MAIL CHARACTERISTICS STUDIES (Public Version)

I. PREFACE

A. Purpose and Content

USPS-FY08-14 documents the development of a number of volume and parameter estimates used in the preparation of the 2008 ACR. The section titled "RPW by Shape and Indicia" describes the development of revenue, piece and weight estimates by shape and indicia. Standard Mail and First-Class Mail estimates by weight increment are also developed. The "Mail Characteristics" section describes the development of preparation and entry characteristics for Standard Mail flats and letters, and for Periodical flats. The re-calibration of the First-Class Mail Characteristics Study (Docket No. R2006-1, LR-L-32) is also described in the "Mail Characteristics" section. The "Flats Field Study" section describes the methodology used to update parameters for the flats mail processing models. The "Piece Density Study" section describes the development of updated piece density parameters.

B. Predecessor Documents

USPS-FY07-14 filed in Docket No. ACR2007, and Docket No. R2001-1, USPS-LR-J-63 for Density Study

C. Corresponding Non-Public Document

USPS-FY08-NP25

D. Methodology

1. RPW by Shape and Indicia

i. Introduction

Official estimates of revenue, pieces, and weight for First-Class Mail, Periodicals, and Standard Mail are developed by the Revenue, Volume, and Performance Measurement group. The primary data source for those estimates is the Corporate Business Customer Information System (CBCIS) and the domestic ODIS/RPW sample. The CBCIS draws input from the PostalOne! bulk mail acceptance system. These data sources are also used in this analysis, but the methods used here are somewhat different. The methodology here focuses on the distribution of mail activity by shape. Such distributions are not computed in the official estimates. Since the input data are the same and the methodologies are similar, there is general consistency between the official estimates and those reported here. As a point of emphasis, the estimates reported here are used only as relative percentages to distribute the official estimates across mail characteristics.

ii. Methodology Overview for Presort Mail

Estimates of revenue, pieces, and weight by shape for presort First-Class Mail, Periodicals, and Standard Mail (and weight increment for First-Class Mail and Standard Mail) are based on postage statement data from the PostalOne! bulk mail entry system. These estimates form distribution keys to be applied to the reported RPW estimates. Not all post offices report through the PostalOne! system. First-Class Mail, Periodicals, and Standard Mail data obtained through the PostalOne! system are stratified by post office size and inflated to represent all mail in these classes.

The PostalOne! system is used to record and verify postage at many bulk mail acceptance locations. The system records revenue, pieces, and weight by individual rate elements, which are identified by a five digit numeric code. These codes are referred to as Volume Information Profile (VIP) codes. VIP code information is available for each postage statement submitted at PostalOne! equipped offices. The postage statement also includes the processing category, which is used to determine the shape of all pieces within a transaction.

In Standard Mail, piece and weight information for each VIP code is used to determine the weight increment of the pieces. The average weight of the VIP code within the transaction is used to assign the weight increment.

As mentioned above, the PostalOne! system does not report data for all bulk-entered mail. The non-PostalOne! offices are small relative to PostalOne! offices in terms of total revenue from bulk-entered mail. Non-PostalOne! offices are represented by PostalOne! offices of similar size. This general stratification scheme is used for First-Class Mail, Periodicals, and Standard Mail.

Offices are ranked by an appropriate revenue variable, dependent on the class of mail. (See each class description below). After offices are ranked, they are grouped into strata of similar revenue size. There is an independent stratification of offices for First-Class Mail, Periodicals Within County, Periodicals Outside County, Standard Mail regular, and Standard Mail nonprofit. The total revenue in each stratum is computed from the Trial Balance, the PostalOne! system, and/or estimation methods. The total revenue includes revenue from both PostalOne! and non-PostalOne! system offices.

Once the strata are determined, the PostalOne! office data within each stratum are inflated to the stratum revenue total. The inflated data are then summed across strata to provide estimates for the class or subclass by rate element. The estimates are used to form distribution keys and applied to the official RPW estimates.

iii. Post Office Stratification

a. Overview

In each mail class, the map of post office to stratum is defined using FY 2008 data. Each year new Post Offices are added to the PostalOne! system. Offices may begin reporting data any time in the year. It is not possible to determine the

office size base on part-year data. Generally, new reporting offices are small. In each class, newly reporting offices are assigned to the smallest stratum.

In the stratification process for each class, Post Office revenue excludes U. S. Government mail. Government mail is accounted separately, not inflated or controlled. This estimate of government activity is added to the final estimates of non-government activity.

b. First-Class Mail

A specific variable is chosen to rank Post Offices by size so that strata may be defined. The most appropriate variable for this purpose would be total First-Class Mail presort revenue. Unfortunately, one segment of this amount, metered and stamped presort revenue at non-PostalOne! offices, is not available in any data source. Metered and stamped revenue accounts in the Trial Balance cover all mail classes and do not distinguish First-Class Mail presort revenue. The ranking and stratification for First-Class Mail therefore is accomplished in multiple steps. First, PostalOne! offices are ranked by the sum of PostalOne! system permit imprint presort revenue plus PostalOne! system metered and stamped presort revenue. PostalOne! offices are then divided into 23 revenue strata—the first 19 each containing offices that account for 5 percent of total revenue and the last 4 each accounting for 1.25 percent of total revenue. The finer split of the small offices is needed to provide more accurate estimation of non-PostalOne! presort activity. Next, average permit imprint revenue within each stratum is computed across PostalOne! offices. These averages are used to assign non-PostalOne! offices to strata. Each non-PostalOne! office is assigned to the stratum that has the closest PostalOne! average permit imprint revenue to its own Trial Balance permit imprint revenue.

c. Periodicals

Since all Periodicals publications use permit imprints, permit imprint revenue reported in the Trial Balance is used to rank offices. These data are available for both PostalOne! and non-PostalOne! offices.

