerk(s) to maintain separate volume counts by class and shape of the pieces being processed in the Nixie operation. At the end of each day, ask the Nixie clerk(s) to fill in the first table below. Make sure to provide separate counts for postage due for both forwarded and return-to-sender mail. Also provide counts for the number of Form 3547s and 3579s (address correction notices) generated for the day.

3. Each day, instruct the Nixie clerk(s) to record the amount of time spent processing mail (mark up, sort, verify, etc.). At the end of each day, ask the Nixie clerk(s) to fill in the total time (in hours and minutes) for each of the four activities listed in the table at the bottom.

4. At the end of each day, verify that the form is complete. Bundle the form with the other survey forms for the day and send them to Christensen Associates using the mailing labels provided. Direct any questions about this form to Sam Cutting at (608) 238-1602 or du@LRCA.com.

Date: _____ **Form filled out by (for contact purposes only):** _____

ZIP Code: _____

	Nixie Volumes									
	First Class		Periodicals		Standard Mail		Package Services		Other	
Processing Mail That is:	Letter/Flat	Parcel	Letter/Flat	Parcel	Letter/Flat	Parcel	Letter/Flat	Parcel	Letter/Flat	Parcel
Forwarded Mail (Non-CFS)										
Forwarded Within Delivery Unit										
All Other Forwards - No Postage Due										
All Other Forwards - Postage Due										
Return-to-Sender (RTS) Mail										
Return to Sender - No Postage Due										
Return to Sender - Postage Due										
Mail Sent to CFS as ACS Nixie										
Mail Treated as Waste (Disposed or Recycled)										
Mail Sent to Mail Recovery Center (MRC)										
No. of Form 3547s sent by Delivery Unit:				**No. of Form 3579s sent by Delivery Unit:**						

For the Volumes Above, How Much Time Today Did You Spend on:	Hours & Minutes
1. Marking Up Forwarded and RTS Mail (No Postage Due)?	
2. Marking Up and Rating Forwarded and RTS Postage Due Mail?	
3. Marking Up & Sorting ACS Nixie Mail to Be Sent to CFS?	
4. Sorting and Verifying Waste Mail and Mail Sent to the MRC?	

FORM 8D: POSTAGE DUE OPERATIONS AT THE DELIVERY UNIT
U.S. Postal Service Undeliverable-as-Addressed Mail Study

INSTRUCTIONS FOR SITE COORDINATOR

1. Fill out one of these forms each day during the four-week survey period.

2. Each day, instruct the accountable mail clerk(s) to maintain separate volume counts by class and shape of postage due pieces. Maintain separate counts for the categories listed in the table below. At the end of each day, ask the accountable mail clerk(s) to fill in the first table below.

3. Each day, instruct these clerk(s) to keep track of the amount of time spent processing all accountable mail (COD, Registered, Postage Due, etc.). At the end of each day, ask the clerk(s) to fill in the total pieces or time (in hours and minutes) for the five questions listed in the table at the bottom.

4. At the end of each day, verify that the form is complete. Bundle the form with the other survey forms for the day and send them to Christensen Associates using the mailing labels provided. Direct any questions about this form to Sam Cutting at (608) 238-1602 or du@LRCA.com.

Date: _____   **Form filled out by (for contact purposes only):** _____

ZIP Code: _____

Total Volume of Postage Due (PD) Mail	Postage Due Volumes									
	First Class		Periodicals		Standard Mail		Package Services		Other	
	Letter/Flat	Parcel	Letter/Flat	Parcel	Letter/Flat	Parcel	Letter/Flat	Parcel	Letter/Flat	Parcel
Forwarded Postage Due Mail										
Window Service - Paid										
Window Service - Refused										
Carrier Attempted Delivery - Paid										
Carrier Attempted Delivery - Refused										
Carrier Attempted Delivery - Left Notice										
Unclaimed										
Return to Sender Postage Due Mail										
Caller Window - Paid										
Caller Window - Refused										
Window Service - Paid										
Window Service - Refused										
Carrier Attempted Delivery - Paid										
Carrier Attempted Delivery - Refused										
Carrier Attempted Delivery - Left Notice										
Unclaimed										

Accountable Mail Volumes and Activities	
1. How many accountable mail pieces (COD, Registered, PD, etc.) did you prepare and distribute today?	Pieces
2. How much time did you spend preparing these mail pieces?	Hours & Minutes
3. How much time did you spend accepting and clearing this mail with carriers and box clerks?	Hours & Minutes
4. How may Form 3546s (Refuse Postage Due) did you prepare today?	Forms
5. How much time did you spend preparing these Form 3546s?	Hours & Minutes

8.2 CFS Unit Surveys Instructions and Forms

2004 USPS Undeliverable-as-Addressed Mail Study
CFS Unit Instruction Packet

August 2 — August 28, 2004

Christensen Associates

Page Index

**COMPUTERIZED FORWARDING SYSTEM (CFS) UAA MAIL STUDY
INSTRUCTION PACKET**

I. Purpose

The United States Postal Service (USPS) is studying Address Quality (AQ) to determine the reasons that mail pieces become Undeliverable-as-Addressed (UAA) or depend upon Personal Knowledge Required (PKR) before they can be delivered. This research effort will provide comprehensive information on the volume, characteristics, and costs of UAA and PKR mail, and on addressing deficiencies by rate category and applicable mail processing categories.

The purpose of this specific part of the study is to collect data and operational details at Computerized Forwarding System (CFS) units. Data will be collected using six separate survey forms.

II. Key Dates

Survey Training	July 28 - July 29, 2004
Data Collection Begins	August 2, 2004
Data Collection Ends	August 28, 2004

III. Responsibilities

Product Redesign, USPS Headquarters will use the information gathered in this study to develop cost models and pricing proposals for use in future rate filings. A team effort is required to collect accurate and reliable data, which are critical for developing effective rates. This section describes the responsibilities of Christensen Associates, the site coordinators, and the CFS unit personnel for successfully completing this survey.

a. Christensen Associates

Christensen Associates has been hired to design and implement this survey. Specifically, Christensen Associates is responsible for:

- Selecting and notifying CFS survey sites.

- Providing all survey materials to the survey sites including forms, instructions, and other information.

- Conducting training sessions and responding to questions from the survey sites.

- Entering the data received and compiling survey results.

b. Site Coordinators

The site coordinator is responsible for the integrity of the survey's data collection activities. Typically, the site coordinator is a CFS manager or

supervisor. Survey materials, including forms, instructions, and other information, will be sent to the site coordinator. Specifically, each site coordinator must:

- Notify Christensen Associates if survey materials are not received or if additional materials are needed.

- Participate in a conference call training session.

- Ensure that all CFS personnel involved in data collection are adequately trained and understand the need for data integrity and reliability.

- Coordinate data collection procedures across multiple tours.

- Contact Christensen Associates concerning any problems or questions about the survey.

- Review the completed survey forms to verify accuracy, completeness, and agreement with all survey instructions.

- Ensure that the survey materials are submitted to Christensen Associates on a timely basis.

c. CFS Personnel

CFS personnel are responsible for collecting the survey data. The detailed information required from this survey necessitates the use of Postal Service personnel who are familiar with current CFS mail processing procedures and have access to the mail and various address change notification forms. Specifically, CFS personnel must:

- Be familiar with the survey procedures, asking for clarification as necessary.

- Make every feasible effort to provide accurate data pertaining to the specific, operational information being measured.

- Provide comprehensive feedback to the site coordinator when data collection problems arise.

IV. Training

Three conference call training sessions will be held on Wednesday, July 28, and Thursday, July 29, 2004. Your scheduled training session is listed on the front cover of your survey packet. Site coordinators and/or other staff members from each survey site should participate. Please call the telephone number listed and enter the passcode to participate in the training session. If no one from your site is able to participate in your assigned training session, please contact Christensen Associates at (608) 238-1602 to join one of the other sessions. Since each conference call is limited to 16 incoming telephone lines, it is

important that you call in at your scheduled time unless you have made other arrangements with Christensen Associates.

If you have questions after the training sessions or encounter problems during the survey period, please contact Sam Cutting at Christensen Associates at (608) 238-1602 or by email at cfs@LRCA.com.

V. Submitting Survey Forms and FCS Reports

a. CFS Unit General Information Form

Form 1C should be filled out once at the beginning of the survey period. Generally, the questions are best answered by a CFS manager or supervisor. Once the form is complete, it should be faxed to Christensen Associates along with the first week's survey forms as specified in the next section.

b. Other Survey Forms

There are five other survey forms to be completed daily and returned weekly. Because the survey begins on a Monday, the first week's survey forms will not include data for Saturday or Sunday.

<u>In order to identify and correct any data collection problems, at the end of the second day of the first week (Tuesday) in the survey period, copies of all five partially-completed survey forms should be faxed to Christensen Associates</u>. Christensen Associates will review the forms and contact site coordinators as necessary to address data quality issues. Subsequently, completed survey forms should be faxed to Christensen Associates each Friday until the end of the survey period.

c. FCS Data Reports

In addition to the survey forms, at the end of each week during the survey period, three sets of reports pertaining to your CFS unit should be generated from the Forwarding Control System (FCS). Those reports are:

- PS Form 3925, *Address Information Operations Analysis*

  - ➤ To be generated once a week (2 pages); containing data for each day of the week; report to be mailed to Christensen Associates at the end of each week.

- CFS Daily Report

> ➢ To be generated once a day (2 pages); reports for all 7 days to be mailed to Christensen Associates at the end each week.

- Work Analysis Report

  > ➢ Generated once a day; containing data by each machine type (NMT, MT, FFT) and in total (5 pages); reports for all 7 days to be mailed to Christensen Associates at the end each week.

Because there are so many pages, faxing these reports to Christensen Associates each week is unfeasible. Instead, at the end of each week in the survey period, these reports should be mailed to Christensen Associates by Priority Mail at the address listed in the next section. Preprinted mailing labels have been provided for your convenience.

d. Contact Information

Survey Forms
<u>At the end of each week in the survey period (i.e., Friday), all survey forms should be faxed to Christensen Associates at (608) 231-3273</u>. If necessary, the forms can be mailed to Christensen Associates via Express Mail using the address listed in the next section.

FCS Data Reports
At the end of each week in the survey period (i.e., Friday), the FCS reports should be mailed to Christensen Associates by Priority Mail. Reports should be mailed to:

CHRISTENSEN ASSOCIATES
ATTN: SAM CUTTING
4610 UNIVERSITY AVENUE, SUITE 700
MADISON, WI 53705-2164

Preprinted mailing labels have been provided for your convenience.

VI. Data Collection Procedures

a. CFS Unit General Information (Form 1C – White)

The CFS Unit General Information Form contains questions pertaining to a CFS unit's operating procedures. It should be completed by the CFS manager or other appropriate personnel who has a detailed knowledge of

working practices within the unit. The form is divided into seven sections as detailed below.

Return-to-Sender Non-ACS Nixie Mail: Nixie clerks at delivery units routinely mark up mail that is undeliverable and must be returned to the original sender. In some operational settings, after marking up the pieces, nixie clerks at delivery units will send this mail to the local CFS unit so that a uniform yellow label can be applied along with the reason for return-to-sender service (the yellow label facilitates processing on automation equipment). This mail is then directed to the local mail processing facility where it can re-enter the mail processing stream.

> Note: This mail is <u>not</u> Address Correction Service (ACS) nixie mail (also called second generation ACS mail). It is understood that all CFS units receive ACS nixie mail from delivery units. The questions in this section of the form pertain to <u>non-ACS nixie mail</u> that may flow from delivery units to CFS units.

It may be the case that no delivery unit or only some delivery units in your service territory send non-ACS nixie mail to your CFS unit. If your CFS unit receives some of this mail, be sure to list separately those delivery units (including ZIP Codes) that do <u>not</u> send you non-ACS return-to-sender nixie mail.

Postage Due Processing: Clerks at some CFS units will routinely rate postage due mail that has been processed by the CFS. Postage due fees may apply to forwarded mail or mail being returned to sender. Examples of this type of mail are Package Services being forwarded to a non-local address, Standard Mail with the "Return Service Requested" ancillary endorsement, or Periodicals with the "Address Service Requested" ancillary endorsement and a COA order older than 60 days. The questions in this section of the form do <u>not</u> pertain to rating envelopes for Forms 3547 or 3579.

Keying and Labeling Operations: CFS units use flats forwarding terminals (FFTs) and nonmechanized terminals (NMTs) to varying degrees. For this survey effort, it will be important to identify the machine that keys and labels the majority of the flats and parcels flowing through your CFS unit.

Waste Mail Operations: A portion of waste mail generated by a CFS unit is mail that is sent to the Mail Recovery Center (MRC). This mail is identified first by clerks who are keying on MTs, FFTs, and NMTs. At some CFS sites, there is sufficient volume of MRC mail to require an additional processing step. For these sites, clerks sort through and verify all MRC mail. The question in this section of the form pertains to MRC processing at your CFS unit.

Quality Control: CFS supervisors and other qualified personnel in a CFS unit sometimes check the "No Record" collection bin on MTs and FFTs to identify incorrect extract codes due to clerk keying errors. This activity, referred to as "Quality Control" or QC, typically occurs for less experienced clerks. The questions in this section of the form pertain to quantifying the number of clerks checked for QC and the amount of mail that is checked on a typical day at your CFS unit.

Form 3579 & 3547 Envelopes: When processing address correction notice Forms 3579 and 3547, CFS units will sometimes place multiple forms within one envelope to be sent to one specific customer (e.g., mailer, publisher). This procedure is referred to as "batching." The questions in this section of the form pertain to the class of mail used for the envelopes containing these forms.

Local Supplies and Equipment Cost: Local purchases by CFS units (supplies and equipment) are part of the cost of processing UAA mail. This part of the form asks you to provide the FY 2003 cost estimates by category for local purchases. It is important that you include only those costs associated with local purchases. Do not include items purchased out of the Central Supply or Procurement for your CFS unit. Also, do not include items purchased by the national office for your CFS unit.

b. CFS No Record and Rekey Volumes Survey (Form 2C – Yellow)

Volume data from CFS national reports must be adjusted to exclude mail pieces that are keyed more than once during the label generation process. The purpose of this survey form is to estimate the number of these mail pieces on mechanized terminals (MTs) and flats forwarding terminals (FFTs). The survey form measures two instances of rekey mail pieces: clerk-intercepted mail pieces and clerk-error mail pieces found in the "No Record" collection bin.

A clerk-intercepted rekey mail piece occurs when a clerk miskeys an extraction code but is able to "intercept" the mail piece after it leaves the keying position. In some cases, the clerk will intercept the mail piece prior to labeling. The correct extraction code is then entered. In other cases, the clerk does not realize the mistake until after a yellow label is applied. In these instances, the clerk finds the mail piece in one of the collection bins, removes the original yellow label, and then enters the correct extraction code.

The other instance of a rekey mail piece occurs when a clerk miskeys an extraction code but does not realize that a mistake occurred. The mail piece then flows to the "No Record" collection bin. Pieces of this sort are commingled in this collection bin with other pieces that were keyed correctly but do not have valid forwarding orders on file. The rekeys are identified by a supervisor or clerk who reviews the no-record mail by comparing the extraction code to the address.

This survey is to be conducted for four consecutive weeks. Each day, select one clerk at random who is to key mail pieces on an MT or FFT. It is important that you do not select the same clerk from the same tour each day. It is also important to vary the machine type being worked.

If the majority of flats and parcels at your CFS unit are processed on NMTs instead of FFTs, then perform the survey on a randomly-selected NMT but record all data under the FFT section of Form 2C. Include a note in the Comments section of Form 2C indicating that the survey was performed on an NMT rather than an FFT.

Clear out all mail from the selected machine (MT or FFT) and have the clerk process mail as usual for one hour. Instruct the clerk to count clerk-intercepted rekey mail pieces as defined above. The count of rekeys should be done by making marks on a tally sheet. At the end of the hour, collect the tally sheet, count tallies, enter the total in the **Clerk-Intercepted Rekey Volume** column of Form 2C, and then discard the tally sheet.

At the end of the hour, also inspect all the mail in the "No Record" collection bin of the machine. Count all the pieces that have an incorrect extraction code due to a clerk keying error. Record this total in the **Clerk-Error Volume** column of Form 2C. Count and record the total for the remaining mail pieces left in the bin in the **Return To Del. Unit Volume** column.

Finally, determine the total keyings for the clerk for the hour he/she worked on the machine. This value can be generated from the FCS Work Analysis report by machine type and clerk ID. Record this value in the **Total Keyings** column.

At the end of each week, fax the completed form to Christensen Associates at (608) 231-3273, with attention to Sam Cutting. If you have comments, please enter them in the **Comments** section of Form 2C.

The data collected on this survey form will be used to estimate the national average rekey error rate. None of the data will be used to evaluate individual clerks or specific CFS units.

c. CFS 3547 Volumes By Disposition Survey (Form 3C – Blue)

Although the CFS 3925 Report records the total volume of Form 3547 mail processed by a CFS unit in a day, it does not provide separate counts for the different dispositions of this mail. Form 3547 mail has three dispositions:

- Photo and Forward – Mail piece is photocopied and then forwarded, with address correction photocopy returned to mailer.

- Photo and Discard – Mail piece is photocopied and discarded, with address correction photocopy returned to mailer.

- On-Piece Correction – Mail piece is returned to sender with new address information or reason for non-delivery attached to the piece.

Mail pieces for the third disposition, on-piece correction, are sorted to the Return-To-Sender collection bin on MTs and FFTs. CFS software prints a yellow label for these pieces but does <u>NOT</u> indicate that the label represents Form 3547 mail. Because there are other types of pieces within the Return-To-Sender collection bin, the on-piece correction mail pieces can only be identified by the "Address Service Requested" ancillary endorsement.

> Note: Examples of mail pieces found in the Return-To-Sender collection bin with this endorsement include pieces in which the forwarding order has expired, pieces in which the addressee has moved and left no forwarding address, and nixie pieces with bad addresses. Count these types of pieces only if the "Address Service Requested" ancillary endorsement is present.