Two separate stratification schemes are developed for Periodicals—one for Outside County and another for Within Country rates. Within and Outside County revenues are reported separately in the Trial Balance. Offices are ranked from largest to smallest revenue and allocated to 22 office size strata. The first 18 strata each represent 5 percent of total revenue, while the last 4 strata each represent 2.5 percent of revenue. Revenue comes from the FY 2008 Trial Balance.

d. Standard Mail

Over 90 percent of Standard Mail revenue comes from permit imprint. Due to the small effect of metered and stamped mail, all offices are ranked and stratified based on Trial Balance permit imprint revenue. A separate ranking and

stratification is made for regular and nonprofit subclasses. Offices are stratified in each subclass into 20 equal revenue strata, each representing 5 percent of permit imprint revenue.

iv. Postage Statement Data Processing

Transaction records from the PostalOne! system are aggregated into a set of arrays by month. Each record is checked for internal consistency with respect to published rates and weight limits. The arrays contain revenue, pieces (also copies for Periodicals), and weight, indexed by the rate category of mail, the stratum of the office where the mail was entered, the processing category (letters, flats, or parcels), the indicia (permit imprint or metered and stamped), and weight increment for Standard Mail. These arrays reduce the large quantity of transaction level data to the minimum detail required to produce the final estimates.

v. Inflation Process

For all classes, the PostalOne! transactions in each stratum are inflated to the total revenue in each stratum. The computed revenue control factor is applied to pieces and weight data as well, while maintaining the full array of detail on rate element and other characteristics. Final results are computed by summing the inflated strata results over all strata.

The revenue control in each stratum is developed separately for permit imprint revenues and metered and stamped revenues for First-Class Mail and Standard Mail. Periodicals has no metered and stamped revenue. Permit imprint revenues are reported individually by class and Post Office in the Trial Balance. There is general consistency between Trial Balance permit imprint revenues and PostalOne! system revenues. For the permit imprint portion of the revenue control, Trial Balance permit imprint revenues are used.

The Trial Balance does not uniquely identify metered and stamped revenue from bulk transactions. These revenues are reported together with metered and stamped revenue for many mail classes. As such, the Trial Balance cannot be used for the metered and stamped portion of the revenue control. At PostalOne! offices, the metered and stamped portion of the revenue control comes directly from the PostalOne! system. At non-PostalOne! offices the metered and stamped portion is estimated.

vi. Estimating Metered and Stamped Revenue at Non-PostalOne! Offices

Metered and stamped revenue estimates at non-PostalOne! offices are obtained using revenue ratios constructed from PostalOne! office revenue and Trial Balance revenue. For each class, First-Class Mail and Standard Mail, ratios are constructed for each stratum by each Postal quarter. The numerator of the ratio is metered and stamped revenue for a given class of each PostalOne! office in the stratum. This value comes from the PostalOne! system. The denominator of the ratio is Trial Balance metered and stamped revenue for all mail classes for the same PostalOne! offices in the stratum. The ratio is an estimate of the share

of all metered and stamped revenue in the stratum that is First-Class Mail revenue for a particular class of mail. The estimated metered and stamped revenue of each non-PostalOne! office in the stratum is computed by multiplying their Trial Balance metered and stamped revenue by the stratum revenue ratio.

vii. First-Class Mail Single Piece Mail

Single piece estimates by shape and indicia are needed for First-Class mail. Single piece input data come from the domestic ODIS/RPW sample data files. These data files include the proper sample inflation factors for each mail piece. All records are inflated using these factors and aggregated to mail category code, shape, and indicia.

vii. Revenue, Piece, and Weight Estimates by Mail Characteristics

a. First-Class Mail

For First-Class Mail, in each quarter, the presort estimates by shape are controlled to revenue, pieces, and weight as reported in the RPW system for each RPW mail category. Single piece volume and weight estimates by indicia are controlled to RPW single piece estimates.

b. Periodicals

The Periodicals control to RPW is more elaborate due to the piece, weight, and discount portions of the rate structure. Pieces from the piece portion and weight from the weight portion are controlled to RPW pieces and weight, respectively. These same factors are applied to piece portion revenue and weight portion revenue, respectively. These adjusted piece and weight portion revenues plus the revenue discounts are then controlled to the RPW revenue total. Piece portion copies are controlled by the same factor as pieces. Weight portion copies are then controlled to these resulting piece portion copies. Lastly, piece portion weight is controlled to weight portion weight.

c. Standard Mail

The results of the inflation procedure for Standard Mail transactions in the PostalOne! system are used to develop shape and weight increment distribution keys for each rate element. Keys are developed by Postal quarter, for each of revenue, pieces, and weight. The distribution keys for two small rate categories, Standard Mail paid at First-Class Mail rates and Standard Mail paid at Priority Mail rates, are developed from the First-Class Mail and Priority Mail transactions, respectively. The First-Class Mail estimation procedure is described above. The Priority Mail distribution keys are derived from the uninflated Priority Mail PostalOne! transactions.

2. Mail Characteristics Studies

i. Periodicals

a. Stratification

Publications are stratified by size and density using the PostalOne! system mailing statement data. The PostalOne! system data are aggregated by unique six-digit USPS Publication Number, and a database of pieces by rate element and USPS number is constructed. The database is then used to stratify USPS data into 30 strata based on size, density, and use of pallets for the publication number.

The size variable used in the stratification is total Periodicals volume (Within County and Outside County) divided by the publication frequency reported on Form 3526. The stratification variables used to capture mailing density are the proportion of pieces in the mailing paying 5-Digit, Carrier Route, High Density, and Saturation rates, and the proportion of pieces receiving DDU, DSCF, and DADC entry discounts. Based on these variables, publications are divided into five size, two presort, and two entry categories. The five size categories are:

- 0 to 5,000 pieces
- 5001 to 15,000 pieces
- 15,001 to 100,000 pieces
- 100,001 to 300,000 pieces
- Over 300,000 pieces.

The two presort categories are:

- High Density - Publications with 30 percent or more of the pieces paying 5-Digit, Carrier Route, High Density, or Saturation rates
- Low Density - Publications with less than 30 percent of the pieces paying 5-Digit, Carrier Route, High Density, or Saturation rates.

The two entry categories are:

- High Drop - Publications with 50 percent or more of the pieces receiving DDU, DSCF, and DADC entry discounts
- Low Drop - Publications with less than 50 percent of the pieces receiving DDU, DSCF, and DADC entry discounts.

Within Periodicals, some publications prefer the use of sacks over the use of pallets for a variety of reasons such as the perception of better service in sacks. To account for these different preferences, use of pallets is an additional stratification variable.

The use of these four stratification variables generates 40 possible strata. Some cells are populated with few or no publications. This is particularly true of low-density – high drop-ship cells. For this reason, the low-density strata are collapsed across the entry variable to create 30 strata.

b. Data Sources

Data for this study come from two sources, a sample of preparation characteristics of 111 publications with circulation size less than 15,000 pieces collected in response to POIR No. 19 in Docket No. R2006-1, and Mail.dat files collected through the PostalOne! electronic verification system between October 2007 and September 2008.