This survey is to be conducted for four consecutive weeks. There are two functions for this survey: MT processing and FFT processing. For the MT function select one MT at random each day. It is important that you vary the tour and hour within the tour each day when making the selection. Clear out all the stackers on the MT and instruct a clerk to begin to process mail as usual for one hour. At the end of the hour, have the clerk count the number of Form 3547 mail pieces that are (1) Photo and Forward, and (2) Photo and Discard (Form 3547D). These pieces should be found in separate stackers. At the end of the hour, also instruct a clerk to search through the Return-To-Sender stacker and count all mail pieces that have an "Address Service Requested" endorsement. All counts should be made by making marks on a tally sheet. After all counts are complete, collect the tally sheet, record the totals in the appropriate sections of Form 3C, and then discard the tally sheet.

For the FFT function, the same procedures outlined above should be followed. If the majority of flats and parcels at your CFS unit are processed on NMTs rather than FFTs, then perform the survey on a randomly-selected NMT but record all data under the FFT section of Form 3C. Include a note in the **Comments** section of Form 3C indicating that the survey was performed on an NMT rather than an FFT.

At the end of each week, fax the completed form to Christensen Associates at (608) 231-3273, with attention to Sam Cutting. If you have comments, please enter them in the **Comments** section of Form 3C.

d. CFS Postage Due Survey (Form 4C – Salmon)

Some of the mail pieces processed within a CFS unit require additional postage due fees for forwarding or return service. This survey is designed to measure the amount of postage due mail pieces that are marked up and rated with postage due fees by a clerk within a CFS unit. The survey is also designed to measure the amount of time required by a clerk to process and rate postage due mail.

Not all CFS units mark up and rate postage due mail. If your CFS unit does not perform these activities, check the "**No**" box at the top of Form 4C, write "No Postage Due" in the **Comments** section at the bottom of the form, and fax it to Christensen Associates at (608) 231-3273. You do not need to complete this form in the remaining weeks of the survey period.

If your CFS unit does mark up and rate postage due mail, the survey is to be conducted for four consecutive weeks. Each day, ask the clerk assigned to this operation to maintain a separate tally sheet of volumes by class and shape as pieces are being rated for postage due. Pieces should be counted by making marks on a tally sheet.

The clerk should count only those volumes that are postage due as a result of having been processed in the CFS.

> Note: Do not include rating Form 3547 or 3579 pieces.

The clerk assigned to the operation should also maintain a count of the amount of time (in minutes) by shape spent processing and rating postage due mail.

At the end of each day, collect the clerk's tally sheet, total the volume and time, enter the totals in the appropriate sections of Form 4C, and then discard the tally sheet.

It is important for this survey to link the volume of postage due mail with the actual amount of time spent processing it. If a clerk at your CFS unit

typically marks up and rates postage due mail only sporadically throughout the day, it will be necessary to adjust operating procedures to wait until there is a sufficient amount of postage due mail to measure. Once there is a sufficient amount of this mail, the clerk should process it all in one period of time, keeping track of the time spent working letters and flats separate from the time spent on parcels. The volume counts by class and shape should correspond to the time spent processing this mail. Do not include the time needed to complete this survey.

If your CFS unit does not mark up and rate postage due mail every day, it is not necessary to perform the survey on days that you do not normally process postage due mail. If this is the case, please indicate in the Comments section of the form those days during the survey week when no postage due processing was done.

At the end of each week, fax the completed form to Christensen Associates at (608) 231-3273, with attention to Sam Cutting. If you have comments, please enter them in the **Comments** section of Form 4C.

e. CFS Mail Recovery Center Mail Survey (Form 5C – Green)

Although the CFS Daily Report records the volumes of waste mail by class, it does not specify what proportion of waste mail is sent to the Mail Recovery Center (MRC). The purpose of this survey is to measure the amount of mail being sent to the MRC by class and shape. The survey is also designed to measure the amount of time required by a clerk to process (sort, verify, etc.) this mail.

This survey is to be conducted for four consecutive weeks. Each day, identify and isolate the waste mail that is to go to the MRC. Count this mail, maintaining a separate tally of volumes by class and shape. Pieces should be counted by making marks on a tally sheet. If needed, you can designate a clerk to identify, isolate, and count all MRC mail for the day.

If your CFS unit has a separate activity for a clerk to sort and verify the mail that is to go to the MRC, then ask that clerk to keep track of the amount of time spent on this activity every day. Keep track of the time spent processing letters and flats separate from the time spent processing parcels.

At the end of each day, collect the tally sheet, total the volume and time entries, enter the results in the appropriate sections of Form 5C, then discard the tally sheet. If your CFS site does not have a clerk dedicated to sorting and verifying MRC mail, then leave the time section of the table blank.

It is important for this survey to link the volume of MRC mail with the actual amount of time spent processing it. If your CFS unit has a separate activity for a dedicated clerk to sort and verify MRC mail, but that activity only happens sporadically throughout the day, it will be necessary to adjust operating procedures to wait until there is a sufficient amount of MRC mail to measure. Once there is a sufficient amount of this mail, the clerk should process it all in one period of time, keeping track of the time spent working letters and flats separate from the time spent on parcels. The volume counts by class and shape should correspond to the time spent processing this mail. Do not include the time needed to complete this survey.

If your CFS unit does not process MRC mail every day, it is not necessary to perform the survey on days that you do not normally process this mail. If this is the case, please indicate in the **Comments** section of the form those days during the survey week when no MRC mail processing was done.

At the end of each week, fax the completed form to Christensen Associates at (608) 231-3273, with attention to Sam Cutting. If you have comments, please enter them in the **Comments** section of Form 5C.

f. CFS 3547 Batching Survey (Form 6C – Purple)

When processing address correction notices, clerks in CFS units will occasionally place multiple Form 3547s within one envelope to be sent to one specific customer. This procedure is referred to as "batching." The purpose of this survey is to measure the number of Form 3547s that are batched to a single envelope.

Not all CFS units will batch Form 3547s. If your CFS unit does not batch these forms, check the "**No**" box at the top of Form 6C, write "No 3547 Batching" in the **Comments** section at the bottom of the form, and fax it to Christensen Associates at (608) 231-3273. You do not need to complete this form in the remaining weeks of the survey period.

If your CFS unit does batch Form 3547s, the survey is to be conducted for four consecutive weeks. Each day, select all clerks who are batching 3547s for the day. Ask these clerks to count only the number of envelopes that contain multiple 3547 forms, keeping separate tallies for envelopes with 2 forms, 3 forms, etc. Count only those envelopes that are to be sent out on that day (i.e., do not include envelopes held over for a few days as forms accumulate). Counts should be done by making marks on a tally sheet.

At the end of each day, collect the tally sheets, record the totals in the appropriate sections of Form 6C, then discard the tally sheets. At the end

of each day, also determine the total number of Form 3547s processed for that day, as found on line 23 of PS Form 3925. Record this total in the **Total 3547s** column of Form 6C.

At the end of each week, fax the completed form to Christensen Associates at (608) 231-3273, with attention to Sam Cutting. If you have comments, please enter them in the **Comments** section of Form 6C.

FORM 1C: CFS UNIT GENERAL INFORMATION
U.S. Postal Service Undeliverable-as-Addressed Mail Study

INSTRUCTIONS FOR CFS MANAGER

Provide complete answers to the questions on this form at the beginning of the survey period. Fax the completed form to Christensen Associates at (608) 231-3273, with attention to Sam Cutting. Direct questions about this form to Sam Cutting at (608) 238-1602 or cfs@LRCA.com.

CFS UNIT NAME, FINANCE NUMBER:

RETURN-TO-SENDER NON-ACS NIXIE MAIL

1. Do you serve any delivery units that send return-to-sender nixie mail (excluding ACS nixie) to you for labeling before this mail re-enters the mail processing stream?

     YES ☐   **NO** ☐

2. If you answered "yes" to question 1, list all delivery units (including ZIP code) that do NOT send return-to-sender nixie mail to you. Use a separate sheet if additional space is needed. Do no write on the back of this form.

3. If you answered "yes" to question 1, which shapes of non-ACS return-to-sender nixie mail do delivery units send to you? Check all that apply.

     Letter-Shaped ☐   **Flat-Shaped** ☐

POSTAGE DUE PROCESSING

4. Does your CFS unit rate postage due mail that has been processed in the CFS (excluding Forms 3547 and 3579)?

     YES ☐   **NO** ☐

5. If you answered "yes" to question 4, how is the time for rating postage due reported on Form 3925? Check one below:

    Mail Preparation Hours (line 1) _____
            Support Hours (line 7) _____
    Administrative/Other Hours (line 12) _____
        NMT Labeling Hours (line 3) _____
                MT Hours (line 4) _____
            FFT Hours (line 34) _____
                Other _____ Specify: _____

KEYING AND LABELING OPERATIONS

6. Does your CFS unit use a nonmechanized terminal (NMT) to process the majority of flats and parcels?

    YES ☐   **NO** ☐

7. If you answered "no" to question 6, does your CFS unit use a flats forwarding terminal (FFT) to process the majority of flats and parcels?

    YES ☐   **NO** ☐

WASTE MAIL OPERATIONS

8. Does your CFS unit have a separate activity performed by a clerk to sort and verify mail to be sent to the Mail Recovery Center (MRC)?

    YES ☐   **NO** ☐

    Note: If you answered "yes" to this question, be sure to have a clerk in this operation keep track of the time processing MRC mail. This information will be needed on Form 5C.

FORM 3579 & 3547 ENVELOPES

9. When sending a batch of Form 3579s to a customer, what class of mail does your CFS unit use for the envelope containing the Form 3579s?

    Mail Class of Form 3579 Envelopes: _____

10. When sending a batch of Form 3547s to a customer, what class of mail does your CFS unit use for the envelope containing the Form 3547s? If your CFS unit never batches Form 3547s in this way, write "NA" in the space below.

    Mail Class of Form 3547 Envelopes: _____

QUALITY CONTROL

11. CFS supervisors and other qualified personnel sometimes check the "No Record" collection bin on MTs and FFTs to identify incorrect extraction codes due to clerk keying errors. At your CFS unit, what percent of your keying clerks will be checked for quality control on a typical day?

    Percent of Keying Clerks Checked for QC: _____ %

12. Of the clerks that are checked for QC, what percent of these clerks' mail pieces are checked for keying errors on a typical day? Check the most appropriate option below:

0% - 20%	_____
20% - 40%	_____
40% - 60%	_____
60% - 80%	_____
80% - 100%	_____

LOCAL SUPPLIES AND EQUIPMENT COST

13. Enter the total estimated cost in FY 03 (Sept. 7, 2002 - Sept. 5, 2003) for all items purchased locally. Do not include supplies from Central Supply or Procurement. Do no include items purchased by the national office for your CFS unit.

Item	FY 2003 Total Cost $
Photocopy Supplies (including paper, toner, ribbons, and oil)	
Personal Computers	
Printer Cartridges & Paper (HP II, HP III, etc., Laserjet Printers)	
Furniture (including tables, chairs, cases, conveyor belts)	
Form 3579 Envelopes	
Other Costs, please itemize below:	
Grand Total	

FORM 2C: CFS NO RECORD AND REKEY VOLUMES
U.S. Postal Service Undeliverable-as-Addressed Mail Study

INSTRUCTIONS FOR CFS MANAGER

1. Fill out one of these forms for each of the next four weeks.

2. Each day, select one clerk at random who is to key mail pieces on a mechanized terminal (MT) or a flats forwarding terminal (FFT).

3. Clear out all mail from a machine (MT or FFT) and have that clerk process mail as usual for one hour.

4. Instruct the clerk to count "rekeys" during the label generation process. Rekeys are pieces for which the clerk must re-enter the extraction code due to a keying error. The clerk "intercepts" a piece to rekey after the piece leaves the keying position, either before a label is applied or once the piece is sorted to a collection bin. The count of rekeys should be done by making marks on a tally sheet (e.g. III).

5. At the end of the hour, collect the tally sheet, count the tallies, discard the sheet, and enter the total in the **Clerk-Intercepted Rekey Volume** column of this form.

6. At the end of the hour, also inspect all the mail in the "No Record" collection bin. Count all the pieces that have an incorrect extraction code due to a clerk-keying error, and record the total in the **Clerk-Error Volume** column. Count all the remaining pieces that were keyed correctly, and record the total in the **Return to Del. Unit Volume** column.

7. At the end of the hour, also determine the total keyings for the clerk on the machine. Total keyings can be generated from the FCS Work Analysis report by machine type and clerk ID. Record this total in the **Total Keyings** column.

8. At the end of each week, fax the completed form to Christensen Associates at (608) 231-3273, with attention to Sam Cutting.

9. If you have comments, please enter them in the space provided below. Direct questions to Sam Cutting at (608) 238-1602 or cfs@LRCA.com.

CFS UNIT NAME, FINANCE NUMBER:

DAY	DATE	Mechanized Terminals				Flats Forwarding Terminals			
		Clerk-Intercepted Rekey Volume	Clerk-Error Volume	Return To Del. Unit Volume	Total Keyings	Clerk-Intercepted Rekey Volume	Clerk-Error Volume	Return To Del. Unit Volume	Total Keyings
Saturday	08/_____/2004								
Sunday	08/_____/2004								
Monday	08/_____/2004								
Tuesday	08/_____/2004								
Wednesday	08/_____/2004								
Thursday	08/_____/2004								
Friday	08/_____/2004								

(For Mechanized Terminals and Flats Forwarding Terminals, the "No Record Mail Volume" spans the Clerk-Error Volume and Return To Del. Unit Volume columns.)

Comments:

FORM 3C: CFS 3547 VOLUMES BY DISPOSITION
U.S. Postal Service Undeliverable-as-Addressed Mail Study

INSTRUCTIONS FOR CFS MANAGER

1. Fill out one of these forms for each of the next four weeks.

2. **Function 1: 3547 Forms and Return-To-Sender Mail on Mechanized Terminal (MT)**
   A. Each day, select a Mechanized Terminal (MT) at random.

   B. Clean out all stackers on the MT and then have a clerk begin to process mail as usual for one hour.

   C. At the end of the hour, have the clerk count the volumes of Form 3547 mail pieces that are (1) Photo and Forward, and (2) Photo and Discard. The count of 3547 mail should be done by making marks on a tally sheet (e.g. III). Ignore Form 3579 mail pieces.

   D. At the end of the hour, also have the clerk search through the Return-To-Sender stacker and count all mail pieces that have the "Address Service Requested" ancillary endorsement. The count of this mail should be done by making marks on a tally sheet.

   E. After all counts are complete, collect the tally sheet, record the totals in the appropriate section below, and then discard the tally sheet.

3. **Function 2: 3547 Forms and Return-To-Sender Mail on Flats Forwarding Terminal (FFT)**
   A. Each day, select a Flats Forwarding Terminal (FFT) at random.

   B. Clean out all collection containers on the FFT and then have a clerk begin to process mail as usual for one hour.

   C-E. Tally and record 3547 mail and return-to-sender mail using the same procedures outlined in steps 2C - 2E above.

4. At the end of each week, fax the completed form to Christensen Associates at (608) 231-3273, with attention to Sam Cutting.

5. If you have comments, please enter them in the space provided below. Direct questions to Sam Cutting at (608) 238-1602 or cfs@LRCA.com.

CFS UNIT NAME, FINANCE NUMBER:

DAY	DATE	Function 1: Volume on MTs			Function 2: Volume on FFTs		
		3547 Photo and Forward	3547 Photo and Discard	RTS "Address Serv. Requested"	3547 Photo and Forward	3547 Photo and Discard	RTS "Address Serv. Requested"
Saturday	08/_____/2004						
Sunday	08/_____/2004						
Monday	08/_____/2004						
Tuesday	08/_____/2004						
Wednesday	08/_____/2004						
Thursday	08/_____/2004						
Friday	08/_____/2004						

Comments:

FORM 4C: CFS POSTAGE DUE
U.S. Postal Service Undeliverable-as-Addressed Mail Study

INSTRUCTIONS FOR CFS MANAGER

Does your CFS unit rate postage due mail that has been processed in the CFS?   **YES** ☐ **NO** ☐

1. If "Yes," proceed to step 2 below and fill out one of these forms for each of the next four weeks. If "No," write "No Postage Due" in the comment section below; fax the form to Christensen Associates at (608) 231-3273; and do not complete the form in the remaining survey weeks.

2. Each day, ask the clerk assigned to this operation to maintain a separate tally of volumes by class and shape as pieces are being rated for postage due. Also, ask the clerk to record the amount of time required to rate postage due mail by shape. Pieces should be counted by making marks on a tally sheet (e.g. III). Clerks should count only those volumes that are postage due as a result of having been processed in the CFS. Do not include rating Form 3547 or 3579 pieces.

3. At the end of each day, collect the clerk's tally sheet, total the volume and time entries, enter the results below, then discard the tally sheet.

4. At the end of each week, fax the completed form to Christensen Associates at (608) 231-3273, with attention to Sam Cutting.

5. If you have comments, please enter them in the space provided below. Direct questions to Sam Cutting at (608) 238-1602 or cfs@LRCA.com.

CFS UNIT NAME, FINANCE NUMBER: [   ]

DAY	DATE	Postage Due Volumes										Time Processing Postage Due Mail	
		First Class		Periodicals		Standard Mail		Package Services		Other		Letter/Flat Minutes	Parcel Minutes
		Letter/Flat	Parcel	Letter/Flat	Parcel	Letter/Flat	Parcel	Letter/Flat	Parcel	Letter/Flat	Parcel		
Saturday	08/_____/2004												
Sunday	08/_____/2004												
Monday	08/_____/2004												
Tuesday	08/_____/2004												
Wednesday	08/_____/2004												
Thursday	08/_____/2004												
Friday	08/_____/2004												

Comments:

FORM 5C: CFS MAIL RECOVERY CENTER MAIL
U.S. Postal Service Undeliverable-as-Addressed Mail Study

INSTRUCTIONS FOR CFS MANAGER

1. Fill out one of these forms for each of the next four weeks.

2. Each day, identify and isolate waste mail that is to go to the Mail Recovery Center (MRC). Count this mail, maintaining a separate tally of volumes by class and shape. Pieces should be counted by making marks on a tally sheet (e.g. III).

3. If your CFS unit has a separate activity for a clerk to sort and verify the mail that is to go to the MRC, then ask that clerk to keep track of the amount of time spent on this activity every day. Keep track of the time spent processing letters and flats separate from the time spent processing parcels.

4. At the end of each day, collect the tally sheet, total the volume and time entries, enter the results in the table below, then discard the tally sheet. If your CFS site does not have a clerk dedicated to sorting and verifying MRC mail, leave the time section of the table blank.