Raw Mail.dat files are summarized into three databases, a piece database, bundle database, and container database. The fields recorded in the piece database are:

- Publication ID
- Shape
- Container type (pallet, sack, tray type, loose bundle)
- Container presort level
- Container entry facility type
- Parent container status
- Parent container presort level
- Parent container entry facility
- Piece machinability
- Package (bundle) presort level
- Entry discount given
- Presort rate given
- Number of copies
- Number of pieces
- Weight of pieces.

The fields recorded in the package database are:

- Publication ID
- Shape
- Container type (pallet, sack, tray type, loose bundle)
- Container presort level
- Container entry facility type
- Parent container status
- Parent container presort level
- Parent container entry facility
- Package (bundle) presort level
- Number of packages (bundles)
- Number of barcoded pieces
- Number of non-barcoded pieces
- Number of barcoded copies
- Number of non-barcoded copies
- Weight of barcoded pieces
- Weight of non-barcoded pieces.

The fields recorded in the container database are:

- Publication ID
- Shape
- Container type (pallet, sack, tray type, loose bundle)
- Container presort level
- Container entry facility type

- Parent container status
- Parent container presort level
- Parent container entry facility
- Container size category
- Number of containers
- Number of pieces
- Weight

The information for all but the entry facility type is taken directly from the information recorded in the Mail.dat or the qualification report. The entry facility type is determined using the container entry point ZIP Code, the container destination ZIP code, and the labeling lists from the Domestic Mail Manual. Each entry point is mapped to a facility, and then the facility type (SCF, ADC, or BMC) is determined. The destination ZIP Code is then compared with the service territory of the entry facility using the DMM labeling lists to determine the entry facility type (OAO, OSCF, OADC, OBMC, DBMC, DADC, DSCF, or DDU). For containers entered on parent pallets, the presort level of the parent container is used to determine the entry point of the child container. For example, a 5-Digit sack that resides on an SCF parent pallet will have the entry facility type of DSCF because the sack will first be handled as a sack at the DSCF.

c. Estimation

Publications for which data are available are treated as if they were randomly drawn with a probability of selection proportional to annual volume. Then data are weighted by the inverse of the probability that the publication was selected[1]. Weighting publications as if randomly drawn serves to reduce bias caused by the self selection of publications into eVS sites. Data in the piece database are weighted by the ratio of annual volume to sample volume by publication. All data from the piece table are aggregated by strata, shape, presort rate, and piece preparation attribute. The piece preparation attribute is a list of preparation and piece characteristics that includes container type, container presort level, container entry facility type, parent container type, parent container level, parent container entry facility type, bundle presort level and piece machinability. The list of possible values for measured characteristics is presented below.

- Container type
    - Pallet
    - Sack
    - 1 foot tray
    - 2 foot tray
    - EMM tray
    - Other/unidentifiable tray
    - Loose bundle
- Container Level
    - CR

[1] W. G. Cochran, *Sampling Techniques (1977).*

    - 5-Digit CRTS
    - 5-Digit
    - 3-Digit
    - SCF
    - ADC
    - Mixed ADC
- Container entry facility
    - OAO
    - OSCF
    - OADC
    - OBMC
    - DBMC
    - DADC
    - DSCF
    - DDU
- Parent container type
- Parent container level
    - CR
    - 5-Digit CRTS
    - 3-Digit CRTS
    - 5-Digit
    - 3-Digit
    - SCF
    - ADC
    - Mixed ADC
    - BMC
    - Mixed-BMC
- Parent container entry facility
    - OAO
    - OSCF
    - OADC
    - OBMC
    - DBMC
    - DADC
    - DSCF
    - DDU
- Bundle level
    - Firm
    - Saturation
    - High Density
    - Carrier Route Basic
    - 5-Digit
    - 3-Digit
    - ADC
    - Mixed ADC
- Piece machinability type
    - AFSM 100 Flat
    - UFSM 1000 Flat

- o Manual Flat
- o Letter

Within presort rate and strata, the distribution across preparation attributes is then calculated. These distributions are weighted together using the PostalOne! volume by shape, presort rate and stratum. The result is then summed across strata to produce estimates of piece volume by preparation characteristic.

Bundle data are weighted by the ratio of annual volume by publication to sample volume by publication. Data are weighted by the inverse of the probability of selection. Bundle counts, pieces counts and weight from the bundle database are aggregated by strata and bundle attribute (container type, container level, container entry facility type, bundle level, and shape). The piece estimates by strata and bundle attribute are used to weight bundle counts, pieces and weight by strata. Weighted values are then summed across strata to generate national estimates of average bundle size (number of pieces per bundle) and average weight by bundle characteristic.

Container data are weighted by the ratio of annual volume by publication to sample volume by publication. Data are weighted by the inverse of the probability of selection. Container counts, pieces counts and weight from the container database are aggregated by strata and container attribute (container type, container level, container entry facility type, and shape). The piece estimates by strata and container attribute are used to weight container counts, pieces and weight by strata. Weighted values are then summed across strata to generate national estimates of average container size (number of pieces per container) and average weight by container characteristic.

ii. Standard Mail

a. Stratification

Standard Mail transactions are stratified by size, density and entry characteristic using the PostalOne! system mailing statement data. The size variable used in the stratification is total transaction pieces. The stratification variables used to capture mailing density are the proportion of pieces in the mailing paying Basic Carrier Route, High Density, and Saturation rates, and the proportion of pieces receiving destination discounts. Based on these variables, publications are divided into six size and five presort-entry categories. The five size categories are:

- 0 to 5,000 pieces
- 5,001 to 15,000 pieces
- 15,001 to 100,000 pieces
- 100,001 to 200,000 pieces
- 200,001 to 1,000,000 pieces.
- Over 1,000,000 pieces

The five presort-entry categories are:

- Low density - High drop-ship : Transactions with less than 50 percent of pieces paying ECR rates and more than 50 percent of the pieces receiving DDU, DSCF or DBMC entry discounts.
- Low Density – Low drop-ship: Transactions with less than 50 percent of pieces paying ECR rates and less than 50 percent of the pieces receiving DDU, DSCF or DBMC entry discounts.
- High density : Transactions with more than 50 percent of pieces paying ECR rates but less than 50 percent of pieces paying High Density and Saturation rates.
- Very High density – Low DDU: Transactions with more than 50 percent of pieces paying High Density and Saturation rates but less than 50 percent of pieces receiving DDU entry discounts.
- Very High density – High DDU: Transactions with more than 50 percent of pieces paying ECR rates and more than 50 percent of pieces receiving DDU entry discounts.

b. Data Sources

Data come from two sources, a national survey of transactions with less than 15,000 pieces (USPS-LR-L-92, Docket No. R2006-1), and Mail.dat files collected through the PostalOne! electronic verification system between October 2007 and September 2008. The data collected in the national survey are used to estimate the characteristics of small mailings (less than 15,000 pieces). The PostalOne! Mail.dat data are used to estimate the sack characteristics of large mailings[2].