5. At the end of each week, fax the completed form to Christensen Associates at (608) 231-3273 with attention to Sam Cutting.

6. If you have comments, please enter them in the space provided below. Direct questions to Sam Cutting at (608) 238-1602 or cfs@LRCA.com.

CFS UNIT NAME, FINANCE NUMBER: [   ]

DAY	DATE	Mail Recovery Center (MRC) Volumes										Time Processing MRC Mail	
		First Class		**Periodicals**		**Standard Mail**		**Package Services**		**Other**		Letter/Flat Minutes	Parcel Minutes
		Letter/Flat	Parcel	Letter/Flat	Parcel	Letter/Flat	Parcel	Letter/Flat	Parcel	Letter/Flat	Parcel		
Saturday	08/_____/2004												
Sunday	08/_____/2004												
Monday	08/_____/2004												
Tuesday	08/_____/2004												
Wednesday	08/_____/2004												
Thursday	08/_____/2004												
Friday	08/_____/2004												

Comments:

FORM 6C: CFS 3547 BATCHING
U.S. Postal Service Undeliverable-as-Addressed Mail Study

INSTRUCTIONS FOR CFS MANAGER

Does your CFS unit "batch" Form 3547s?   **YES** ☐   **NO** ☐

Note: Batching is the process of placing multiple 3547 forms in one envelope to be sent to one specific customer.

1. If "Yes," proceed to step two and fill out one of these forms for each of the next four weeks. If "No," write "No 3547 Batching" in the comment section; fax the form to Christensen Associates at (608) 231-3273; and do not complete form in the remaining survey weeks.

2. Each day, select all clerks who are batching Form 3547s for the day.

3. Ask these clerks to count ONLY the number of envelopes that contain multiple Form 3547s, keeping separate tallies for envelopes with 2 forms, 3 forms, etc. Counts should be done by making marks on a tally sheet (e.g. III).

4. At the end of each day, collect the tally sheets, record the totals below, and discard the tally sheets.

5. At the end of each day, record in the section below the total Form 3547s processed for the day, as found on line 23 of PS Form 3925.

6. At the end of each week, fax the completed form to Christensen Associates at (608) 231-3273, with attention to Sam Cutting.

7. If you have comments, enter them in the space provided below. Direct questions to Sam Cutting at (608) 238-1602 or cfs@LRCA.com.

CFS UNIT NAME, FINANCE NUMBER: _____

DAY	DATE	2 Forms	3 Forms	4 Forms	5 Forms	6 Forms	7+ Forms	Total 3547s (Line 23 Form 3925)
Saturday	08/_____/2004							
Sunday	08/_____/2004							
Monday	08/_____/2004							
Tuesday	08/_____/2004							
Wednesday	08/_____/2004							
Thursday	08/_____/2004							
Friday	08/_____/2004							

(Number of 3547 Forms In An Envelope)

Comments:

9.0 APPENDIX B – LISTING OF SAMPLE SITES

Table B.1
Selected Delivery Units

Route and P.O. Box Information

[A]	[B]	[C]	[D]	[E] = [C] + ([D]/750)	[F]	[G]
5-Digit ZIP Code	Name	Total Routes	Total P.O. Boxes	Total Route Equivalents	Total Delivery Points	Sampling Probability
02135	BRIGHTON, MA	42	759	43	21,677	0.01522%
02886	WARWICK, RI	41	0	41	15,832	0.01112%
03051	HUDSON, NH	20	699	21	10,042	0.00705%
03801	PORTSMOUTH, NH	29	0	29	12,725	0.00894%
03833	EXETER, NH	20	875	21	9,633	0.00677%
04976	SKOWHEGAN, ME	10	1,075	11	5,807	0.00408%
06053	NEW BRITAIN, CT	32	0	32	14,372	0.01009%
07039	LIVINGSTON, NJ	42	1,323	44	12,139	0.00852%
07508	HALEDON, NJ	18	0	18	7,637	0.00536%
07624	CLOSTER, NJ	10	396	11	3,715	0.00261%
08075	RIVERSIDE, NJ	25	1,071	26	12,838	0.00902%
08108	COLLINGSWOOD, NJ	21	692	22	9,169	0.00644%
08902	N. BRUNSWICK, NJ	37	766	38	16,290	0.01144%
10002	NEW YORK, NY	38	1,270	40	37,477	0.02632%
10926	HARRIMAN, NY	2	987	3	2,300	0.00162%
11203	BROOKLYN, NY	40	484	41	23,465	0.01648%
12019	BURNT HILLS, NY	11	320	11	5,699	0.00400%
13815	NORWICH, NY	12	897	13	7,222	0.00507%
14227	BUFFALO, NY	25	0	25	11,348	0.00797%
14605	ROCHESTER, NY	8	0	8	5,893	0.00414%
15642	IRWIN, PA	40	590	41	19,628	0.01378%
16693	WILLIAMSBURG, PA	4	138	4	1,877	0.00132%
16858	MORRISDALE, PA	3	460	4	1,734	0.00122%
17554	MOUNTVILLE, PA	4	290	4	2,798	0.00196%
17751	MILL HALL, PA	6	230	6	3,207	0.00225%
17801	SUNBURY, PA	14	712	15	8,961	0.00629%
18078	SCHNEKSVILLE, PA	5	349	5	2,803	0.00197%
19428	CONSHOHOCKEN, PA	19	581	20	9,288	0.00652%
20124	CLIFTON, VA	13	284	13	5,085	0.00357%
21217	BALTIMORE, MD	27	840	28	18,048	0.01267%
22644	MAURERTOWN, VA	3	222	3	1,008	0.00071%
25502	APPLE GROVE, WV	2	216	2	638	0.00045%
27534	GOLDSBORO, NC	24	0	24	14,574	0.01024%
27617	RALEIGH, NC	6	0	6	3,568	0.00251%
28303	FAYETTEVILLE, NC	34	1,140	36	17,600	0.01236%
28398	WARSAW, NC	5	566	6	3,650	0.00256%
28727	EDNEYVILLE, NC	0	564	1	564	0.00040%
29483	SUMMERVILLE, SC	33	0	33	21,498	0.01510%
29501	FLORENCE, SC	32	39	32	20,143	0.01415%
30339	ATLANTA, GA	34	0	34	12,750	0.00895%
30342	ATLANTA, GA	36	1,519	38	16,592	0.01165%

Table B.1 Continued
Selected Delivery Units

Route and P.O. Box Information

[A] 5-Digit ZIP Code	[B] Name	[C] Total Routes	[D] Total P.O. Boxes	[E] = [C] + ([D]/750) Total Route Equivalents	[F] Total Delivery Points	[G] Sampling Probability
30401	SWAINSBORO, GA	9	1,730	11	7,053	0.00495%
30421	COLLINS, GA	2	416	3	1,274	0.00089%
30546	HIAWASSEE, GA	6	970	7	4,324	0.00304%
32131	EAST PALATKA, FL	3	1,164	5	2,688	0.00189%
32507	PENSACOLA, FL	25	1,830	27	18,213	0.01279%
33020	HOLLYWOOD, FL	40	0	40	21,926	0.01540%
33156	MIAMI, FL	40	0	40	12,728	0.00894%
33701	ST. PETERSBURG, FL	21	0	21	10,769	0.00756%
33773	LARGO, FL	14	338	14	8,982	0.00631%
34952	PORT SAINT LUCIE, FL	32	0	32	19,604	0.01377%
34953	PORT SAINT LUCIE, FL	21	0	21	12,717	0.00893%
34994	STUART, FL	16	0	16	10,543	0.00740%
35901	GADSDEN, AL	19	0	19	10,770	0.00756%
37166	SMITHVILLE, TN	10	855	11	6,849	0.00481%
37186	WESTMORELAND, TN	6	759	7	4,192	0.00294%
37868	PIGEON FORGE, TN	0	1,170	2	1,170	0.00082%
37918	KNOXVILLE, TN	26	0	26	18,100	0.01271%
38828	BLUE SPRINGS, MS	3	148	3	1,901	0.00134%
40056	PEWEE VALLEY, KY	2	733	3	1,783	0.00125%
40210	LOUISVILLE, KY	13	0	13	7,693	0.00540%
41015	COVINGTON, KY	14	402	15	9,663	0.00679%
41086	SPARTA, KY	2	212	2	903	0.00063%
42431	MADISONVILLE, KY	25	1,293	27	14,666	0.01030%
43206	COLUMBUS, OH	21	631	22	12,624	0.00887%
45214	CINCINNATI, OH	10	0	10	5,669	0.00398%
45224	CINCINNATI, OH	18	418	19	10,354	0.00727%
46201	INDIANAPOLIS, IN	25	563	26	18,894	0.01327%
46227	INDIANAPOLIS, IN	44	0	44	26,147	0.01836%
46229	INDIANAPOLIS, IN	18	392	19	11,677	0.00820%
46567	SYRACUSE, IN	9	527	10	6,057	0.00425%
46962	N. MANCHESTER, IN	7	280	7	4,194	0.00295%
47403	BLOOMINGTON, IN	22	0	22	13,245	0.00930%
47591	VINCENNES, IN	23	1,057	24	13,995	0.00983%
47909	LAFAYETTE, IN	21	0	21	13,938	0.00979%
48045	MOUNT CLEMENS, MI	24	112	24	12,643	0.00888%
48114	BRIGHTON, MI	16	0	16	7,610	0.00534%
48150	LIVONIA, MI	41	0	41	13,354	0.00938%
48837	GRAND LEDGE, MI	15	317	15	8,108	0.00569%
48842	HOLT, MI	12	782	13	9,261	0.00650%
49221	ADRIAN, MI	28	1,219	30	18,388	0.01291%
49336	MORLEY, MI	3	381	4	1,833	0.00129%

Table B.1 Continued
Selected Delivery Units

Route and P.O. Box Information

[A]	[B]	[C]	[D]	[E] = [C] + ([D]/750)	[F]	[G]
5-Digit ZIP Code	Name	Total Routes	Total P.O. Boxes	Total Route Equivalents	Total Delivery Points	Sampling Probability
49738	GRAYLING, MI	10	1,018	11	6,135	0.00431%
53128	GENOA CITY, WI	4	752	5	2,966	0.00208%
53144	KENOSHA, WI	18	0	18	10,281	0.00722%
54227	MARIBEL, WI	2	167	2	719	0.00050%
54701	EAU CLAIRE, WI	36	0	36	16,682	0.01172%
55792	VIRGINIA, MN	10	893	11	7,242	0.00509%
60302	OAK PARK, IL	41	0	41	16,090	0.01130%
60451	NEW LENOX, IL	22	883	23	11,979	0.00841%
60625	CHICAGO, IL	49	2,928	53	33,691	0.02366%
60647	CHICAGO, IL	51	3,317	55	35,477	0.02491%
61201	ROCK ISLAND, IL	37	0	37	18,799	0.01320%
61616	PEORIA, IL	7	0	7	3,567	0.00251%
62691	VIRGINIA, IL	4	146	4	1,355	0.00095%
62808	ASHLEY, IL	2	330	2	784	0.00055%
63128	SAINT LOUIS, MO	32	0	32	13,261	0.00931%
63132	SAINT LOUIS, MO	22	658	23	8,424	0.00592%
63385	WENTZVILLE, MO	18	550	19	9,484	0.00666%
64683	TRENTON, MO	12	402	13	5,091	0.00358%
66783	YATES CENTER, KS	5	262	5	1,600	0.00112%
70043	CHALMETTE, LA	25	0	25	14,201	0.00997%
70427	BOGALUSA, LA	15	0	15	10,194	0.00716%
70529	DUSON, LA	5	1,060	6	4,552	0.00320%
70607	LAKE CHARLES, LA	17	0	17	11,719	0.00823%
71119	SHREVEPORT, LA	7	0	7	4,982	0.00350%
72221	LITTLE ROCK, AR	0	1,896	3	1,896	0.00133%
72712	BENTONVILLE, AR	21	1,892	24	15,675	0.01101%
73010	BLANCHARD, OK	8	1,480	10	5,782	0.00406%
74502	MCALESTER, OK	0	2,094	3	2,094	0.00147%
75134	LANCASTER, TX	8	0	8	5,211	0.00366%
77021	HOUSTON, TX	19	0	19	11,711	0.00822%
77090	HOUSTON, TX	24	0	24	15,492	0.01088%
78259	SAN ANTONIO, TX	10	0	10	5,782	0.00406%
78584	ROMA, TX	6	3,517	11	7,222	0.00507%
78840	DEL RIO, TX	25	0	25	17,251	0.01212%
80121	LITTLETON, CO	23	111	23	7,339	0.00515%
80134	PARKER, CO	32	3,061	36	19,102	0.01341%
80228	LAKEWOOD, CO	32	955	33	15,548	0.01092%
85020	PHOENIX, AZ	36	0	36	18,367	0.01290%
85268	FOUNTAIN HILLS, AZ	27	0	27	12,339	0.00867%
85296	GILBERT, AZ	32	0	32	14,387	0.01010%
85552	THATCHER, AZ	2	1,717	4	2,940	0.00206%

Table B.1 Continued
Selected Delivery Units

Route and P.O. Box Information

[A]	[B]	[C]	[D]	[E]	[F]	[G]
				= [C] + ([D]/750)		
			Total	Total	Total	
5-Digit		Total	P.O.	Route	Delivery	Sampling
ZIP Code	Name	Routes	Boxes	Equivalents	Points	Probability
87327	ZUNI, NM	0	1,346	2	1,346	0.00095%
87507	SANTA FE, NM	22	0	22	16,163	0.01135%
89507	RENO, NV	0	3,922	5	3,922	0.00275%
90011	LOS ANGELES, CA	34	1,428	36	25,833	0.01814%
90056	LOS ANGELES, CA	11	1,467	13	5,151	0.00362%
90277	REDONDO BEACH, CA	45	1,836	47	21,152	0.01485%
90637	LA MIRADA, CA	0	1,345	2	1,345	0.00094%
90710	HARBOR CITY, CA	16	737	17	10,178	0.00715%
91710	CHINO, CA	45	0	45	22,392	0.01573%
92028	FALLBROOK, CA	33	0	33	16,938	0.01190%
92037	LA JOLLA, CA	56	316	56	22,196	0.01559%
92110	SAN DIEGO, CA	36	0	36	13,007	0.00913%
92126	SAN DIEGO, CA	53	0	53	25,934	0.01821%
93105	SANTA BARBARA, CA	28	0	28	11,762	0.00826%
93720	FRESNO, CA	39	0	39	20,795	0.01460%
94062	WOODSIDE, CA	32	847	33	11,391	0.00800%
94602	OAKLAND, CA	29	483	30	12,812	0.00900%
95051	SANTA CLARA, CA	51	0	51	21,633	0.01519%
95131	SAN JOSE, CA	31	0	31	9,954	0.00699%
95340	MERCED, CA	41	0	41	22,119	0.01553%
95354	MODESTO, CA	21	0	21	11,644	0.00818%
95670	RANCHO CORDOVA, CA	45	0	45	21,959	0.01542%
95747	ROSEVILLE, CA	27	0	27	15,356	0.01078%
97217	PORTLAND, OR	33	477	34	15,820	0.01111%
97302	SALEM, OR	29	1,287	31	18,944	0.01330%
98122	SEATTLE, WA	30	775	31	17,698	0.01243%
98229	BELLINGHAM, WA	22	0	22	12,622	0.00886%
98844	OROVILLE, WA	3	2,079	6	3,298	0.00232%

Table B.2
Selected CFS Units

[A]	[B]	[C]
CFS Name	Volume (1)	Sampling Probability
PHOENIX, AZ	46,337,018	1.93350%
TUCSON, AZ	10,912,896	0.45536%
LITTLE ROCK, AR	11,335,526	0.47300%
SACRAMENTO, CA	50,535,049	2.10867%
SAN DIEGO, CA	45,683,735	1.90624%
SAN FRANCISCO, CA	19,840,637	0.82789%
VAN NUYS, CA	39,336,524	1.64139%
DENVER, CO	41,335,987	1.72482%
GRAND JUNCTION, CO	5,410,259	0.22575%
NEW HAVEN, CT	11,590,935	0.48365%
WILMINGTON, DE	7,159,088	0.29873%
MIAMI, FL	12,590,914	0.52538%
WEST PALM BEACH, FL	27,695,595	1.15565%
CHICAGO, IL	19,761,716	0.82460%
EVANSVILLE, IN	5,078,282	0.21190%
BATON ROUGE, LA	16,461,317	0.68688%
LANSING, MI	9,949,531	0.41516%
ROYAL OAK, MI	21,537,227	0.89868%
JACKSON, MS	5,403,569	0.22547%
LAS VEGAS, NV	18,975,273	0.79178%
NEWARK NJ	16,058,744	0.67008%
KINGSTON, NY	17,618,918	0.73518%
NEW YORK, NY	23,167,190	0.96670%
RALEIGH, NC	15,346,586	0.64037%
CINCINNATI, OH	19,741,224	0.82374%
DAYTON, OH	11,965,469	0.49928%
PORTLAND, OR	25,485,022	1.06341%
SALEM, OR	5,331,306	0.22246%
ERIE, PA	7,839,070	0.32710%
LEHIGH VALLEY, PA	6,754,850	0.28186%
PITTSBURGH, PA	17,654,634	0.73667%
MEMPHIS, TN	11,458,719	0.47814%
NORTHERN, VA	39,805,926	1.66098%
RICHMOND, VA	13,043,308	0.54426%
ROANOKE, VA	7,980,826	0.33302%
SEATTLE, WA	19,805,222	0.82641%
CHARLESTON, WV	5,148,538	0.21483%
CLARKSBURG, WV	4,315,295	0.18006%
GREEN BAY, WI	7,113,230	0.29681%
MADISON, WI	10,423,970	0.43496%

Notes:
(1) Machine counts (less no-record mail) from FCS database FY 03.

10.0 APPENDIX C – PRE-PARS VOLUME AND COST MATERIALS

(Electronically Available on CD)

The programs and Excel workbooks used to develop the costs and volumes in the pre-PARS 04 environment are listed below. Electronic versions of these programs and workbooks are available under the directory "L61AppendixC" on the attached CD.

10.1 Sample Selection

The following programs and Excel workbooks are used in the sample-selection process for all delivery unit and CFS unit surveys.

Program: **select5d.f** (L61AppendixC\Sample Selection)

> Purpose: FORTRAN program to select 5-digit ZIP Codes to participate in delivery unit surveys.
>
> Input
> * amszip.pos.crhb – list of all 5-digit ZIP Codes and associated delivery points found in the AMS database
>
> Output
> * zips.smp – list of selected 5-digit ZIP Codes

Program: **select5d_ht_est.f** (L61AppendixC\Sample Selection)

> Purpose: FORTRAN program to create Horvitz-Thompson sampling weights for all 5-digit ZIP Codes.
>
> Input
> * amszip.pos.crhb – list of all 5-digit ZIP Codes and associated delivery points found in the AMS database
>
> Output
> * counts_ht.est – list of estimated Horvitz-Thompson weights for all 5-digit ZIP Codes

Workbook: **make_HTweights.xls** (L61AppendixC\PrePARS\Volumes)

> Purpose: Excel workbook to list the Horvitz-Thompson sampling weights for the selected 5-digit ZIP Codes.
>
> Inputs
> * counts_ht.est – list of estimated Horvitz-Thompson weights for all 5-digit ZIP Codes (created by **select5d_ht_est.f**)

Program: **routeselection.f** (L61AppendixC\Sample Selection)

Purpose: FORTRAN program to select routes and/or box sections for each selected 5-digit ZIP Code.

Input
- zip.smp.srt – list of selected 5-digit ZIP Codes
- ams.rteinfo.crhb.boxroll.srt – list of all possible routes and box sections for all 5-digit ZIP Codes in the AMS database

Output
- selected.routes – list of selected routes for each selected 5-digit ZIP Code

Program: **cfsselection.f** (L61AppendixC\Sample Selection)

Purpose: FORTRAN program to select CFS units to participate in the CFS surveys.

Input
- cfsnonstrata.prn – list of all CFS units and associated volumes in the FCS database

Output
- cfsdrawn_test – list of selected CFS units

Program: **cfsselection_ht_est.f** (L61AppendixC\Sample Selection)

Purpose: FORTRAN program to create Horvitz-Thompson sampling weights for all CFS units.

Input
- cfsnonstrata.prn – list of all CFS units and associated volumes in the FCS database

Output
- counts_cfs.ht.est – list of estimated Horvitz-Thompson weights for all CFS units

Workbook: **make_HTweights_cfs_form2.xls**
        (L61AppendixC\PrePARS\Volumes)

Purpose: Excel workbook to list the Horvitz-Thompson sampling weights for all selected CFS units that completed Form 2C.

Inputs
- counts_cfs.est – list of estimated Horvitz-Thompson weights for all CFS units (created by **cfsselection_ht_est.f**)

Workbook: **make_HTweights_cfs_form3.xls**
    (L61AppendixC\PrePARS\Volumes)

Purpose: Excel workbook to list the Horvitz-Thompson sampling weights for all selected CFS units that completed Form 3C.

Inputs
- counts_cfs.est – list of estimated Horvitz-Thompson weights for all CFS units (created by **cfsselection_ht_est.f**)

Workbook: **make_HTweights_cfs_form4.xls**
    (L61AppendixC\PrePARS\Volumes)

Purpose: Excel workbook to list the Horvitz-Thompson sampling weights for all selected CFS units that completed Form 4C.

Inputs
- counts_cfs.est – list of estimated Horvitz-Thompson weights for all CFS units (created by **cfsselection_ht_est.f**)

Workbook: **make_HTweights_cfs_form5.xls**
    (L61AppendixC\PrePARS\Volumes)

Purpose: Excel workbook to list the Horvitz-Thompson sampling weights for all selected CFS units that completed Form 5C.

Inputs
- counts_cfs.est – list of estimated Horvitz-Thompson weights for all CFS units (created by **cfsselection_ht_est.f**)

Workbook: **make_HTweights_cfs_form6.xls**
    (L61AppendixC\PrePARS\Volumes)

Purpose: Excel workbook to list the Horvitz-Thompson sampling weights for all selected CFS units that completed Form 6C.

Inputs
- counts_cfs.est – list of estimated Horvitz-Thompson weights for all CFS units (created by **cfsselection_ht_est.f**)

Workbook: **make_HTweights_cfs_qc.xls** (L61AppendixC\PrePARS\Volumes)

Purpose: Excel workbook to list the Horvitz-Thompson sampling weights for all selected CFS units that completed the "quality control" section of Form 1C.

Inputs
- counts_cfs.est – list of estimated Horvitz-Thompson weights for all CFS units (created by **cfsselection_ht_est.f**)

10.2 Data Entry

The following programs and Excel workbooks are used to enter data from all delivery unit and CFS unit survey forms and perform automated data cleaning processes.

Workbook: **Template.xls** (L61AppendixC\Data Entry)

Purpose: Excel workbook to enter data from Forms 2D to 8D (delivery unit surveys).

Workbook: **Template_CFS.xls** (L61AppendixC\Data Entry)

Purpose: Excel workbook to enter data for Forms 2C to 8C (CFS unit surveys).

Workbook: **MergeFiles.xls** (L61AppendixC\Data Entry)

Purpose: Excel workbook to merge delivery unit text files together for each form.

Workbook: **MergeFiles_CFS.xls** (L61AppendixC\Data Entry)

Purpose: Excel workbook to merge CFS unit text files together for each form.

Program: **CorrectForm4.m** (L61AppendixC\Data Entry)

Purpose: MATLAB program to perform automated cleaning routines for Form 4D.

Program: **CorrectForm5.m** (L61AppendixC\Data Entry)

Purpose: MATLAB program to perform automated cleaning routines for Form 5D.

Program: **CorrectForm6.m** (L61AppendixC\Data Entry)

Purpose: MATLAB program to perform automated cleaning routines for Form 6D.

10.3 FCS Database

The following Excel workbooks are used to develop data from the FCS database.

Workbook: **SSAMnth04NonNix.xls** (L61AppendixC\PrePARS\FCS)

> Purpose: Excel workbook to report FY 04 CFS non-nixie volumes by machine type, mail class, and other relevant categories.
>
> Input
> * **FCS SSA Database**

Workbook: **SSAMnth04Nix.xls** (L61AppendixC\PrePARS\FCS)

> Purpose: Excel workbook to summarize FY 04 CFS nixie volumes by machine type, mail class, and other relevant categories.
>
> Input
> * **FCS SSA Database**

Workbook: **SSAMnth04Forms.xls** (L61AppendixC\PrePARS\FCS)

> Purpose: Excel workbook to report FY 04 CFS forms volumes.
>
> Input
> * **FCS SSA Database**

Workbook: **SSAMnth04.xls** (L61AppendixC\PrePARS\FCS)

> Purpose: Excel workbook to summarize FY 04 CFS total volumes and forms by machine type, mail class, and other relevant categories.
>
> Input
> * **CFS_Form2.xls** – FY 04 CFS rekey rates
> * **CFS_Form6.xls** – FY 04 3547 batch data
> * **SSAMnth04Forms.xls** – FY 04 CFS forms data
> * **SSAMnth04Nix.xls** – FY 04 CFS Nixie mail volumes
> * **SSAMnth04NonNix.xls** – FY 04 CFS COA mail volumes

Workbook: **CFSProds04.xls** (L61AppendixC\PrePARS\FCS)

> Purpose: Excel workbook to summarize FY 04 CFS productivity data.

Input
- **FCS SSS Database**
- **distvol6.xls** – FY 04 CFS distributed volumes of pieces associated with Forms 3547 and 3579
- **SSAMnth04.xls** – FY 04 CFS control volumes
- **UAA PrePARS Model-BaseDU.xls** – Pre-PARS FY 04 COA volumes

10.4 UAA & PKR Volumes

The following programs and Excel workbooks are used to inflate and aggregate all FY 04 UAA and PKR volumes as reported in Section 2 above.

Program: **inf_shell** (L61AppendixC\DUInflation\progs)

Purpose: Bash Shell that manipulates data, creates maps, and calls all FORTRAN programs during the volume inflation process.

Program: **make_pcsmap1.f** (L61AppendixC\DUInflation\progs)

Purpose: FORTRAN program that creates a map of unique mail piece records.

Input
- pcsdups.txt – list of duplicate mail piece records (created by **inf_shell**)
- pcsdups2.txt – list of duplicate mail piece records that have same mail category code (created by **inf_shell**)
- Pieces_final2.prn – list of all mail piece records

Output
- form4_pcs.txt – map of unique mail piece records associated with Form 4D
- form5_pcs.txt – map of unique mail piece records associated with Form 5D
- form6_pcs.txt – map of unique mail piece records associated with Form 6D

Program: **make_pcsmap2.f** (L61AppendixC\DUInflation\progs)

Purpose: FORTRAN program to sort mail piece map in order that it can be used by "searchc" subroutine.

Input

- form4_pcs.txt – map of unique mail piece records associated with Form 4D
- form5_pcs.txt – map of unique mail piece records associated with Form 5D
- form6_pcs.txt – map of unique mail piece records associated with Form 6D

Output
- form4_pcs.srt – sorted map of unique mail piece records associated with Form 4D
- form5_pcs.srt – sorted map of unique mail piece records associated with Form 5D
- form6_pcs.srt – sorted map of unique mail piece records associated with Form 6D

Program: **cutdupforms.f** (L61AppendixC\DUInflation\progs)

Purpose: FORTRAN program to exclude any duplicates in the database of Form 4D, 5D, and 6D.

Input
- Form4dups.txt – map of Form 4D duplicates (created by **inf_shell**)
- Form5dups.txt – map of Form 5D duplicates (created by **inf_shell**)
- Form6dups.txt – map of Form 6D duplicates (created by **inf_shell**)
- Form4.txt – database of Form 4D (created by **MergeFiles.xls** and **CorrectForm4.exe**)
- Form5.txt – database of Form 5D (created by **MergeFiles.xls** and **CorrectForm5.exe**)
- Form6.txt – database of Form 6D (created by **MergeFiles.xls** and **CorrectForm6.exe**)

Output
- Form4.srt – database of Form 4D excluding duplicates
- Form5.srt – database of Form 5D excluding duplicates
- Form6.srt – database of Form 6D excluding duplicates

Workbook: **make_datemap.xls** (L61AppendixC\DUInflation\maps)

Purpose: Excel workbook to make map of date indexes.

Input
- None

Program: **indexform4.f** (L61AppendixC\DUInflation\progs)

Purpose: FORTRAN program to index data associated with shape, machinability, disposition, carrier endorsement, address quality, and COA date for Form 4D.

Input
- datemap.prn – map of date indexes (created by **make_datemap.xls**)
- Form4.srt – database of Form 4D excluding duplicates

Output
- Form4idx.srt – database of indexed data of Form 4D
- form4_disp3.txt – database of indexed data of Form 4D including separate detail for pieces endorsed ANK, NSN, or IA (needed by **rollaq.f**)

Program: **indexform5.f** (L61AppendixC\DUInflation\progs)

Purpose: FORTRAN program to index data associated with shape, machinability, disposition, carrier endorsement, address quality, and COA date for Form 5D.

Input
- datemap.prn – map of date indexes (created by **make_datemap.xls**)
- Form5.srt – database of Form 5D excluding duplicates

Output
- form5_disp3.txt – database of indexed data of Form 5D including separate detail for pieces endorsed ANK, NSN, or IA (needed by **rollaq.f**)
- form5idx.srt – database of indexed data of Form 5D

Program: **indexform6.f** (L61AppendixC\DUInflation\progs)

Purpose: FORTRAN program to index data associated with shape, machinability, disposition, carrier endorsement, address quality, and COA date for Form 6D.

Input
- datemap.prn – map of date indexes (created by **make_datemap.xls**)
- Form6.srt – database of Form 6D excluding duplicates

Output
- form6idx.srt – database of indexed data of Form 6D

Program: **make_daysfac4.f** (L61AppendixC\DUInflation\progs)

Purpose: FORTRAN program to create a factor of the number of Form 4D forms received from a site relative to the number expected for the survey period. Separate factors are developed CFS mail and all other mail.

Input
- zipmap.prn – map of all ZIP Codes in original sample
- form4idx.srt – database of indexed data of Form 4D

Output
- form4daysfac_1.srt – listing of CFS mail factors by site
- form4daysfac_2.srt – listing of all other mail factors by site
- form4inven_1.srt – inventory of CFS mail forms received by site
- form4inven_2.srt – inventory of all other mail forms received by site
- form4idx2.srt – Form 4D database with "days factor" appended

Program: **make_daysfac5.f** (L61AppendixC\DUInflation\progs)

Purpose: FORTRAN program to create a factor of the number of Form 5D forms received from a site relative to the number expected for the survey period.

Input
- zipmap.prn – map of all ZIP Codes in original sample
- form5idx.srt – database of indexed data of Form 5D

Output
- form5daysfac_1.srt – listing of factors by site
- form5inven_1.srt – inventory of all forms received by site
- form5idx2.srt – Form 5D database with "days factor" appended

Program: **make_daysfac6.f** (L61AppendixC\DUInflation\progs)

Purpose: FORTRAN program to create a factor of the number of Form 6D forms received from a site relative to the number expected for the survey period.

Input
- zipmap.prn – map of all ZIP Codes in original sample
- form6idx.srt – database of indexed data of Form 6D

Output
- form6daysfac_1.srt – listing of factors by site
- form6inven_1.srt – inventory of all forms received by site

- form6idx2.srt – Form 6D database with "days factor" appended

Program: **adjust_dfacs.f** (L61AppendixC\DUInflation\progs)

Purpose: FORTRAN program to adjust days factors for Form 5D according to the following rule: for days with an incomplete set of three forms (4D, 5D, 6D), create a zero-volume form if Form 5D is missing.

Input
- zipmap.prn – map of all ZIP Codes in original sample
- form4inven_1.txt – inventory of all Form4Ds received by site
- form5inven_1.txt – inventory of all Form 5Ds received by site
- form6inven_1.txt – inventory of all Form6Ds received by site
- form5idx2.srt – database of indexed data of Form 5D, including days factor

Output
- form5idx2_zero.srt – database of newly created zero-volume Form 5Ds
- form6idx2_zero.srt – database of newly created zero-volume Form 6Ds
- form5daysfac_1a.srt – listing of modified factors by site
- form5inven_1a.txt – inventory of forms received by site, including newly-created zero-volume forms
- form5idx2b.srt – database of indexed data of Form 5D, including modified days factor but excluding newly created zero-volume Form 5Ds

Workbooks: **skips4.xls, skips5.xls, skips6.xls**
(L61AppendixC\DUInflation\maps)

Purpose: Excel workbooks to display manually-adjusted skip factors by ZIP Code for Forms 4D, 5D, and 6D, respectively. Skip factors are manually adjusted for workload purposes.

Input
- None

Program: **check_skips.f** (L61AppendixC\DUInflation\progs)

Purpose: FORTRAN program to check and adjust skip factors on Forms 4D, 5D, and 6D (used for debugging only).

Input
- zipmap.prn – map of all ZIP Codes in original sample

- form4sheet.srt – map of all possible sheet names for Form 4D (created by **inf_shell**)
- form5sheet.srt – map of all possible sheet names for Form 5D (created by **inf_shell**)
- form6sheet.srt – map of all possible sheet names for Form 6D (created by **inf_shell**)
- skips4.prn – map of sites that have adjusted skip factors for Form 4D (created by **skips4.xls**)
- skips5.prn – map of sites that have adjusted skip factors for Form 5D (created by **skips5.xls**)
- skips6.prn – map of sites that have adjusted skip factors for Form 6D (created by **skips6.xls**)
- form4idx3.srt – database developed from form4idx2.srt sorted by ZIP (created by **inf_shell**)
- form5idx3.srt – database developed from form5idx2.srt sorted by ZIP (created by **inf_shell**)
- form6idx3.srt – database developed from form6idx2.srt sorted by ZIP (created by **inf_shell**)

Output
- skipchk4.srt – listing by site of all skips used on Form 4D
- skipchk5.srt – listing by site of all skips used on Form 5D
- skipchk6.srt – listing by site of all skips used on Form 6D

Program: **check_boxes.f** (L61AppendixC\DUInflation\progs)

Purpose: FORTRAN program to isolate and catalogue all P.O. box data collected on Forms 4D, 5D, and 6D.

Input
- form4rts.srt – listing of actual route and box names recorded on Form 4D (created by **inf_shell**)
- form5rts.srt – listing of actual route and box names recorded on Form 5D (created by **inf_shell**)
- form6rts.srt – listing of actual possible route and box names recorded on Form 6D (created by **inf_shell**)

Output
- form4box.srt – listing of all box names recorded on Form 4D
- form5box.srt – listing of all box names recorded on Form 5D
- form6box.srt – listing of all box names recorded on Form 6D

Workbook: **routecalcs.xls** (L61AppendixC\DUInflation\maps)

Purpose: Excel workbook to make maps of box-adjustment factors and route-equivalent factors.

Input
- **AMS Database**

Program: **make_boxfac.f** (L61AppendixC\DUInflation\progs)

Purpose: FORTRAN program to apply a box-adjustment factor for those sites that sampled P.O. box sections rather than delivery routes.

Input
- zipmap.prn – map of all ZIP Codes in original sample
- bfactor.prn – listing of box adjustment factors by site (created by **routecalcs.xls**)
- form4box.srt – listing of all box names recorded on Form 4D
- form5box.srt – listing of all box names recorded on Form 5D
- form6box.srt – listing of all box names recorded on Form 6D
- form4idx3.srt – database developed from form4idx2.srt sorted by ZIP (created by **inf_shell**)
- form5idx3.srt – database developed from form5idx2.srt sorted by ZIP (created by **inf_shell**)
- form6idx3.srt – database developed from form6idx2.srt sorted by ZIP (created by **inf_shell**)

Output
- form4idx4.srt – Form 4D database with "box factor" appended
- form5idx4.srt – Form 5D database with "box factor" appended
- form6idx4.srt – Form 6D database with "box factor" appended

Program: **check_ofac.f** (L61AppendixC\DUInflation\progs)

Purpose: FORTRAN program to check for sites that did not participate in the survey (used for debugging only).

Input
- zipmap.prn – map of all ZIP Codes in original sample
- sprobs.prn – map of sampling probabilities by site
- form4inven_1.srt – inventory of CFS mail Form4Ds received by site
- form4inven_2.srt – inventory of all other mail Form4Ds received by site
- form5inven_1a.srt – inventory of all Form 5Ds received by site
- form6inven_1.srt – inventory of all Form6Ds received by site

Workbook: **spike_analysis.xls** (L61AppendixC\DUInflation\maps)

Purpose: Excel workbook to determine the adjustment factor to account for observations that have a 10-piece spike on Form 4D.