All raw files are summarized into three databases, a piece database, bundle database, and container database. The fields recorded in the piece database are:

- Transaction ID
- Shape
- Container type (pallet, sack, tray type, loose bundle)
- Container presort level
- Container entry facility type
- Parent container status
- Parent container presort level
- Parent container entry facility
- Piece machinability
- Package (bundle) presort level
- Entry discount
- Presort rate
- Number of copies
- Number of pieces

[2] Qualification reports and Mail.dat files contain publication-specific information that may be deemed commercially sensitive by Postal Service customers. For this reason all customer specific data are not provided.

- Weight of pieces.

The fields recorded in the package database are:

- Transaction ID
- Shape
- Container type (pallet, sack, tray type, loose bundle)
- Container presort level
- Container entry facility type
- Parent container status
- Parent container presort level
- Parent container entry facility
- Package (bundle) presort level
- Number of packages (bundles)
- Number of barcoded pieces
- Number of non-barcoded pieces
- Number of barcoded copies
- Number of non-barcoded copies
- Weight of barcoded pieces
- Weight of non-barcoded pieces.

The fields recorded in the container database are:

- Transaction ID
- Shape
- Container type (pallet, sack, tray type, loose bundle)
- Container presort level
- Container entry facility type
- Parent container status
- Parent container presort level
- Parent container entry facility
- Container size category
- Number of containers
- Number of pieces
- Weight

The information for all but the entry facility type is taken directly from the information recorded in the Mail.dat or the qualification report. The entry facility type is determined using the container entry point ZIP Code, the container destination ZIP Code, and the labeling lists from the Domestic Mail Manual. Each entry point is mapped to a facility and then the facility type (SCF, ADC, or BMC) is determined. The destination ZIP Code is then compared with the service territory of the entry facility using the DMM labeling lists to determine the entry facility type (OAO, OSCF, OADC, OBMC, DBMC, DADC, DSCF, or DDU). For containers entered on parent pallets, the presort level of the parent container is used to determine the entry point of the child container. For example, a 5-Digit

sack that resides on an SCF parent pallet will have the entry facility type of DSCF because the sack will first be handled as a sack at the DSCF.

c. Estimation

Data for the small mailing sample are weighted by the inverse of the probability that the finance number was selected[3]. Then all data from the piece table are aggregated by strata, shape, presort rate, and piece preparation attribute. The piece preparation attribute is a list of preparation and piece characteristics that includes container type, container presort level, container entry facility type, parent container type, parent container level, parent container entry facility type, bundle presort level and piece machinability. The list of possible values for measured characteristics is presented below.

- Container type
    - Pallet
    - Sack
    - 1 foot tray
    - 2 foot tray
    - EMM tray
    - Other/unidentifiable tray
    - Loose bundle
- Container Level
    - CR
    - 5-Digit CRTS
    - 5-Digit
    - 3-Digit
    - SCF
    - ADC
    - BMC
    - Mixed ADC
- Container entry facility
    - OAO
    - OSCF
    - OADC
    - OBMC
    - DBMC
    - DADC
    - DSCF
    - DDU
- Parent container type
- Parent container level
    - CR
    - 5-Digit CRTS
    - 3-Digit CRTS
    - 5-Digit

[3] W. G. Cochran, *Sampling Techniques (1977).*

    - 3-Digit
    - SCF
    - ADC
    - Mixed ADC
    - BMC
    - Mixed-BMC
- Parent container entry facility
    - OAO
    - OSCF
    - OADC
    - OBMC
    - DBMC
    - DADC
    - DSCF
    - DDU
- Bundle level
    - Firm
    - Saturation
    - High Density
    - Carrier Route Basic
    - 5-Digit
    - 3-Digit
    - ADC
    - Mixed ADC
- Piece machinability type
    - AFSM 100 Flat
    - UFSM 1000 Flat
    - Manual Flat
    - Letter

Within shape and presort rate and strata, the distribution across preparation attributes is then calculated. These distributions are weighted together using the PostalOne! volume by shape, presort rate and stratum. The result is then summed across stratum to produce estimates of piece volume by preparation characteristic.

Bundle counts, piece counts and weight from the bundle database are aggregated by strata and bundle attribute (container type, container level, container entry facility type, bundle level, and shape). The piece estimates by strata and bundle attribute are used to weight bundle counts, pieces and weight by strata. Weighted values are then summed across strata to generate national estimates of average bundle size (number of pieces per bundle) and average weight by bundle characteristic.

Container counts, pieces counts and weight from the container database are aggregated by strata and container attribute (container type, container level, container entry facility type, and shape). The piece estimates by strata and container attribute are used to weight container counts, pieces and weight by

strata. Weighted values are then summed across strata to generate national estimates of average container size (number of pieces per container) and average weight by container type.

3. Flats Field Study

i. Introduction and Overview

A national study of flat-shaped mail operations was conducted in order to update or develop the parameter estimates used in flats mail processing cost models. Flats operations were sampled at 15 mail processing facilities (9 ADCs and 6 SCFs) and 30 satellite delivery units - two at each sampled mail processing facility. Measurements were taken on the incidence of bundle breakage, MTE (mail transport equipment) conversion factors, manual bundle sorting productivities, flats preparation productivities, and the incidence of single piece sortation for mechanized bundle sorting equipment.

ii. Sample Frame and Sample Selection

The study mapped ODIS destinating flats volume to processing facility using the L002 labeling list. Mail processing facilities were then divided into three strata. Facilities defined as ADCs by labeling list L004 were placed in a stratum of ADCs. The remaining facilities were separated into large and small SCFs. Small SCFs were defined as SCFs having fewer than 100 million flats. A sample of 9 ADCs, 4 large SCFs, and 2 small SCFs was selected from each stratum with the probability of selection proportional to ODIS destinating flats volume. For each facility, two delivery units (DU) served by the facility were selected with the probability of selection proportional to the number of delivery points served by the delivery unit.