Input
- **form4idx_15.xls** – Form 4 volumes pivot tables inputs
- **form5idx_15.xls** – Form 5 volumes pivot tables inputs

Program: **make_othfac.f** (L61AppendixC\DUInflation\progs)

Purpose: FORTRAN program to append route factors, month factors, spike factors, and office factors to form data files.

Input
- zipmap.prn – map of all ZIP Codes in original sample
- rfactor.prn – map of route-equivalent factors by site (created by **routecalcs.xls**)
- ofactor4.prn – map of office factors by site (created by **make_HTweights.xls**)
- ofactor5.prn – map of office factors by site (created by **make_HTweights.xls**)
- ofactor6.prn – map of office factors by site (created by **make_HTweights.xls**)
- spike4.prn – map of spike factors by site (created by **spike_analysis.xls**)
- spike5.prn – map of spike factors by site (created by **spike_analysis.xls**)
- spike6.prn – map of spike factors by site (created by **spike_analysis.xls**)
- form4idx4.srt – Form 4D database with indexed data
- form5idx4.srt – Form 5D database with indexed data
- form6idx4.srt – Form 6D database with indexed data

Output
- form4idx5.srt – Form 4D database with other factors appended
- form5idx5.srt – Form 5D database with other factors appended
- form6idx5.srt – Form 6D database with other factors appended

Workbook: **make_piecemap.xls** (L61AppendixC\DUInflation\maps)

Purpose: Excel workbook to create map of mail category codes.

Input
- None

Program: **matchpcs.f** (L61AppendixC\DUInflation\progs)

Purpose: FORTRAN program to match mail piece maps to form databases.

Input
- form4_pcs.srt – sorted map of unique mail piece records associated with Form 4D
- form5_pcs.srt – sorted map of unique mail piece records associated with Form 5D
- form6_pcs.srt – sorted map of unique mail piece records associated with Form 6D
- piecemap.prn – map of mail category codes (created by **make_piecemap.xls**)
- form4idx5.srt – Form 4D database with indexed data
- form5idx5.srt – Form 5D database with indexed data
- form6idx5.srt – Form 6D database with indexed data

Output
- form4idx6.srt – Form 4D database with mail category code appended
- form5idx6.srt – Form 5D database with mail category code appended
- form6idx6.srt – Form 6D database with mail category code appended

Workbook: **routemap.xls** (L61AppendixC\DUInflation\maps)

Purpose: Excel workbook to create map of actual routes sampled by week and ZIP Code.

Input
- None

Program: **check_routes.f** (L61AppendixC\DUInflation\progs)

Purpose: FORTRAN program to separate form data by route type (needed for *Pre-PARS Baseline Cost Model*).

Input
- routemap.prn – map of expected route and P.O. box names by site (created by **routemap.xls**)
- form4rts.srt – listing of actual route and box names recorded on Form 4D (created by **inf_shell**)
- form5rts.srt – listing of actual route and box names recorded on Form 5D (created by **inf_shell**)

- form6rts.srt – listing of actual route and box names recorded on Form 6D (created by **inf_shell**)

Output
- form4rts2.srt – listing of actual route and box names recorded on Form 4D, indexed by week
- form5rts2.srt – listing of actual route and box names recorded on Form 5D, indexed by week
- form6rts2.srt – listing of actual route and box names recorded on Form 6D, indexed by week

Program: **make_rtidx.f** (L61AppendixC\DUInflation\progs)

Purpose: FORTRAN program to append route-type index for form data files (needed for *Pre-PARS Baseline Cost Model*).

Input
- form4rts2.srt – listing of actual route and box names recorded on Form 4D, indexed by week
- form5rts2.srt – listing of actual route and box names recorded on Form 5D, indexed by week
- form6rts2.srt – listing of actual route and box names recorded on Form 6D, indexed by week
- routemap.prn – map of expected route and P.O. box names by site (created by **routemap.xls**)
- form4idx6.srt – Form 4D database with indexed data
- form5idx6.srt – Form 5D database with indexed data
- form6idx6.srt – Form 6D database with indexed data

Output
- form4idx7.srt – Form 4D database with route-type index appended
- form5idx7.srt – Form 5D database with route-type index appended
- form6idx7.srt – Form 6D database with route-type index appended

Workbook: **form4idx_15.xls** (L61AppendixC\PrePARS\Volumes)

Purpose: Excel workbook to report FY 04 piece data from Form 4D.

Input
- form4idx7.srt – Form 4D database with route-type index appended (created by **make_rtidx.f**)

Workbook: **form5idx_15.xls** (L61AppendixC\PrePARS\Volumes)

Purpose: Excel workbook to report FY 04 piece data from Form 5D.

Input
- form5idx7.srt – Form 5D database with route-type index appended (created by **make_rtidx.f**)

Workbook: **form6idx_15.xls** (L61AppendixC\PrePARS\Volumes)

Purpose: Excel workbook to report FY 04 piece data from Form 6D.

Input
- form6idx7.srt – Form 6D database with route-type index appended (from **make_rtidx.f**)

Program: **rollup.f** (L61AppendixC\DUInflation\progs)

Purpose: FORTRAN program to rollup and report final, inflated data from Forms 4D, 5D, and 6D, before unknown data are distributed (used for debugging only).

Input
- form4idx7.srt – Form 4D database with indexed data
- form5idx7.srt – Form 5D database with indexed data
- form6idx7.srt – Form 6D database with indexed data

Program: **distdat.f** (L61AppendixC\DUInflation\progs)

Purpose: FORTRAN program to distribute unknown data associated with shape, machinability, ancillary service endorsements, rate category, and mail class found on Forms 4D, 5D, and 6D based on distribution keys of known data.

Input
- endorsemap.txt – map of possible combinations of mail class, rate category, and barcode characteristics
- piecemap2.prn – map of mail category codes augmented to include periodicals codes needed for intermediate distributions
- form4idx7.srt – Form 4D database with indexed data
- form5idx7.srt – Form 5D database with indexed data
- form6idx7.srt – Form 6D database with indexed data

Output
- distdata.txt – file containing data before unknown data are distributed
- distdata2.txt – file containing intermediate distribution data (used for debugging)
- distdata3.txt – file containing intermediate distribution data (used for debugging)

- distdata4.txt – file containing intermediate distribution data (used for debugging)
- distdata5.txt – file containing intermediate distribution data (used for debugging)
- distdata6.txt – file containing final distribution data

Program: **rollaq.f** (L61AppendixC\DUInflation\progs)

Purpose: FORTRAN program to roll up address quality data (needed for *Pre-PARS Address Quality Cost Model*).

Input
- piecemap.prn – map of mail category codes (created by **make_piecemap.xls**)
- form4idx7.srt – Form 4D database with indexed data
- form5idx7.srt – Form 5D database with indexed data
- form6idx7.srt – Form 6D database with indexed data
- form4_disp3.txt – database of indexed data of Form 4D including separate detail for pieces endorsed ANK, NSN, or IA
- form5_disp3.txt – database of indexed data of Form 5D including separate detail for pieces endorsed ANK, NSN, or IA
- form6_disp3.txt – database of indexed data of Form 6D including separate detail for pieces endorsed ANK, NSN, or IA

Output
- form4aqdat.txt – file containing Form 4D address quality data
- form5aqdat.txt – file containing Form 5D address quality data
- form6aqdat.txt – file containing Form 6D address quality data

Workbook: **cfs_path_model6.xls** (L61AppendixC\PrePARS\Volumes)

Purpose: Excel workbook to apply CFS disposition rules to COA mail based on mail class, ancillary service endorsement, age of COA, and ACS option (excludes rules for ACS nixie mail). This workbook is known as the *CFS Path Model*.

Input
- **form4idx_15.xls** – FY 04 Form 4D volumes pivot tables inputs

Workbook: **distvol6.xls** (L61AppendixC\PrePARS\Volumes)

Purpose: Excel workbook to summarize FY 04 post-distribution UAA and PKR volumes and determine CFS control factors.

Input

- distdata.txt – file containing data before unknown data are distributed (created by **distdat.f**)
- distdata6.txt – file containing final distribution data (created by **distdat.f**)
- **cfs_path_model6.xls** – FY 04 CFS volumes by dispositions distribution keys
- **SSAMnth04.xls** – FY 04 CFS control volumes

Workbook: **TablesCFS6.xls** (L61AppendixC\PrePARS\Volumes)

Purpose: Excel workbook to summarize FY 04 inflated UAA volumes at CFS units.

Input
- **distvol6.xls** – FY 04 distributed volumes pivot tables inputs

Workbook: **TablesDU6.xls** (L61AppendixC\PrePARS\Volumes)

Purpose: Excel workbook to summarize FY 04 inflated UAA volumes at delivery units.

Input
- **distvol6.xls** – FY 04 distributed volumes pivot tables inputs

Workbook: **Shape GFY04r_val.xls** (L61AppendixC\PrePARS\RPW)

Purpose: Excel workbook to report FY 04 RPW detailed volumes by shape and rate category.

Input
- Data from USPS-LR-K-87/Docket R2005-1

Workbook: **Qt047_2.xls** (L61AppendixC\PrePARS\RPW)

Purpose: Excel workbook to summarize FY 04 RPW volumes by shape and rate category.

Input
- **Shape GFY 2004r_val.xls** – FY 04 RPW by shape data

Workbook: **Form3.xls** (L61AppendixC\PrePARS\Volumes)

Purpose: Excel workbook to determine FY 04 hold mail volumes as found on Form 3D.

Input

- None

Workbook: **PrePARS VolTabs.xls** (L61AppendixC\PrePARS\Tables)

Purpose: Excel workbook to report final FY 04 UAA and PKR volumes for Tables 2.1 through 2.5.

Input
- **distvol6.xls** –FY 04 CFS control volumes
- **Form3.xls** – FY 04 hold mail volumes
- **Qt047_2.xls** – FY 04 RPW volumes
- **TablesCFS6.xls** – FY 04 CFS volumes by class, rate category, and shape
- **TablesDU6.xls** – FY 04 DU volumes by class, rate category, and shape

Workbook: **PrePARS VolTabs_v.xls** (L61AppendixC\PrePARS\Tables)

Purpose: Excel workbook to report final FY 04 UAA and PKR volumes for Tables 2.1 through 2.5, excluding links to source data in external workbooks. The results in this workbook are identical to those found in **PrePARS VolTabs.xls**.

Input
- None

10.5 Delivery Unit Nixie Survey

The following programs and Excel workbooks are used to inflate and aggregate volumes and productivities from the delivery unit nixie survey.

Program: **readnixie.f** (L61AppendixC\DUNixie\progs)

Purpose: FORTRAN program to read and process data for nixie unit survey, Form 7D (needed for *Pre-PARS Baseline Cost Model*).

Input
- zipmap.prn – map of all ZIP Codes in original sample
- Form7.txt – database of Form 7D data

Output
- nixprod.txt – file containing nixie unit productivities
- nixdat.txt – file containing nixie unit volumes

Workbook: **nixiesurvey6.xls** (L61AppendixC\PrePARS\Volumes)

Purpose: Excel workbook to report FY 04 volumes and productivities measured on the delivery unit nixie survey, Form 7D.

Input
- nixdat.txt – file containing nixie unit volumes
- nixprod.txt – file containing nixie unit productivities
- **distvol6.xls** – FY 04 distributed volumes pivot tables inputs
- **make_HTweights.xls** – Horwitz-Thompson sample weights

10.6 Delivery Unit Accountable Mail Survey

The following programs and Excel workbooks are used to inflate and aggregate volumes and productivities from the delivery unit accountable mail survey.

Program: **readpostdue.f** (L61AppendixC\DUPostdue\progs)

Purpose: FORTRAN program to read and process data for accountable mail unit survey, Form 8D.

Input
- zipmap.prn – map of all ZIP Codes in original sample
- Form8.txt – database of Form 8D data

Output
- pdprod.txt – file containing accountable mail unit productivities
- pddat.txt – file containing accountable mail unit volumes

Workbook: **pdsurvey6.xls** (L61AppendixC\PrePARS\Volumes)

Purpose: Excel workbook to report FY 04 volumes and productivities measured on the delivery unit accountable mail survey, Form 8D.

Input
- pdprod.txt – file containing accountable mail unit productivities
- pddat.txt – file containing accountable mail unit volumes
- **distvol6.xls** – FY 04 distributed volumes pivot tables inputs
- **make_HTweights.xls** – Horwitz-Thompson sample weights
- **nixiesurvey6.xls** – FY 04 nixie unit postage due volumes

10.7 CFS Unit Surveys

The following programs and Excel workbooks are used to inflate and aggregate volumes and productivities from the CFS unit surveys.

<u>Workbook</u>: **CFSVol04.xls** (L61AppendixC\PrePARS\FCS)

> Purpose: Excel workbook to report FCS database FY 04 CFS volumes for each selected CFS unit.
>
> Input
> - **FCS SSA Database**

<u>Workbook</u>: **CFS_Form1.xls** (L61AppendixC\PrePARS\Volumes)

> Purpose: Excel workbook to report FY 04 CFS local unit budget data for supplies and equipment (Form 1C).
>
> Input
> - None

<u>Workbook</u>: **CFS_Form2.xls** (L61AppendixC\PrePARS\Volumes)

> Purpose: Excel workbook to derive FY 04 rekey rates at CFS units (Form 2C).
>
> Input
> - **CFSVol04.xls** – FY 04 FCS volumes by CFS unit
> - **make_HT_weights_cfs_form2.xls** – Horwitz-Thompson sample weights
> - **make_HTweights_cfs_qc.xls** – Horwitz-Thompson sample weights

<u>Workbook</u>: **CFS_Form3.xls** (L61AppendixC\PrePARS\Volumes)

> Purpose: Excel workbook to determine the number of FY 04 Form 3547s by type at CFS units (Form 3C).
>
> Input
> - **CFSVol04.xls** – FY 04 FCS volumes by CFS unit
> - **make_HT_weights_cfs_form3.xls** – Horwitz-Thompson sample weights

<u>Program</u>: **readform4.f** (L61AppendixC\CFSSurvey\progs)

Purpose: To roll up postage due volumes and productivities by selected CFS unit.

Input
- CFS_Form4.txt – database of postage due data at selected CFS units
- finsite.prn – listing by finance number of selected CFS units

Output
- vol_form4.txt – aggregated postage due volume data at selected CFS units
- prod_form4.txt – aggregated postage due productivity data at selected CFS units

Workbook: **CFS_Form4.xls** (L61AppendixC\PrePARS\Volumes)

Purpose: Excel workbook to estimate the FY 04 volumes and productivities of postage due processing at CFS units (Form 4C).

Input
- vol_form4.txt – aggregated postage due volume data at selected CFS units
- prod_form4.txt – aggregated postage due productivity data at selected CFS units
- **CFSVol04.xls** – FY 04 FCS volumes by CFS unit
- **make_HT_weights_cfs_form4.xls** – Horwitz-Thompson sample weights

Program: **readform5.f** (L61AppendixC\CFSSurvey\progs)

Purpose: To roll up MRC volumes and productivities by selected CFS unit.

Input
- CFS_Form5.txt – database of MRC data at selected CFS units
- finsite.prn – listing by finance number of selected CFS units

Output
- vol_form5.txt – aggregated MRC volume data at selected CFS units
- prod_form5.txt – aggregated MRC productivity data at selected CFS units

Workbook: **CFS_Form5.xls** (L61AppendixC\PrePARS\Volumes)

Purpose: Excel workbook to estimate the FY 04 volumes and productivities of MRC mail processing at CFS units (Form 5C).

Input
- vol_form5.txt – aggregated MRC volume data at selected CFS units
- prod_form5.txt – aggregated MRC productivity data at selected CFS units
- **make_HT_weights_cfs_form5.xls** – Horwitz-Thompson sample weights

Program: **readform6.f** (L61AppendixC\CFSSurvey\progs)

Purpose: To roll up Form 3547 batch data by selected CFS unit.

Input
- CFS_Form6.txt – database of Form 3547 batch data at selected CFS units
- finsite.prn – listing by finance number of selected CFS units

Output
- envelopes – aggregated Form 3547 envelopes for selected CFS units
- Form3547 – aggregated total number of Form 3547s for selected CFS units

Workbook: **CFS_Form6.xls** (L61AppendixC\PrePARS\Volumes)

Purpose: Excel workbook to estimate the FY 04 Form 3547 form-to-envelope conversion factor at CFS units (Form 6C).

Input
- envelopes – aggregated Form 3547 envelopes for selected CFS units
- Form3547 – aggregated total number of Form 3547s for selected CFS units
- **CFSVol04.xls** – FY 04 FCS volumes by CFS unit
- **make_HT_weights_cfs_form6.xls** – Horwitz-Thompson sample weights

10.8 Pre-PARS Baseline Cost Model

The following programs and Excel workbooks are used to calculate costs for the *Pre-PARS Baseline Cost Model* as reported in Section 3 above.

10.8.1   Volumes

<u>Workbook</u>: **duvol6_class.xls** (L61AppendixC\PrePARS\Volumes)

Purpose: Excel workbook to report FY 04 UAA and PKR volumes by route type and rate category as found in the delivery unit route survey.

Input
- **form4idx_15.xls** – FY 04 Form 4 volumes pivot tables inputs
- **form5idx_15.xls** – FY 04 Form 5 volumes pivot tables inputs
- **form6idx_15.xls** – FY 04 Form 6 volumes pivot tables inputs
- **distvol6.xls** – FY 04 distributed volumes cross reference check
- **PrePARS VolTab.xls** – FY 04 final volumes cross reference check
- **TablesCFS6.xls** – FY 04 CFS volumes cross reference check
- **TablesDU6.xls** – FY 04 DU volumes cross reference check

<u>Workbook</u>: **duvol6.xls** (L61AppendixC\PrePARS\Volumes)

Purpose: Excel workbook to report FY 04 UAA and PKR aggregated volumes by route type as found in the delivery unit route survey.

Input
- **duvol6_class.xls** – FY 04 DU volumes by rate category
- **SSAMnth04.xls** – FY 04 CFS no-record mail volumes

<u>Workbook</u>: **cfsvol6.xls** (L61AppendixC\PrePARS\Volumes)

Purpose: Excel workbook to report FY 04 UAA aggregated volumes processed at CFS units.