Sampling was conducted between June 2008 and August 2008. A survey team of 3 to 5 members was sent to each site for a three day period. Members of the survey teams were experienced in field data collection and consisted of 1 or 2 Christensen Associates staff and 1 to 3 USPS headquarters personnel.

iii. Data Collection

Data collection forms were developed by operation to allow data to be collected for multiple estimates on the same form. Form P-A was developed for bundle sorting operations (SPBS, APPS, Manual). This form was used to record data needed to develop bundle breakage estimates, the proportion of SPBS and APPS sorts of single pieces, and the estimates of conversion factors for USPS containers of bundles. Form P-B was developed for flats prep operations (OP 035 or OP 140). On form P-B data were recorded to develop estimates of the conversion factors for USPS containers of bundles, bundle prep productivity, and tub prep productivity. Form P-B was also used to collect data on manual bundle sorting productivity in plants. Forms P-D and P-E were used to collect

information on conversion factors for tubs at piece sorting operations. Data collection forms and survey instructions are provided in Appendix A.

a. Bundle Sorting Operations

The sampling protocol at bundle sorting operations was constructed to obtain measures consistent with the manner in which breakage parameters are used in the flats mail processing cost models. In the flats mail processing cost models, pieces from broken bundles incur additional cost when they are culled from the bundle sorting operation and taken to the parallel piece operation regardless of the original presort level of the broken bundle (i.e. pieces broken in an outgoing bundle sort are taken to an outgoing primary piece sort; pieces broken at an incoming primary bundle sort are taken to an incoming primary piece sort). For sampling purposes, a bundle was considered broken when the bundle cannot be processed in the bundle sortation operation and is culled from the bundle stream prior to the address read and taken to a piece distribution operation. Pieces that were allowed to flow through the bundle sorting operation as single pieces were counted but not considered broken bundles. Recovered bundles were not considered broken in this data collection effort because the cost associated with bundle recovery is implicitly reflected in the operations bundle sorting productivity.

In preliminary investigations, it was determined that bundle reconstruction[4], while preferable from an intellectual perspective, would not be feasible when working with live mail. When mail is dumped, either from sacks, pallets or downflow USPS containers, pieces scatter along the induction belt. In several plants the term used for broken bundles was “scatter mail”. While it may be possible to occasionally identify a broken bundle and to reconstruct the bundle, these opportunities were rare. Pieces from broken bundles are often culled from the machine at multiple points and co-mingled with other pieces. Some of the pieces may flow through induction and be worked as single pieces. The task of identifying the original bundle in most instances was unlikely and/or impossible. In calculating bundle breakage incidence, pieces from broken bundles are used to determine the number of broken bundles by dividing the count of culled loose pieces by the average number of pieces per bundle for Standard Mail flats and Periodical flats prepared in 3-Digit, SCF, ADC, BMC, or MADC containers. Bundles prepared in CR and 5-Digit containers are excluded as these bundles typically do not receive bundle sorts at the plant.

In addition to collecting bundle breakage information, data were also collected on the incidence of single piece sorts on the SPBS and APPS, as well as the number of bundles in USPS containers such as wiretainers and Gaylord boxes that are used to transport mail between facilities and operations.

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[4] Bundle reconstruction is the act of gathering loose pieces from broken bundles and sorting the loose pieces according to DMM preparation rules in an effort to determine the construction of the original bundle.

Prior to sampling, the data collection team met with knowledgeable plant representatives to get an understanding of how bundles flow through the facility and in which operations they are worked, and to explain data collection needs to plant personnel. These discussions included the major bundle flows (machinable mail on pallets) as well as the minor flows (such as non-machinable mail in sacks). Based on the information provided, the survey team attempted to sample each operation for a full processing window in one 24-hour period.

The SPBS and APPS personnel were requested to process the mail as is typical for the plant, with the exception that they were asked to separately work sacks, pallets, and downflow USPS containers (containers from upstream USPS facilities). Prior to switching container types, the supervisor was requested to clear the machine and provide the survey team with an end-of-run report that provided a count of the pieces fed during the previous session. The sampling team collected containers of loose pieces from broken bundles, counted and recorded piece counts, and then provided empty containers to each culling point.

During the machine operation, a data collector was stationed at each induction point so he or she could observe all pieces flowing out of induction onto the main belt. This data collector counted the number of single pieces, parcels and IPPs that were worked during the session. For APPS operations, this data collector was stationed at either the manual feed station or on a ladder over-looking the belt near the end of the induction station. At SPBS operations, the data collector was stationed at either the last keying station or outside the keying station but prior to the first run-out.

At many of the sampled facilities, there was not a strict separation of classes of mail. Many facilities worked Standard Mail flats and Periodicals flats together on the same scheme. Several facilities made an attempt to work Standard Mail first then work Periodicals, so that the Periodicals mail would be on top of the containers dispatched from the operation. This would allow subsequent processing operations to work the Periodicals first, and allow for the possibility to easily defer the processing of Standard Mail. In facilities that maintained a dedicated Periodicals scheme, time-sensitive Periodicals were processed on that scheme. Periodicals mail not deemed time-sensitive was worked with Standard Mail. As a result, it was determined that separate measures of breakage incidence by class could not be obtained on live mail without significantly altering the processing flow at the sampled plant.

Because of the high incidence of bundle breakage of mail in sacks, several plants now dump sacks on a manual belt, cull loose pieces, and then send the intact bundles to mechanized bundle sorting operations. This mail was sampled in one of two ways. If the mail could be observed when it was being worked, data collectors counted intact bundles as they were being pitched, then counted the loose pieces that had been prepped into ergo carts. If the sacks were staged but were not being worked, the sacks were dumped by the survey team and the loose pieces and intact bundles counted. Then the mail was returned to its original sack.

In manual bundle sorting operations, containers of bundles were either counted prior to being sorted, or counted while they were being pitched. As bundles were being sorted, the data collector also recorded the direct labor time required to work the bundles. Time was recorded when the employees were actively engaged in sorting. No attempt was made to assign break time or other activities that could theoretically be assigned to the activity.

b. Sampling at Flats Prep Operation

Before sampling mail in flats prep operations, data collectors identified the flow of mail to be sampled. In Op. 035, the operation supervisor was asked to identify all stations where the mail would be prepped, what zones would be prepped at each prep station, and where the mail for each station was staged. If all stations could be observed accurately then all stations were sampled. If more stations existed than the survey team could observe accurately, the data collectors determined how many of the stations could be observed accurately and selected stations to sample at random. Data collectors arrived before the operation began, and counted and recorded the bundles in each container staged for the selected prep station. During the period that the mail was being prepped, the time and number of employees actively working the station were recorded until all mail for the station had been prepped.

The same general methodology of pre-counting containers was employed at Op. 140 operations. However since the Op. 140 operation is tied to a specific AFSM, the data collectors worked with the AFSM supervisors to select a sort scheme to be sampled. If the mail for a sample scheme was staged and could be identified, the mail was counted and recorded in the staging area. If all the mail for the scheme was not staged in a central location, then containers being worked were counted and recorded as they arrived at the AFSM for processing.