Input
- **distvol6.xls** – FY 04 CFS distributed volumes pivot tables inputs
- **CFS_Form5.xls –** FY 04 CFS MRC mail productivities
- **pdsurvey6.xls** – FY 04 postage due volumes cross reference check
- **TablesCFS6.xls** – FY 04 CFS volumes cross reference check

<u>Workbook</u>: **cfsvol6_class.xls** (L61AppendixC\PrePARS\Volumes)

Purpose: Excel workbook to report FY 04 UAA volumes by rate category processed at CFS units.

Input
- **distvol6.xls** – FY 04 CFS distributed volumes pivot tables inputs
- **CFS_Form5.xls** – FY 04 CFS MRC mail productivities
- **cfsvol6.xls** – FY 04 CFS aggregated volumes cross reference check
- **pdsurvey6.xls** – FY 04 postage due volumes cross reference check
- **TablesCFS6.xls** – FY 04 CFS volumes cross reference check

Workbook: **nixvol6.xls** (L61AppendixC\PrePARS\Volumes)

Purpose: Excel workbook to report FY 04 UAA aggregated volumes processed at nixie units.

Input
- **nixiesurvey6.xls** – FY 04 nixie unit volumes
- **distvol6.xls** – FY 04 nixie unit volumes cross reference check

Workbook: **nixvol6_class.xls** (L61AppendixC\PrePARS\Volumes)

Purpose: Excel workbook to report FY 04 UAA volumes by rate category processed at nixie units.

Input
- **nixiesurvey6.xls** – FY 04 nixie unit volumes

Workbook: **pdvol6.xls** (L61AppendixC\PrePARS\Volumes)

Purpose: Excel workbook to report FY 04 UAA aggregated volumes processed at accountable mail units.

Input
- **pdsurvey6.xls** – FY 04 postage due volumes

Workbook: **pdvol6_class.xls** (L61AppendixC\PrePARS\Volumes)

Purpose: Excel workbook to report FY 04 UAA volumes by rate category processed at accountable mail units.

Input
- **pdsurvey6.xls** – FY 04 postage due volumes

Workbook: **machvols6.xls** (L61AppendixC\PrePARS\Volumes)

Purpose: Excel workbook to report FY 04 UAA aggregated parcels by disposition and machinability.

Input
- **distvol6.xls** – FY 04 distributed volumes pivot tables inputs
- **TablesCFS6.xls** – FY 04 CFS volumes cross reference check
- **TablesDU6.xls** – FY 04 DU volumes cross reference check

Workbook: **pkrvol6_class.xls** (L61AppendixC\PrePARS\Volumes)

Purpose: Excel workbook to report FY 04 PKR volumes by rate category.

Input
- **aqvol6.xls** – FY 04 PKR volumes by address quality reason pivot tables inputs
- **duvol6_class** – FY 04 DU volumes cross reference check

Workbook: **pkrvol6.xls** (L61AppendixC\PrePARS\Volumes)

Purpose: Excel workbook to report FY 04 PKR aggregated volumes.

Input
- **pkrvol6_class.xls** – FY 04 PKR volumes by rate category

10.8.2   *CRA Costs, IOCS Costs, and Other Inputs*

Program: **cadoc04_rep.f** (L61AppendixC\IOCS04\tally)

Purpose: FORTRAN program to separate mail processing, administration, and window service tallies from the main IOCS dataset. This program also assigns FY 04 cost pool designations to mail processing tallies.

Input
- mods_fins04.prn – listing of finance numbers of all MODS facilities
- costpools04.prn – listing of variability factors by cost pool
- prc04flt.dat – database of all IOCS tallies (Source: USPS-LR-K-9)
- iocs2004.h – declaration of IOCS tally fields

Output
- clk_mh_mp04.dat – database of all mail processing IOCS tallies for clerks and mail handlers
- clk_mh_aw04.dat – database of all administration and window service IOCS tallies for clerks and mail handlers

Program: **mpproc04.f** (L61AppendixC\IOCS04\tally)

Purpose: FORTRAN program to distribute FY 04 mixed-mail and not-handling-mail tallies, keeping function 4 MODS cost pools separate from non-MODS cost pools, and keeping separate detail for incoming secondary data.

Input
- activity04_intl.cra – listing of activity codes in IOCS database, map of activity code to mail subclass
- mixclass.intl – listing of mixed mail activity codes in IOCS database
- mxmail.intl.dat – map to link together mixed mail activity codes
- costpools04_intl.prn – listing of variability factors by cost pool
- clk_mh_mp04.dat – database of all mail processing IOCS tallies for clerks and mail handlers
- iocs2004.h – declaration of IOCS tally fields

Output
- mp04_cra.data – database of post-distribution mail processing IOCS tallies, separate detail for function 4 MODS cost pools

Program: **sumclass_mp.f** (L61AppendixC\IOCS04\tally)

Purpose: FORTRAN program to roll up output from mpproc04.f to class, rate category, shape, and cost pool.

Input
- costpools04_intl.prn – listing of variability factors by cost pool
- activity04_intl.cra – listing of activity codes in IOCS database, map of activity code to mail subclass
- classes.cra.new – listing of CRA mail subclasses
- classmap.cra.new – listing CRA mail subclasses by activity code
- mp04_cra.data – database of post-distribution mail processing IOCS tallies, separate detail for function 4 MODS cost pools (created by **mpproc04.f**)

Output
- mp04cra_uaa.csv – database of post-distribution mail processing costs by class, subclass, shape, and cost pool.

Workbook: **FY04 CRA Costs by Pool.xls** (L61AppendixC\PrePARS\CRA)

Purpose: Excel workbook to adjust data to final FY 04 CRA C/S 3.1 data by class, subclass, shape, and cost pool.

Input

- mp04cra_uaa.csv – database of post-distribution mail processing costs by class, subclass, shape, and cost pool (created by **sumclass_mp.f**)
- CRA mail processing control totals from USPS-LR-K-5/Docket R2005-1

Program: **cadoc04_fcn4.f** (L61AppendixC\IOCS04\tally)

Purpose: FORTRAN program to separate mail processing, administration, and window service tallies from the main IOCS dataset. This program also assigns FY 04 cost pool designations to mail processing tallies, keeping function 4 MODS cost pools separate from non-MODS costs pools.

Input
- mods_fins04.prn – listing of finance numbers of all MODS facilities
- costpools04.prn – listing of variability factors by cost pool
- prc04flt.dat – database of all IOCS tallies (Source: USPS-LR-K-9)
- iocs2004.h – declaration of IOCS tally fields

Output
- clk_mh_mp04_fcn4.dat – database of all mail processing IOCS tallies for clerks and mail handlers
- clk_mh_aw04_fcn4.dat – database of all administration and window service IOCS tallies for clerks and mail handlers

Program: **uaa_mp.f** (L61AppendixC\IOCS04\tally)

Purpose: FORTRAN program to roll up FY 04 IOCS direct mail processing tallies by UAA category, class, subclass, shape, and cost pool.

Input
- activity04_intl.cra – listing of activity codes in IOCS database, map of activity code to mail subclass
- classes.cra.new – listing of CRA mail subclasses
- costpools04_intl.prn – listing of variability factors by cost pool
- clk_mh_mp04_fcn4.dat – database of all mail processing IOCS tallies for clerks and mail handlers (created by **cadoc04_fcn4.f**)
- iocs2004.h – declaration of IOCS tally fields

Output
- all_mp_uaa.dat2 – database of IOCS mail processing direct tallies, including UAA category detail
- fcn4_mp_uaa_dat2 – database of IOCS mail processing direct tallies in function 4 cost pools, including UAA category detail

- cfs_mp_uaa_dat2 – database of IOCS mail processing direct tallies in the CFS cost pool (LDC 49), including UAA category detail
- oth_mp_uaa2.csv – database of IOCS mail processing direct tallies in all other cost pools, including UAA category detail

Program: **distrib_mp.f** (L61AppendixC\IOCS04\tally)

Purpose: FORTRAN program to use FY 04 direct tallies by UAA category to distribute CRA C/S 3.1 costs at the cost pool, mail class, subclass, and shape level.

Input
- classes.cra.new – listing of CRA mail subclasses
- costpools04_intl.prn – listing of variability factors by cost pool
- cra_mp_costs04.prn – CRA control totals by subclass, shape, and cost pool (created by **FY04 CRA Costs by Pool.xls**)
- all_mp_uaa.dat2 – database of IOCS mail processing direct tallies, including UAA category detail (created by **uaa_mp.f**)

Output
- mp_uaa_dst04a.csv – final database of CRA-controlled mail processing data by UAA category, mail class, subclass, shape, and cost pool

Program: **uaa_admwin.f** (L61AppendixC\IOCS04\tally)

Purpose: FORTRAN program to roll up FY 04 IOCS direct administration and window service tallies by UAA category, class, subclass, shape, and cost pool.

Input
- activity04_intl_win.cra – listing of activity codes in IOCS database, map of activity code to mail subclass
- classes.cra.win – listing of CRA mail subclasses
- clk_mh_aw04_fcn4.dat – database of all administration and window service IOCS tallies for clerks and mail handlers (created by **cadoc04_fcn4.f**)
- iocs2004.h – declaration of IOCS tally fields

Output
- all_admwin_uaa.dat – database of IOCS administration and window service direct tallies, including UAA category detail
- admwin_uaa.dat – alternative specification of database of IOCS administration and window service direct tallies, including UAA category detail

Workbook: **FY04 CRA AdmWin Costs.xls** (L61AppendixC\PrePARS\CRA)

Purpose: Excel workbook to provide FY 04 window service costs by class and subclass as reported in USPS-LR-K-5/Docket R2005-1.

Input
- CRA window service control totals from USPS-LR-K-5/Docket R2005-1

Program: **distrib_admwin.f** (L61AppendixC\IOCS04\tally)

Purpose: FORTRAN program to use FY 04 direct tallies by UAA category to distribute CRA C/S 3.2 and 3.3 costs at the cost pool, mail class, subclass, and shape level.

Input
- classes.cra.win – listing of CRA mail subclasses
- cra_win_costs04.prn – CRA window service control totals by subclass, shape, and cost pool (created by **FY04 CRA AdmWinCosts.xls)**
- all_admwin_uaa.dat – database of IOCS administration and window service direct tallies, including UAA category detail (created by **uaa_admwin.f**)

Output
- admwin_uaa_dist04.csv – final database of CRA-controlled administration and window service data by UAA category, mail class, subclass, shape, and cost pool

Program: **cc_tally.f** (L61AppendixC\IOCS04\tally)

Purpose: FORTRAN program to separate city carrier IOCS tallies from the main IOCS dataset.

Input
- prc04flt.dat – database of all IOCS tallies (Source: USPS-LR-K-9)

Output
- iocsCR_sas.2004.dat – database of all city carrier IOCS tallies

Program: **uaa_cc.f** (L61AppendixC\IOCS04\tally)

Purpose: FORTRAN program to roll up FY 04 IOCS city carrier direct tallies by UAA category, class, subclass, shape, and cost pool.

Input

- activity04_intl_cc.cra – listing of activity codes in IOCS database, map of activity code to mail subclass
- classes.cra.new – listing of CRA mail subclasses
- iocsCR_sas.2004.dat – database of all city carrier IOCS tallies (created by **cc_tally.f**)
- iocs2004.h – declaration of IOCS tally fields

Output
- cc_uaa_input.dat – database of IOCS city carrier direct tallies, including UAA category detail
- cc_uaa.dat – alternative specification of database of IOCS city carrier direct tallies, including UAA category detail

Program: **distrib_cc.f** (L61AppendixC\IOCS04\tally)

Purpose: FORTRAN program to use FY 04 direct tallies by UAA category to distribute CRA C/S 6.1 costs at mail class, subclass, and shape level.

Input
- classes.cra.new – listing of CRA mail subclasses
- cra_cc_costs04.prn – CRA city carrier control totals from USPS-LR-K-5/Docket R2005-1
- cc_uaa_input.dat – database of IOCS city carrier direct tallies, including UAA category detail (created by **uaa_cc.f**)
- iocs2004.h – declaration of IOCS tally fields

Output
- cc_uaa_dist04.csv – final database of CRA-controlled city carrier data by UAA category, mail class, subclass, and shape

Workbook: **FY04 CRA Costs by UAA Category.xls**
       (L61AppendixC\PrePARS\CRA)

Purpose: Excel workbook to summarize FY 04 CRA-controlled data by UAA category, mail class, subclass, shape, and cost pool for clerks, mail handlers, city carriers, and rural carriers.

Input
- mp_uaa_dst04a.csv – mail processing data (created by **distrib_mp.f**)
- admwin_uaa_dist04.csv – administration and window service data (created by **distrib_admwin.f**)
- cc_uaa_dist04.csv – city carriers data (created by **uaa_cc.f**)

Program: **uaa_mp_dist.f** (L61AppendixC\IOCS04\tally)

Purpose: FORTRAN program to roll up FY 04 IOCS direct mail processing tallies by UAA category, incoming secondary category, class, subclass, shape, and cost pool (needed by **CRA04_UAA.xls** P.O. box clerk cost estimation)

Input
- activity04_intl.cra – listing of activity codes in IOCS database, map of activity code to mail subclass
- classes.cra.new – listing of CRA mail subclasses
- costpools04_intl.prn – listing of variability factors by cost pool
- clk_mh_mp04.dat – database of all mail processing IOCS tallies for clerks and mail handlers (created by **cadoc04_rep.f**)
- iocs2004.h – declaration of IOCS tally fields

Output
- all_dist_mp_uaa.csv – database of IOCS mail processing direct tallies, including UAA category detail and incoming secondary category detail

Workbook: **UAA IOCS Tallies04 Inc Secondary.xls**
        (L61AppendixC\PrePARS\CRA)

Purpose: Excel workbook to summarize FY 04 IOCS data by UAA category and incoming secondary distribution category. This information is used to develop CRA control costs by shape for P.O. box distribution.

Input
- all_dist_mp_uaa2.csv – mail processing data with incoming secondary detail (created by **uaa_mp_dist.f**)

Workbook: **FY04Seg_20050214.xls** (L61AppendixC\PrePARS\CRA)

Purpose: Excel workbook containing FY 04 CRA costs by segment and component from USPS-LR-K-5/Docket R2005-1.

Input
- Data from USPS-LR-K-5/Docket R2005-1

Workbook: **CRA04_UAA.xls** (L61AppendixC\PrePARS\CRA)

Purpose: Excel workbook to calculate FY 04 CRA costs by UAA category.

Input
- **FY04 CRA Costs by UAA Category.xls** – FY 04 CRA controlled cost data pivot table inputs

- **UAA IOCS Tallies04 Inc Secondary.xls** – FY 04 CRA incoming secondary data pivot table inputs (P.O. boxes only)
- **FY04Seg_20050214.xls** – FY 04 CRA control totals
- **LabRates04.xls** – FY 04 Clerk/City Carrier labor rate conversions
- **pdsurvey6.xls** – FY 04 postage due volumes
- **Qt047_2.xls** – FY 04 RPW volumes
- **TablesCFS6.xls** – FY 04 CFS volumes by shape
- **TablesDU6.xls** – FY 04 DU volumes by shape

Workbook: **BYPBack04.USPS.20050214.xls** (L61AppendixC\PrePARS\CRA)

Purpose: Excel workbook containing FY 04 CRA component/segment piggyback factors from USPS-LR-K-52/Docket R2005-1.

Input
- Data from USPS-LR-K-52/Docket R2005-1

Workbook: **MPPGBY04.xls** (L61AppendixC\PrePARS\CRA)

Purpose: Excel workbook containing FY 04 CRA cost pool piggyback factors from USPS-LR-K-148/Docket R2005-1.

Input
- Data from USPS-LR-K-148/Docket R2005-1

Workbook: **LabRates04.xls** (L61AppendixC\PrePARS\CRA)

Purpose: Excel workbook containing FY 04 CRA labor rates by craft from USPS-LR-K-50/Docket 2005-1.

Input
- Data from USPS-LR-K-50/Docket R2005-1

Workbook**: FY04 mail proc variabilities.xls** (L61AppendixC\PrePARS\CRA)

Purpose: Excel workbook containing FY 04 CRA mail processing variabilities by cost pool from USPS-LR-K-55/Docket R2005-1.

Input
- Data from USPS-LR-K-55/Docket R2005-1

Workbook: **LR-K-43FIRST-CLASS FLATS.xls** (L61AppendixC\PrePARS\DPS)

Purpose: Excel workbook containing First-Class Mail flats data from USPS-LR-K-43/Docket R2005-1.

Input
  • Data from USPS-LR-K-43/Docket R2005-1

<u>Workbook</u>: **LR-K-48FCLTRS-RevisedV4.xls** (L61AppendixC\PrePARS\DPS)

Purpose: Excel workbook containing First-Class Mail letters data from USPS-LR-K-48/Docket R2005-1.

Input
  • Data from USPS-LR-K-48/Docket R2005-1

<u>Workbook</u>: **LR-K-48STDLETRS-RevisedV4.xls** (L61AppendixC\PrePARS\DPS)

Purpose: Excel workbook containing Standard Mail letters data from USPS-LR-K-48/Docket R2005-1.

Input
  • Data from USPS-LR-K-48/Docket R2005-1

10.8.3   DPS Percent Model

<u>Workbook</u>: **OCA-T5-1-2_resp.xls** (L61AppendixC\PrePARS\DPS)

Purpose: Excel workbook to report city-carrier-delivered volumes from OCA/USPS-T5-1-2/Docket R2005-1.

Input
  • Data from OCA/USPS-T5-1-2/Docket R2005-1

<u>Workbook</u>: **LR-K-67_2nd.revised.xls** (L61AppendixC\PrePARS\DPS)

Purpose: Excel workbook to report carrier costs and volumes from USPS-LR-K-67/Docket R2005-1.

Input
  • Data from USPS-LR-K-67/Docket R2005-1

<u>Workbook</u>: **UAA_DPS_Percent_Model.xls** (L61AppendixC\PrePARS\DPS)

Purpose: Excel workbook to calculate the overall DPS letter percentage.

Input
  • **LR-K-48FCLTRS-RevisedV4.xls** – First-Class Mail letter volumes

- **LR-K-48STDLETRS-RevisedV4.xls** – Standard Mail Non-ECR letter volumes
- **LR-K-67_2nd.revised.xls** – Standard Mail ECR letter volumes
- **OCA-T5-1-2_resp.xls** – Periodicals letter volumes
- **Qt047_2.xls** – FY 04 RPW volumes
- **Shape GFY 2004r_val.xls** – FY 04 RPW volumes by shape cross reference check

10.8.4   *Cost Modules and Final Tables*

Workbook: **UAA PrePARS Model-BaseDU.xls** (L61AppendixC\PrePARS\Costs)

Purpose: Excel workbook to calculate pre-PARS FY 04 costs for the route module, nixie module, and postage due module, including costs associated with no-record mail, COA forms, and address correction forms.

Input
- **aqvol6.xls** – FY 04 UAA bundle parameters
- **BYPBack04.USPS.20050214.xls** – FY 04 component piggyback factors
- **CFS Form4.xls** – FY 04 CFS postage due productivities
- **CRA04_UAA.xls** – FY 04 CRA controls
- **duvol6.xls** – FY 04 delivery unit volumes
- **FY04 mail proc variabilities.xls** – FY 04 Cost pool variabilities
- **FY04Seg_20050214.xls** – FY 04 CRA segment and component costs
- **LabRates04.xls** – FY 04 labor rates by craft
- **LR-K-43FIRST-CLASS FLATS.xls** – PKR IS flat productivities
- **LR-K-48FCLTRS-RevisedV4.xls** – PKR IS letter productivities
- **MPPGBY04.xls** – FY 04 cost pool piggyback factors
- **nixiesurvey6.xls** – FY 04 nixie unit productivities
- **nixvol6.xls** – FY 04 nixie unit volumes
- **pdsurvey6.xls** – FY 04 accountable unit productivities
- **pdvol6.xls** – FY 04 accountable unit postage due volumes
- **pkrvol6.xls** – FY 04 PKR volumes
- **Qt047_2.xls** – FY 04 COD volumes
- **SSAMnth04.xls** – FY 04 COA parameters
- **UAA PrePARS Model-BaseCFS.xls** – Pre-PARS FY 04 COA parameters, address correction parameters
- **UAA_DPS_Percent_Model.xls** – DPS percentages

Workbook: **UAA PrePARS Model-BaseCFS.xls**
          (L61AppendixC\PrePARS\Costs)

Purpose: Excel workbook to calculate costs for the pre-PARS FY 04 CFS module and the pre-PARS FY 04 mail processing and transportation module.

Input
- **CFS_Form1.xls** – FY 04 CFS field supplies cost
- **CFS_Form2.xls** – FY 04 CFS rekey rates
- **CFS_Form3.xls** – FY 04 Form 3547 disposition
- **CFS_Form4.xls** – FY 04 CFS postage due productivities
- **CFS_Form5.xls** – FY 04 CFS MRC mail productivities
- **CFSProds04.xls** – FY 04 FCS database productivities
- **cfsvol6.xls** – FY 04 CFS volumes
- **CRA04_UAA.xls** – FY 04 CFS controls
- **FY04 mail proc variabilities.xls** – FY 04 cost pool variabilities
- **FY04Seg_20050214.xls** – FY 04 CRA C/S 14 First-Class Mail cost
- **LabRates04.xls** – FY 04 labor rates by craft
- **machvols6.xls** – FY 04 machinable/non-machinable parcel volumes
- **Qt047_2.xls** – FY 04 First-Class Mail volume (transportation unit cost)
- **SSAMnth04.xls** – FY 04 COA mail volumes, Form 3579 parameters
- **TablesCFS6.xls** – FY 04 CFS volumes by shape
- **TablesDU6.xls** – FY 04 DU volumes by shape
- **UAA PrePARS Model-BaseDU.xls** – Pre-PARS FY 04 letter/flat relative productivity factor

Workbook: **PrePARS BaseTabs.xls** (L61AppendixC\PrePARS\Tables)

Purpose: Excel workbook to report final pre-PARS FY 04 UAA and PKR costs for Tables 3.1 through 3.26.

Input
- **PrePARS VolTabs.xls** – FY 04 total volumes cross reference check
- **TablesCFS6.xls** – FY 04 CFS volumes cross reference check
- **TablesDU6.xls** – FY 04 DU volumes cross reference check
- **UAA PrePARS Model-BaseCFS.xls** – Pre-PARS FY 04 cost results from CFS module and mail processing and transportation module
- **UAA PrePARS Model-BaseDU.xls** – Pre-PARS FY 04 cost results from route, nixie, and postage due modules

Workbook: **PrePARS BaseTabs_v.xls** (L61AppendixC\PrePARS\Tables)

Purpose: Excel workbook to report final pre-PARS FY 04 UAA and PKR costs for Tables 3.1 through 3.26, excluding links to source data in external workbooks. The results in this workbook are identical to those found in **PrePARS BaseTabs.xls**.

Input
- None

10.9 Pre-PARS Rate Category Cost Model

The following Excel workbooks are used to calculate costs for the *Pre-PARS Rate Category Cost Model* as reported in Section 4 above.

<u>Workbook</u>: **UAA PrePARS Model-RateCat.xls** (L61AppendixC\PrePARS\Costs)

Purpose: Excel workbook to calculate pre-PARS FY 04 costs at the rate category level for all modules.

Input
- **cfsvol6.xls** – FY 04 CFS volumes cross reference check
- **cfsvol6_class.xls** – FY 04 CFS volumes by class, rate category, and shape
- **duvol6.xls** – FY 04 DU volumes cross reference check
- **duvol6_class.xls** – FY 04 DU volumes by class, rate category, and shape
- **machvol6.xls** – FY 04 machinable/non-machinable parcel volumes by class and subclass
- **nixiesurvey6.xls** – FY 04 nixie unit volumes cross reference check
- **nixvol6_class.xls** – FY 04 nixie unit volumes by class, rate category, and shape
- **pdsurvey6.xls** – FY 04 postage due volumes cross reference check
- **pdvol6_class.xls** – FY 04 postage due volumes by class, rate category, and shape
- **pkrvol6_class.xls** – FY 04 PKR volumes by class, rate category, and shape
- **PrePARS BaseTabs.xls** – Pre-PARS FY 04 baseline cost model cross reference check
- **PrePARS VolTabs.xls** – FY 04 final UAA volumes cross reference check
- **TablesCFS6.xls** – FY 04 CFS volumes cross reference check
- **TablesDU6.xls** – FY 04 DU volumes cross reference check

- **UAA PrePARS Model-AddQual.xls** – Pre-PARS FY 04 address quality volumes by class, rate category, and shape (used for deaveraging of mail processing costs)
- **UAA PrePARS Model-BaseCFS.xls** – Pre-PARS FY 04 unit costs and other parameters from the CFS module and the mail processing and transportation module
- **UAA PrePARS Model-BaseDU.xls** – Pre-PARS FY 04 unit costs and other parameters from the route module, nixie module, and postage due module

Workbook: **PrePARS ClassTabs.xls** (L61AppendixC\PrePARS\Tables)

Purpose: Excel workbook to report final pre-PARS FY 04 UAA costs and volumes for Tables 4.1 through 4.64.

Input
- **UAA PrePARS Model-RateCat.xls** – Pre-PARS FY 04 cost and volumes by class, rate category, and shape
- **PrePARS BaseTabs.xls** – Pre-PARS FY 04 baseline cost model cross reference check

Workbook: **PrePARS ClassTabs_v.xls** (L61AppendixC\PrePARS\Tables)

Purpose: Excel workbook to report final pre-PARS FY 04 UAA costs and volumes for Tables 4.1 through 4.64, excluding links to source data in external workbooks. The results in this workbook are identical to those found in **PrePARS ClassTabs.xls**.

Input
- None

10.10 Pre-PARS Address Quality Cost Model

The following Excel workbooks are used to calculate costs for the *Pre-PARS Address Quality Cost Model* as reported in Section 5 above.

Workbook: **aqvol6.xls** (L61AppendixC\PrePARS\Volumes)

Purpose: Excel workbook to FY 04 aggregate UAA volumes by address quality reason.

Input
- form4aqdat.txt – FY 04 Form 4D address quality data (created by **rollaq.f**)

- form5aqdat.txt – FY 04 Form 5D address quality data (created by **rollaq.f**)
- form6aqdat.txt – FY 04 Form 6D address quality data (created by **rollaq.f**)
- **disvol6.xls** – FY 04 distributed volumes control data pivot tables inputs
- **duvol6_class.xls** – FY 04 DU volumes by class, rate category, and shape cross reference check
- **TablesCFS6.xls** – FY 04 CFS volumes cross reference check
- **TablesDU6.xls** – FY 04 DU volumes cross reference check

<u>Workbook</u>: **UAA PrePARS Model-AddQual.xls**
(L61AppendixC\PrePARS\Costs)

Purpose: Excel workbook to derive Pre-PARS FY 04 costs by class, rate category, shape and address quality reason.

Input
- **aqvol6.xls** – FY 04 address quality volumes
- **PrePARS BaseTabs.xls** – Pre-PARS FY 04 baseline cost model cross reference check
- **TablesCFS6.xls** – FY 04 CFS volumes by class, rate category, and shape
- **TablesDU6.xls** – FY 04 DU volumes by class, rate category, and shape
- **UAA PrePARS Model-RateCat.xls** – Pre-PARS FY 04 costs by class, rate category, and shape

10.11 Pre-PARS Ancillary Service Endorsement Cost Model

The following Excel workbooks are used to calculate costs for the *Pre-PARS Ancillary Service Endorsement Cost Model* as reported in Section 5 above.

<u>Workbook</u>: **UAA PrePARS Model-AncEnd.xls** (L61AppendixC\PrePARS\Costs)

Purpose: Excel workbook to derive Pre-PARS FY 04 costs by class, rate category, shape and ancillary service endorsement.

Input
- **distvol6.xls** – FY 04 distributed volumes pivot tables inputs
- **cfsvol6.xls** – FY 04 CFS volumes MRC shares by class, rate category, and shape
- **nixiesurvey6.xls** – FY 04 ancillary service endorsement volumes from the nixie unit

- **PrePARS BaseTabs.xls** – Pre-PARS FY 04 baseline cost model cross reference checks
- **TablesCFS6.xls** – FY 04 CFS volumes cross reference checks
- **TablesDU6.xls** – FY 04 DU volumes cross reference checks
- **UAA PrePARS Model-BaseCFS.xls** – Pre-PARS FY 04 unit costs and other parameters from the CFS module and the mail processing and transportation module
- **UAA PrePARS Model-BaseDU.xls** – Pre-PARS FY 04 unit costs and other parameters from the route module, nixie module, and postage due module
- **UAA PrePARS Model-RateCat.xls** – Pre-PARS FY 04 manual notice costs and volumes by class, rate category, and shape.

Workbook: **PrePARS OthTabs.xls** (L61AppendixC\PrePARS\Tables)

Purpose: Excel workbook to report final pre-PARS FY 04 UAA and PKR costs for Tables 5.1 through 5.20.

Input
- **nixiesurvey6.xls** – FY 04 nixie volumes cross reference check
- **PrePARS BaseTabs.xls** – Pre-PARS FY 04 baseline cost model cross reference checks
- **PrePARS ClassTabs.xls** – Pre-PARS FY 04 rate category cost model cross reference checks
- **UAA PrePARS Model-AddQual.xls** – Pre-PARS FY 04 address quality costs and volumes
- **UAA PrePARS Model-AncEnd.xls** – Pre-PARS FY 04 ancillary service endorsement costs and volumes
- **UAA PrePARS Model-RateCat.xls** – Pre-PARS FY 04 rate category cost model cross reference checks

Workbook: **PrePARS OthTabs_v.xls** (L61AppendixC\PrePARS\Tables)

Purpose: Excel workbook to report final pre-PARS FY 04 UAA and PKR costs for Tables 5.1 through 5.20, excluding links to source data in external workbooks. The results in this workbook are identical to those found in **PrePARS OthTabs.xls**.

Input
- None

10.12 Detailed ACS Costs

The following Excel workbook is used to calculate pre-PARS FY 04 detailed ACS costs reported in Section 6 above.

<u>Workbook</u>: **PrePARS ACSTabs.xls** (L61AppendixC\PrePARS\Tables)

> Purpose: Excel workbook to report final pre-PARS FY 04 detailed ACS costs for Tables 6.1 through 6.12.
>
> Input
> - **UAA PrePARS Model-RateCat.xls** – Pre-PARS FY 04 ACS/non-ACS costs and volumes by class and shape
> - **PrePARS BaseTabs.xls** – Pre-PARS FY 04 baseline cost model cross reference checks

<u>Workbook</u>: **PrePARS ACSTabs_v.xls** (L61AppendixC\PrePARS\Tables)

> Purpose: Excel workbook to report final pre-PARS FY 04 detailed ACS costs for Tables 6.1 through 6.12, excluding links to source data in external workbooks. The results in this workbook are identical to those found in **PrePARS ACSTabs.xls**.
>
> Input
> - None

10.13 Standard Errors

The following programs and Excel workbooks are used to calculate standard errors and coefficients of variation for UAA and PKR volumes as reported in Section 7 above.

<u>Workbook</u>: **make_pathmap.xls** (L61AppendixC\DUBootstrap\maps)

> Purpose: Excel workbook to create a map of mail category codes and CFS paths.
>
> Input
> - **distvol6.xls** – FY 04 mail category map

<u>Workbook</u>: **make_pathmap2.xls** (L61AppendixC\DUBootstrap\maps)

> Purpose: Excel workbook to create a map of mail category codes and CFS paths, alternative arrangement.

Input
- None

Workbook: **make_pathmap3.xls** (L61AppendixC\DUBootstrap\maps)

Purpose: Excel workbook to create a map of mail category codes and CFS paths, alternative arrangement.

Input
- **distvol6.xls** – FY 04 mail category map

Workbook: **make_pathmap4.xls** (L61AppendixC\DUBootstrap\maps)

Purpose: Excel workbook to create a map of mail category codes and CFS paths, alternative arrangement.

Input
- **distvol6.xls** – FY 04 mail category map

Workbook: **make_pathfactors.xls** (L61AppendixC\DUBootstrap\maps)

Purpose: Excel workbook to create a map of CFS disposition by mail class, ancillary service endorsement, and age of COA.

Input
- None

Workbook: **make_pathfactors2.xls** (L61AppendixC\DUBootstrap\maps)

Purpose: Excel workbook to create a map of address-correction-notice factors by mail category code.

Input
- None

Workbook: **make_pathcontrols.xls** (L61AppendixC\DUBootstrap\maps)

Purpose: Excel workbook to create a map of FCS volume controls by class and address notice type.

Input
- **distvol6.xls** – FY 04 FCS control volumes

Program: **boot_shell** (L61AppendixC\DUBootstrap\progs)

Purpose: Bash Shell that manipulates data, creates maps, and calls all FORTRAN programs during the volume inflation process. All FORTRAN programs called by this shell are the same in principle as those found in Section 10.4 above. The only additional programs called by the shell are listed below. Their role is to replicate the FCS control process (as found in **cfs_path_model6.xls** and **distvol6.xls**) and to roll up volumes (as found in **PrePARS VolTabs.xls** and the volume sections of **PrePARS ClassTabs.xls**)

Program: **stand_data.f** (L61AppendixC\DUBootstrap\progs)

Purpose: FORTRAN program to standardize the bootstrap data.

Input
  • Form4.srt – database of Form 4D
  • Form5.srt – database of Form 5D
  • Form6.srt – database of Form 6D

Output
  • Form4.new – database of standardized Form 4D data
  • Form5.new – database of standardized Form 5D data
  • Form6.new – database of standardized Form 6D data

Program: **make_bootmaps.f** (L61AppendixC\DUBootstrap\progs)

Purpose: FORTRAN program to create ZIP Code, route, and date maps for selection in the bootstrap process.

Input
  • Form4.srt – database of Form 4D
  • Form5.srt – database of Form 5D
  • Form6.srt – database of Form 6D

Output
  • routes_date.dat – map of all ZIP-route-date occurrences
  • route_map.dat – map of all route occurrences
  • zips.dat – map of all ZIP occurrences
  • routes.dat – map of all ZIP-route occurrences
  • datemap.dat – map of all date occurrences
  • itermap.txt – map of bootstrap iterations

Program: **bootselect.f (**L61AppendixC\DUBootstrap\progs)

Purpose: FORTRAN program to randomly select ZIPs and routes for the bootstrap process.

Input
- seedmap.prn – map of seed values used for random number generator
- bootzips.prn – map of originally selected ZIP Codes with sampling probabilities
- routes.srt – map of unique ZIP-route occurrences
- routes_date.srt – map of unique ZIP-route-date occurrences
- zipmap.prn – map of actual ZIPs selected

Output
- zipcnt.txt – map containing how many times a ZIP Code is selected for sampling within a bootstrap iteration
- bootdraw.txt – map of all selected ZIP-route-date occurrences

Program: **make_bootmaps2.f (**L61AppendixC\DUBootstrap\progs)

Purpose: FORTRAN program to create maps of selected ZIPs, routes, and dates.

Input
- routes_date.srt – map of unique ZIP-route-date occurrences
- bootdraw.txt – map of all selected ZIP-route-date occurrences
- bootdraw2.txt – map of unique selected ZIP-route-date combinations

Output
- selectmap.txt – map of selected ZIPs, routes, and dates

Program: **bootdata.f (**L61AppendixC\DUBootstrap\progs)

Purpose: FORTRAN program to create data files for the selected ZIPs, routes, and dates.

Input
- selectmap.txt – map of selected ZIPs, routes, and dates
- Form4.srt – database of Form 4D
- Form5.srt – database of Form 5D
- Form6.srt – database of Form 6D

Output
- Form4.boot – database of Form 4D data selected in bootstrap iteration
- Form5.boot – database of Form 5D data selected in bootstrap iteration

- Form6.boot – database of Form 6D data selected in bootstrap iteration
- bootforms.txt – consolidated database of all forms selected in bootstrap process

Program: **bootdata2.f (**L61AppendixC\DUBootstrap\progs)

Purpose: FORTRAN program to create data files for the originally selected ZIPs, routes, and dates (used for debugging only).