In the 140 prep operations. mail typically is prepped from both tubs and bundles; often tubs and bundles are prepped simultaneously. The AFSM supervisors were requested to work tubs and bundles separately, but sometimes it was not operationally feasible to do so without delaying mail. These mixed observations were excluded from the calculation of the individual bundle prep and tub prep productivities.

c. Sampling Piece Sorting Operations

Piece sorting operations were sampled to obtain conversion estimates for pieces per tub. The various piece sorting technologies were sampled differently based on the information each could provide. Trays flowing from UFSM 1000 and manual operations were individually counted. At sites equipped with an Automatic Tray Handling System (ATHS), the end-of-run reports were used to record the number of pieces fed and the number of trays dispatched for each sort plan run in the proceeding 48 hour period. For sites without ATHS a sample of sort plans was selected, the number of trays dispatched was manually counted, and the number of pieces fed was recorded from the end-of-run reports.

d. Sampling at Delivery Units

Delivery units were sampled to obtain information about manual bundle sorting operations and conversion factors for mail transport equipment. The survey team arrived at each delivery unit prior to the arrival of the first dispatch from the plant. Every piece of mail transport equipment was inspected. If the container contained flat tubs, the number of tubs, the percent of equipment volume containing tubs, and the percent of total equipment volume filled by any class or shape of mail was recorded. All equipment containing bundles was counted to determine the number of bundles arriving. The survey team observed the bundle sorting process and recorded the time required to process the bundles for dispatch to the carriers. Time was only recorded for periods that employees were actively handling bundles.

iii. Estimation and Results

Data were aggregated by site, and then weighted to reflect the relative size of the facility using destinating flats volume using RPW/ODIS volumes. Observations were then weighted across sites using the inverse of the site's probability of selection. Selection probabilities were calculated by repeated random draws. Standard errors were estimated by bootstrapping the original sample. Missing observations were replaced by the simple average of all observations in the sample.

4. Piece Density Study

i. Introduction and Overview

The Piece Density study is an electronic data study that updates the flats automated/mechanized equipment piece density tables. The results are used as inputs to the First-Class Mail, Periodicals, and Standard Mail flats mail processing cost models contained in USPS-FY08-11.

This study follows the same methodology as was used in USPS-LR-J-63 (Docket No. R2001-1), except for the following. In cost models presented prior to Docket No. ACR2007, USPS-LR-J-63 provided "keying accept", "Refed/mis-faced/REC Time-out", and "total accept rate". In models presented in Docket Nos. ACR2007 and ACR2008, those elements were obtained from Operations and not from the piece density study.

ii. Study Plan

Mail is sorted on automated and mechanized equipment using sort plans. A "sort plan" is a software program that determines the bin number to which each mail piece should be sorted based on address information. The term "density" refers to the percentage of mail that is sorted to a bin, or group of bins, representing a specific destination (e.g., an Area Distribution Center, a Sectional Center Facility, or a Delivery Unit). In the context of this study, "density" refers to the percentage of mail that flows from one operation to a succeeding operation. Density data are regularly analyzed by plant personnel to ensure that the sort plans are constructed as efficiently as possible.

The previous density study was conducted manually. For the sort plans involved in that study, hard copies of end-of-run (EOR) reports, which contain volumes by machine bin, and the corresponding sort plan listing reports, which indicate the finalization level of the mail being sorted to each bin (ADC, SCF, DU, etc.), had to be obtained from each plant that was sampled.

The current study uses electronic databases as sources. These volume and label data are obtained from reports for each sort plan using the Web End-Of-Run (webEOR) system, which is available on the postal intranet. An electronic field study was therefore conducted using September 2008 webEOR data for the AFSM100 and UFSM1000.

Sample Universe
The sample universe was limited to the 269 Processing and Distribution Centers (P&DC) and Processing and Distribution Facilities (P&DF). Sample sites selected in the field study (item 3 above) were used in this study as well.

Sample Design
The sample design was the same as that used in the Flats Field Study (item 3 above) .

iii. Data Collection

A September 2008 "Area Summary Listing" was obtained for each plant in webEOR (see Table 1 below). This report listed all flats sort plans being used at that plant during that time frame. Data were then retrieved for all sort plans related to the operation numbers listed in Section vii, part 1, below. The September 2008 volumes by bin for each sort plan were downloaded into EXCEL workbooks. The dataset contents for these workbooks are described in section v. Data for columns F-L of the workbooks were copied to the EXCEL workbook using the sort plan report in the EOR Viewer menu in WebEOR (see Table 2, below, for an example). Based on the sort plan labels, a key assignment code was entered for each bin in column M. The key was used to assign the volume to the appropriate next operation.

The accuracy of the data collection effort was enhanced by two technological changes which have occurred since the previous study was conducted. The fact that webEOR data are now available on the intranet resulted in improved data "visibility". The fact that EOR data were available electronically also made it possible to determine if a sort plan had been modified during September 2008. In cases where sort plan modifications were made by the plant during that month, data collection adjustments were made as required. As was the case with the previous study, circular mail flows were ignored. For example, most incoming sort plans have bins designed to isolate outgoing mail that, for whatever reason, has been processed in an incoming operation. Given that these mail volumes are generally quite small, they are not incorporated into the density tables. Sort

plans with less than 10,000 pieces processed in September 2008 were ignored due to overall negligible volume.

Another technological change that improved the accuracy of the study is the sort plan standardization program. Under this program, the first three characters of the sort plan name represent the operation number and the fourth character represents the class of mail. However, flat mail operations regularly commingle mail of different classes especially in incoming mail operations. For this reason the data collected are not class-specific.

iv. Input/Output

Input data were obtained from WebEOR. Output has been provided to USPS-FY08-11 (FY 2008 Special Cost Studies Workpapers – Flat Cost Models (First-Class Mail, Standard Mail, and Periodicals)).

v. Organization

The data for all sort plans have been summarized into one EXCEL spreadsheet with tabs by sort level, i.e., Outgoing Primary, Outgoing Secondary, MMP, and SCF for AFSM 100 and UFSM 1000. These data are available in the spreadsheet summary.xls. Tab 'density table' provides the density table data used in the cost models presented in USPS-FY08-11.

vi. Data Set

1. OPERATION NUMBERS

A. AFSM100

Op. No.	Description
331	Outgoing Primary
332	Outgoing Secondary
333	Incoming MMP
334	Incoming SCF
335	Incoming Primary
141	Outgoing Primary – ATHS/AI
142	Outgoing Secondary – ATHS/AI
143	Incoming MMP – ATHS/AI
144	Incoming SCF – ATHS/AI
145	Incoming Primary – ATHS/AI
401	Outgoing Primary - ATHS
402	Outgoing Secondary - ATHS
403	Incoming MMP - ATHS
404	Incoming SCF - ATHS
405	Incoming Primary - ATHS

461	Outgoing Primary – AI
462	Outgoing Secondary - AI
463	Incoming MMP - AI
464	Incoming SCF - AI
465	Incoming Primary - AI

B. UFSM1000

Op. No.	Description
441	Outgoing Primary Key mode
442	Outgoing Secondary Key mode
443	Incoming MMP Key mode
444	Incoming SCF Key mode
445	Incoming Primary Key mode
811	Outgoing Primary OCR mode
812	Outgoing Secondary OCR mode
813	Incoming MMP OCR mode
814	Incoming SCF OCR mode
815	Incoming Primary OCR mode

2. KEY ASSIGNMENT

KEY	DESCRIPTION
M	Manual
F	Finalized Firm
B	Mis-faced
U	Foreign, APO/FPO, Military mail
C	CFS
V	Vacant
1	Outgoing Primary (OP)
2	Outgoing Secondary (OS)
3	Managed Mail Program (MMP)
4	Incoming SCF (SCF)
5	Incoming Primary (IP)
6	Incoming Secondary (IS)

3. DATASET CONTENTS

1. Plant (column A)	Plant Id
2. Sortplan (column B)	sort plan name
3. Op. No. (column C)	MODS operation number
4. Class (column D)	F=First-Class, R= Periodicals, and S=Standard

5. Time Period (column E)	September 2008 (unless otherwise indicated)
6. Bin (column F)	120 bins for AFSM100, 100 for UFSM1000
7. Intentionally blank (column G)	
8. Label (column H)	Description of destination/operation.
9. Intentionally blank (column I)	
10. Next Handling (column J)	Code indicating succeeding operation
11. Intentionally blank (column K)	
12. Code (column L)	Content Identification Number (CIN) depiction for bin
13. Key (column M)	Described in “Key” section above
14. Volume (column N)	Volume processed during the test time period.

NOTE: The volumes entered in column N were assigned to columns O through Z based on the key entered in column M.

15. manual (column O)	next operation is manual piece sorting operation
16. firm (column P)	mail has either been finalized as firm mail or requires no further processing (e.g., IRS mail).
17. Mis-faced (column Q)	Mail was fed backwards. Requires “facing” and reprocessing
18. Foreign (column R)	Foreign Mail (including APO/FPO and Military Mail)
19. cfs (column S)	mail has been classified as CFS mail
20. vacant (column T)	Sort plan indicates no mail should not be sorted to this bin
21. OP (column U)	next operation is the outgoing primary op.
22. OS (column V)	next operation is the outgoing secondary op.
23. MMP (column W)	next operation is the MMP op.
24. SCF (column X)	next operation is the incoming SCF op.
25. IP (column Y)	next operation is the IP op.
26. IS (column Z)	next operation is the IS op.

4. TIME PERIOD

Data were obtained for sort plans under operation numbers listed in Section vii, part 1, using recorded volume in September 2008 for AFSM100 and UFSM1000. On rare occasions sort programs were re-created during the test month. In those cases, adjustments were made as necessary.

TABLE 1 (AREA SUMMARY REPORT – September 2008)

OP Number	SORT PROGRAM	Title	FED	TPH	TPH%
141000	141F7122		2,202,568	2,105,915	95.6%
143000	143F7122		2,081,333	1,979,380	95.1%
144000	144F7120		34,234	31,301	91.4%
144000	144S7122		276,359	269,572	97.5%
144000	144S9122		1,954,958	1,870,784	95.7%
146000	146F7065		135,307	130,951	96.8%
146000	146F7181		328,610	318,957	97.1%
146000	146F7202		379,601	365,080	96.2%
146000	146F7205		283,836	277,230	97.7%
146000	146F7305		352,986	344,205	97.5%
146000	146F7306		292,503	286,129	97.8%
146000	146F7801		420,125	408,474	97.2%
146000	146F7866		128,511	124,426	96.8%
146000	146F7901		262,085	250,051	95.4%
146000	146S7009		190,245	186,088	97.8%
146000	146S7065		359,504	352,545	98.1%
146000	146S7078		294,023	287,582	97.8%
146000	146S7181		54,946	53,135	96.7%
146000	146S7189		274,209	267,034	97.4%
146000	146S7202		159,959	154,570	96.6%
146000	146S7205		90,790	88,929	98.0%
146000	146S7305		112,782	110,885	98.3%
146000	146S7306		86,448	84,338	97.6%
146000	146S7801		452,495	438,298	96.9%
146000	146S7866		244,902	236,864	96.7%
146000	146S7901		337,771	322,447	95.5%
811000	811F7123		86,927	72,285	83.2%
813000	813F7122		347,539	317,127	91.2%
813000	813S7122		9,420	8,440	89.6%
814000	814F7120		22,624	20,694	91.5%
814000	814F7121		12,987	12,201	93.9%
814000	814F7122		220,235	203,721	92.5%
815000	815F7TAX		57,066	53,498	93.7%
815000	815S7122		16,277	15,210	93.4%
816000	816S7010		19,869	18,962	95.4%
816000	816S7065		30,970	29,395	94.9%
816000	816S7128		8,631	8,211	95.1%
816000	816S7180		5,719	5,481	95.8%
816000	816S7189		26,724	25,754	96.4%
816000	816S7202		14,385	13,716	95.3%
816000	816S7205		13,289	12,802	96.3%
816000	816S7866		11,210	10,338	92.2%
816000	816S7901		29,601	27,582	93.2%

Machines Included: AFSM100, UFSM1000

TABLE 2 (WORKSHEET DISPLAYING FIRST 9 BINS FROM AN MMP SORT PROGRAM)