Input
- selectmap.txt – map of selected ZIPs, routes, and dates
- Form4.srt – database of Form 4D
- Form5.srt – database of Form 5D
- Form6.srt – database of Form 6D

Output
- Form4.boot – database of Form 4D data selected in bootstrap iteration
- Form5.boot – database of Form 5D data selected in bootstrap iteration
- Form6.boot – database of Form 6D data selected in bootstrap iteration
- bootforms.txt – consolidated database of all forms selected in bootstrap process

Program: **make_bootforms.f (**L61AppendixC\DUBootstrap\progs)

Purpose: FORTRAN program to create a consistent date system for duplicate bootstrap forms.

Input
- bootzips.prn – map of originally selected ZIP Codes with sampling probabilities
- bootdays.srt – map of selected ZIP, route, date combinations
- Form4.boot – database of Form 4D data selected in bootstrap iteration
- Form5.boot – database of Form 5D data selected in bootstrap iteration
- Form6.boot – database of Form 6D data selected in bootstrap iteration

Output
- newbootdays.txt – map of bootstrap forms with consistent date index

- Form4.boot2 – database of Form 4D data selected in bootstrap iteration with consistent date index
- Form5.boot2 – database of Form 5D data selected in bootstrap iteration with consistent date index
- Form6.boot2 – database of Form 6D data selected in bootstrap iteration with consistent date index

Program: **check_dist.f (**L61AppendixC\DUBootstrap\progs)

Purpose: FORTRAN program to compare total volume of unknown data before and after distribution program **distdat.f**.

Input
- distdata.txt – file containing data before unknown data are distributed
- distdata6.txt – file containing final distribution data

Program: **make_paths.f** (L61AppendixC\DUBootstrap\progs)

Purpose: FORTRAN program to replicate the CFS path model for volumes associated with each bootstrap iteration (part 1).

Input
- pathmap.prn – map of mail category codes to CFS path index (created by **make_pathmap.xls**)
- pathmap2.prn – map of mail category codes to CFS path index, alternative arrangement (created by **make_pathmap2.xls**)
- pathmap3.prn – map of mail category codes to CFS path index, alternative arrangement (created by **make_pathmap3.xls**)
- factors.prn – map of disposition factors by endorsement and class (created by **make_pathfactors.xls**)
- factors2.prn – map of address-correction-notice factors by mail category code (created by **make_pathfactors2.xls**)
- form4idx7.srt – Form 4D database with indexed data

Output
- distdata6.txt – file containing distribution data
- distdata6a.txt – file containing detailed, CFS distribution data

Program: **cntl_cfsdat.f** (L61AppendixC\DUBootstrap\progs)

Purpose: FORTRAN program to replicate the CFS path model for volumes associated with each bootstrap iteration (part 2).

Input

- pathmap4.prn – map of mail category codes to CFS path index, alternative arrangement (created by **make_pathmap4.xls**)
- fcscontrols.prn – map of FCS control totals (created by **make_pathcontrols.xls**)
- distdata6a.txt – file containing detailed CFS distribution data

Output
- handfactor.txt – file containing control factor for delivery unit hand forwarded mail
- distdata6b.txt – file containing controlled CFS data

Workbook: **make_acsnixpath.xls** (L61AppendixC\DUBootstrap\maps)

Purpose: Excel workbook to create a map of path options for ACS nixie mail.

Input
- **distvol6.xls** – FY 04 ACS nixie path map

Workbook: **make_acsnixcontrols.xls** (L61AppendixC\DUBootstrap\maps)

Purpose: Excel workbook to create a map of FCS volume controls for ACS nixie waste mail.

Input
- **distvol6.xls** – FY 04 FCS control volumes

Workbook: **make_detail_classmap.xls** (L61AppendixC\DUBootstrap\maps)

Purpose: Excel workbook to create a map of detailed class codes, including information about ACS markings.

Input
- None

Program: **cntl_cfsdat2.f** (L61AppendixC\DUBootstrap\progs)

Purpose: FORTRAN program to replicate the control process for ACS nixie waste mail.

Input
- acsnix_paths.prn – map of ACS nixie mail CFS path index (created by **make_acsnixpath.xls**)
- acsnix_controls.prn – map of FCS control totals (created by **make_acsnixcontrols.xls**)

- class_det_map.prn – detailed map of class codes, including information about ACS markings (created by **make_detail_classmap.xls**)
- distdata6.txt – file containing distribution data

Output
- distdata6d.txt – file containing controlled ACS nixie mail

Program: **make_voltabs.f** (L61AppendixC\DUBootstrap\progs)

Purpose: FORTRAN program to roll up mail volume tables by class, rate category, shape, and disposition for each bootstrap iteration.

Input
- pathmap3.prn – map of mail category codes to CFS path index, alternative arrangement (created by **make_pathmap3.xls**)
- handfactor.txt – file containing control factor for delivery unit hand forwarded mail
- class_det_map.prn – detailed map of class codes, including information about ACS markings (created by **make_detail_classmap.xls**)
- distdata6b.txt – file containing controlled CFS data
- distdata6d.txt – file containing controlled ACS nixie data
- distdata6.txt – file containing distribution data

Output
- voltabs.txt – file containing UAA volumes by class, rate category, shape, disposition, and location
- tab2_2.txt – file containing UAA detailed volumes for Table 2.2
- tab2_2b.txt – file containing UAA additional detailed volumes for Table 2.2
- tab2_2tot.txt – file containing UAA total volumes for Table 2.2
- tab2_3.txt – file containing UAA detailed volumes for Table 2.3
- tab2_3tot.txt – file containing UAA total volumes for Table 2.3
- tab2_4.txt – file containing UAA detailed volumes for Table 2.4
- tab2_4tot.txt – file containing UAA total volumes for Table 2.4
- tab4.txt – file containing UAA detailed volumes for Tables 4.2 through 4.64
- tab4tot.txt – file containing UAA total volumes for Tables 4.2 through 4.64
- pkrtabs.txt – file containing PKR volumes by class, rate category, and shape
- tab5_1.txt – file containing PKR detailed volumes for Tables 5.15 through 5.20

- tab5_2.txt – file containing PKR total volumes for Tables 5.15 through 5.20

Workbook: **points.xls** (L61AppendixC\PrePARS\Boot)

Purpose: Excel workbook to report FY 04 volume point estimates (results of the bootstrap routine run with no random sampling, iteration zero).

Input
- voltabs.txt.0 – file containing UAA volumes by class, rate category, shape, disposition, and location
- tab2_2.txt.0 – file containing UAA detailed volumes for Table 2.2
- tab2_2b.txt.0 – file containing UAA additional detailed volumes for Table 2.2
- tab2_2tot.txt.0 – file containing UAA total volumes for Table 2.2
- tab2_3.txt.0 – file containing UAA detailed volumes for Table 2.3
- tab2_3tot.txt.0 – file containing UAA total volumes for Table 2.3
- tab2_4.txt.0 – file containing UAA detailed volumes for Table 2.4
- tab2_4tot.txt.0 – file containing UAA total volumes for Table 2.4
- tab4.txt.0 – file containing UAA detailed volumes for Tables 4.2 through 4.64
- tab4tot.txt.0 – file containing UAA total volumes for Tables 4.2 through 4.64
- pkrtabs.txt.0 – file containing PKR volumes by class, rate category, and shape
- tab5_1.txt.0 – file containing PKR detailed volumes for Tables 5.15 through 5.20
- tab5_2.txt.0 – file containing PKR total volumes for Tables 5.15 through 5.20
- **PrePARS VolTabs.xls** – FY 04 final UAA volumes by class, rate category and shape cross reference check
- **PrePARS OthTabs.xls** – FY 04 final PKR volumes by rate category cross reference check

Program: **roll_tab2_2.f** (L61AppendixC\DUBootstrap\progs)

Purpose: FORTRAN program to roll up Table 2.2 volumes for all bootstrap iterations, combined.

Input
- tab2_2.txt.all.final – file containing Table 2.2 detailed volumes for all bootstrap iterations, combined (created by **boot_shell**)
- tab2_2b.txt.all.final – file containing Table 2.2 extra volumes for all bootstrap iterations, combined (created by **boot_shell**)

- tab2_2tot.txt.all.final – file containing Table 2.2 column and row total volumes for all bootstrap iterations, combined (created by **boot_shell**)

Output
- tab2_2.txt.stats.final – file containing Table 2.2 standard errors

Program: **roll_tab2_3.f** (L61AppendixC\DUBootstrap\progs)

Purpose: FORTRAN program to roll up Table 2.3 volumes for all bootstrap iterations, combined.

Input
- tab2_3.txt.all.final – file containing Table 2.3 detailed volumes for all bootstrap iterations, combined (created by **boot_shell**)
- tab2_3tot.txt.all.final – file containing Table 2.3 column and row total volumes for all bootstrap iterations, combined (created by **boot_shell**)

Output
- tab2_3.txt.stats.final – file containing Table 2.3 standard errors

Program: **roll_tab2_4.f** (L61AppendixC\DUBootstrap\progs)

Purpose: FORTRAN program to roll up Table 2.4 volumes for all bootstrap iterations, combined.

Input
- tab2_4.txt.all.final – file containing Table 2.4 detailed volumes for all bootstrap iterations, combined (created by **boot_shell**)
- tab2_4tot.txt.all.final – file containing Table 2.4 column and row total volumes for all bootstrap iterations, combined (created by **boot_shell**)

Output
- tab2_4.txt.stats.final – file containing Table 2.4 standard errors

Program: **roll_tab4.f** (L61AppendixC\DUBootstrap\progs)

Purpose: FORTRAN program to roll up UAA volumes from the 4-series tables (**PrePARS ClassTabs.xls**) for all bootstrap iterations, combined.

Input
- tab4.txt.all.final – file containing 4-series tables detailed volumes for all bootstrap iterations, combined (created by **boot_shell**)

- tab4tot.txt.all.final – file containing 4-series tables column and row total volumes for all bootstrap iterations, combined (created by **boot_shell**)

Output
- tab4.txt.stats.final – file containing 4-series tables standard errors

Program: **roll_tab5_1.f** (L61AppendixC\DUBootstrap\progs)

Purpose: FORTRAN program to roll up PKR rate category volumes from the 5-series tables (**PrePARS OthTabs.xls**) for all bootstrap iterations, combined.

Input
- tab5_1.txt.all.final – file containing 5-series tables detailed volumes for all bootstrap iterations, combined (created by **boot_shell**)
- tab5_1tot.txt.all.final – file containing 5-series tables column and row total volumes for all bootstrap iterations, combined (created by **boot_shell**)

Output
- tab5_1.txt.stats.final – file containing 5-series tables rate category standard errors

Program: **roll_tab5_2.f** (L61AppendixC\DUBootstrap\progs)

Purpose: FORTRAN program to roll up PKR class volumes from the 5-series tables (**PrePARS OthTabs.xls**) for all bootstrap iterations, combined.

Input
- tab5_2.txt.all.final – file containing 5-series tables detailed volumes for all bootstrap iterations, combined (created by **boot_shell**)
- tab5_2tot.txt.all.final – file containing 5-series tables column and row total volumes for all bootstrap iterations, combined (created by **boot_shell**)

Output
- tab5_2.txt.stats.final – file containing 5-series tables class standard errors

Workbook: **stderrs6.xls** (L61AppendixC\PrePARS\Boot)

Purpose: Excel workbook to summarize FY 04 final UAA and PKR point estimates and coefficients of variation.

Input

- tab2_2.txt.stats.final – file containing Table 2.2 standard errors (created by **roll_tab2_2.f**)
- tab2_3.txt.stats.final – file containing Table 2.3 standard errors (created by **roll_tab2_3.f**)
- tab2_4.txt.stats.final – file containing Table 2.4 standard errors (created by **roll_tab2_4.f**)
- tab4.txt.stats.final – file containing 4-series tables standard errors (created by **roll_tab4.f**)
- tab5_1.txt.stats.final – file containing 5-series tables rate category standard errors (created by **roll_tab5_1.f**)
- tab5_2.txt.stats.final – file containing 5-series tables class standard errors (created by **roll_tab5_2.f**)
- **points.xls** – FY 04 point estimates

Workbook: **PrePARS StdErrTabs.xls** (L61AppendixC\PrePARS\Tables)

Purpose: Excel workbook to report FY 04 final UAA and PKR point estimates and coefficients of variation for Tables 7.1 through 7.9.

Input

- **PrePARS ClassTabs.xls** – FY 04 UAA mail rate category point estimates cross reference check
- **PrePARS OthTabs.xls** – FY 04 PKR mail point estimates cross reference check
- **PrePARS VolTabs.xls** – FY 04 UAA mail by class point estimates cross reference check
- **stderrs6.xls** – FY 04 point estimates and coefficients of variation

Workbook: **PrePARS StdErrTabs_v.xls** (L61AppendixC\PrePARS\Tables)

Purpose: Excel workbook to report FY 04 final UAA and PKR point estimates and coefficients of variation for Tables 7.1 through 7.9, excluding links to source data in external workbooks. The results in this workbook are identical to those found in **PrePARS StdErrTabs.xls**.

Input

- None

10.14 Data Processing

All FORTRAN and Bash Shell programs used to generate the results of this study are run on a Dell PowerEdge 6650 with four 1900 MHz Xeon microprocessors and 8192 MB of RAM. The operating system on this computer

is Red Hat Linux Advanced Server release 2.1AS (Pensacola) which uses the kernel 2.4.9-e.59enterprise. FORTRAN programs are compiled using G77 from GNU Compiler Collection (GCC) version 3.2.2, which can be downloaded from http://gcc.gnu.org/. All processing for Excel workbooks is performed on PCs running the Windows XP Professional Version 2002 Service Pack 2 operating system and using Microsoft Office Excel 2003 Service Pack 1 from the Microsoft Office Professional Edition 2003.

For replication purposes, most of the FORTRAN and Bash Shell programs used in this study have been converted to be able to be run on a standard PC. The software used to run these PC-based programs can be found in the directory 'CyInst' (L61AppendixC). This directory also contains instructions for running PC-based programs (**R2006-1_Install_Instructions.pdf**). All data inputs have been provided with the exception of inputs for Sections 10.1 and 10.13. The IOCS data file, prc04flt.dat, which is used by programs in Section 10.8.2, has not been provided due to its size. It can be obtained directly from USPS-LR-K-9/Docket R2005-1 available at www.prc.gov.

11.0 APPENDIX D – CRA CONTROL PROCESS

CRA UAA Cost Control Process

I. Developing UAA Mail Processing Cost For Clerks

1. Start with all IOCS clerk and mailhandler mail processing direct tallies.

2. Segment by cost pool (65 in total) and "cost pool grouping."
    - Plant/BMC Mail Processing—LDC 11–18, 79
    - Plant CFS Processing—LDC 49
    - Delivery Units
        - Plant Customer Service LDC 41–49
        - Non-MODS Facilities

3. Segment by "UAA grouping."
    - Forward Mail (Question 23D)
    - Return to Sender (Question 23D)
    - Form 3547 (Question 22A)—Address Correction Notice
    - Form 3579 (Question 23D)—Address Correction Notice
    - Form 3575 (Question 22A)—Change Of Address Form
    - Form 3849 (Question 23D)— Delivery Notice/Reminder/Receipt
    - All Other—Non-UAA

4. Segment by detailed miscellaneous operation (question 18E).
    - Nixie Work
    - Markup Work
    - Accountable Work
        - Postage Due
        - Other Accountable Work
    - All Other Miscellaneous Work
    - None

5. Control all segmented direct tallies to CRA cost component 3.1 cost values.
    - Segmented By Class & Subclass
    - Segmented By Shape
    - Segmented By Mail Processing CRA Cost Pool

6. The resulting controlled tallies are the starting point from which to develop specific UAA cost values for clerks.

II. Developing UAA Mail Delivery Unit P.O. Box Sortation Costs For Clerks

1. Start with IOCS delivery unit direct tallies (derived in section I above).

2. Segment by facility type.

- o Plant Customer Service LDC 43—P.O. Box Distribution
- o Plant Customer Service All Other
- o Non-MODS Facilities

3. Segment non-MODS facility tallies by manual/non-manual groupings.
- o Manual Cost Pools (Manual Letters, Manual Flats, etc.)
- o All Other Cost Pools (Auto Letters, Allied, etc.)

4. Segment non-MODS facility manual tallies by miscellaneous operation (question 18E).
- o Misc. Work (Nixie, Markup, Postage Due, etc.)
- o None (i.e., Sortation/Distribution)

5. Segment non-MODS facility manual no miscellaneous work tallies by incoming secondary grouping (questions 18D & 18D1).
- o Sorting/Distributing To P.O. Boxes/Caller
- o All Other Incoming Secondary Work

6. P.O box clerk sortation costs are the sum of plant LDC 43 tallies (derived in step 2 above) and non-MODS facility manual no miscellaneous work tallies in which incoming secondary sortation/distribution is to P.O. boxes and the caller window.

III. Developing UAA Mail In-Office Work For City Carriers

1. Start with IOCS city carriers in-office direct tallies.

2. Segment by in-office activity (question 16F).
- o Prepare Mail for Sequencing
- o Sequencing/Casing Mail
- o Withdrawing and Strapping Out Mail from Carrier Case
- o Handling UAA Mail
- o Writing Markups
- o All Other Work

3. Segment by "UAA grouping."
- o Forward Mail (Question 23D)
- o Return to Sender (Question 23D)
- o Form 3547 (Question 22A)—Address Correction Notice
- o Form 3579 (Question 23D)—Address Correction Notice
- o Form 3575 (Question 22A)—Change Of Address Form
- o Form 3849 (Question 23D)— Delivery Notice/Reminder/Receipt
- o All Other—Non-UAA

4. Control all segmented direct tallies to CRA cost component 6.1 cost values.
   - Segmented By Class & Subclass
   - Segmented By Shape

5. The resulting controlled tallies are the starting point from which to develop specific UAA cost values for city carriers.

IV. Developing UAA Mail In-Office Work By Rural Carriers

1. Start with CRA rural carrier total costs (cost segment 10).
   - Segmented By Class and Subclass

2. Derive in-office cost separately from street time cost using city carrier shares as found in the relative proportion of CRA cost segment 6 (in-office cost) and 7 (street-time cost).
   - Segmented By Class and Subclass

3. Derive in-office cost with underlying UAA detail using city carrier shares as developed in section III above.
   - Segment By In-Office Activity (Question 16F)
   - Segment By UAA Grouping (Questions 22A & 23D)

4. The resulting controlled tallies are the starting point from which to develop specific UAA cost values for rural carriers.