Plant	Sortplan	Op. No.	Class	Time Period	Bin	Blank	Label	Blank	Next Handling	Blank	Code	Key	Volume	manual	firm	brm	uaa	cfs	vacant	OP	OS	MMP	SCF	IP	IS
A1	143f7122	143001	F	S-08	1	[redacted]	REDACTED	[redacted]	SCF D&12500	[redacted]	FCM FLTS 3D VCODE	4	111,015	0	0	0	0	0	0	0	0	0	111,015	0	0
A1	143f7122	143001	F	S-08	2	[redacted]	REDACTED	[redacted]	SCF D&12400	[redacted]	FCM FLTS 3D VCODE	4	60,436	0	0	0	0	0	0	0	0	0	60,436	0	0
A1	143f7122	143001	F	S-08	3	[redacted]	REDACTED	[redacted]	INP E&12600	[redacted]	FCM FLTS CITY VCODE	5	55,097	0	0	0	0	0	0	0	0	0	0	55,097	0
A1	143f7122	143001	F	S-08	4	[redacted]	REDACTED	[redacted]	DISP DZ12700	[redacted]	FCM FLTS 3D VCODE	4	38,331	0	0	0	0	0	0	0	0	0	38,331	0	0
A1	143f7122	143001	F	S-08	5	[redacted]	REDACTED	[redacted]	SA JN12062	[redacted]	FCM FLTS 5D VCODE	6	30,287	0	0	0	0	0	0	0	0	0	0	0	30,287
A1	143f7122	143001	F	S-08	6	[redacted]	REDACTED	[redacted]	SA FM12065	[redacted]	FCM FLTS 5D VCODE	6	19,750	0	0	0	0	0	0	0	0	0	0	0	19,750
A1	143f7122	143001	F	S-08	7	[redacted]	REDACTED	[redacted]	INP E&12200	[redacted]	FCM FLTS 5D VCODE	5	67,862	0	0	0	0	0	0	0	0	0	0	67,862	0
A1	143f7122	143001	F	S-08	8	[redacted]	REDACTED	[redacted]	SA F&12212	[redacted]	FCM FLTS 5D VCODE	6	14,894	0	0	0	0	0	0	0	0	0	0	0	14,894
A1	143f7122	143001	F	S-08	9	[redacted]	REDACTED	[redacted]	SA F&12214	[redacted]	FCM FLTS 5D VCODE	6	7,624	0	0	0	0	0	0	0	0	0	0	0	7,624

E. Input/Output

This item relies upon the FY 2008 PostalOne! mailing statement database; FY 2008 Mail.dat data from the PostalOne! eVS system; the samples of small mailings from USPS-LR-L-91 for Standard Mail; the data collected in response to POIR No. 19 in Docket No. R2006-1 for Periodicals; and USPS-LR-L-32 for First-Class Mail.

The Standard Mail, Periodicals and First-Class Mail mail characteristics data are used to calibrate the models developed in USPS-FY08-11. The Standard Mail and First-Class Mail mail characteristics data are used to calibrate the models developed in USPS-FY08-10. The Standard Mail and Periodicals mail characteristics data are used in USPS-FY08-13. The estimates of RPW by shape and indicia are used in multiple items.

II. ORGANIZATION

The tables of the characteristics estimates are presented below and in electronic version in the Microsoft Office Excel workbook 'MAILCHAR08V.xls' . The estimates of RPW by shape and indicia are presented in the Excel workbook "Shape Indicia MCS FY 2008r ACRV_Col.xls". The field study data and results are provided in the workbook "Facility Study.xls". The programs and workbooks used to estimate these volumes are described in the Program Documentation.

MAILCHAR08V.xls

USPS-FY08-14
Table MCS - 1
FIRST-CLASS MAIL PRESORT CARDS MAIL CHARACTERISTICS DATA

RATE CATEGORY	MACHINABILITY	TRAY PRESORT	PACKAGE PRESORT	VOLUME	AVERAGE PCS PER PACKAGE	NONAUTO PERCENT
Nonauto Presort Cards	Machinable ("MACH")	Mixed AADC	N/A (FULL TRAYS)	141,149,506	N/A	42.44%
Nonauto Presort Cards	Machinable ("MACH")	AADC	N/A (FULL TRAYS)	15,445,076	N/A	4.64%
Nonauto Presort Cards	Machinable ("MACH")	3-Digit	N/A (FULL TRAYS)	116,701,669	N/A	35.09%
Nonauto Presort Cards	Machinable ("MACH")	5-Digit	N/A (FULL TRAYS)	9,589,765	N/A	2.88%
TOTAL				**282,886,016**		

RATE CATEGORY	MACHINABILITY	TRAY PRESORT	PACKAGE PRESORT	VOLUME	AVERAGE PCS PER PACKAGE	
Nonauto Presort Cards	Nonmachinable ("MANUAL")	Mixed ADC	Mixed ADC	4,917,705	41.0	
Nonauto Presort Cards	Nonmachinable ("MANUAL")	Mixed ADC	ADC	0	0.0	
Nonauto Presort Cards	Nonmachinable ("MANUAL")	Mixed ADC	3-Digit	0	0.0	
Nonauto Presort Cards	Nonmachinable ("MANUAL")	Mixed ADC	5-Digit	44,259,348	48.4	
Nonauto Presort Cards	Nonmachinable ("MANUAL")	Mixed ADC	N/A (FULL TRAYS)	534,841	N/A	14.95%
Nonauto Presort Cards	Nonmachinable ("MANUAL")	ADC	ADC	0	0.0	
Nonauto Presort Cards	Nonmachinable ("MANUAL")	ADC	3-Digit	0	0.0	
Nonauto Presort Cards	Nonmachinable ("MANUAL")	ADC	5-Digit	0	0.0	
Nonauto Presort Cards	Nonmachinable ("MANUAL")	ADC	N/A (FULL TRAYS)	0	N/A	0.00%
Nonauto Presort Cards	Nonmachinable ("MANUAL")	3-Digit	3-Digit	0	0.0	
Nonauto Presort Cards	Nonmachinable ("MANUAL")	3-Digit	5-Digit	0	0.0	
Nonauto Presort Cards	Nonmachinable ("MANUAL")	3-Digit	N/A (FULL TRAYS)	0	N/A	0.00%
Nonauto Presort Cards	Nonmachinable ("MANUAL")	5-Digit	N/A (FULL TRAYS)	0	N/A	0.00%
TOTAL				**49,711,894**		**100.00%**

RATE CATEGORY	MACHINABILITY	TRAY PRESORT	PACKAGE PRESORT	VOLUME	AVERAGE PCS PER PACKAGE
Auto Carrier Route Presort Cards	Machinable ("CR" or "CR-RT")	3-Digit Carrier Route	Carrier Route	0	N/A
Auto Carrier Route Presort Cards	Machinable ("CR" or "CR-RT")	3-Digit Carrier Route	N/A (FULL TRAYS)	0	N/A
Auto Carrier Route Presort Cards	Machinable ("CR" or "CR-RT")	5-Digit Carrier Route	Carrier Route	0	N/A
Auto Carrier Route Presort Cards	Machinable ("CR" or "CR-RT")	5-Digit Carrier Route	N/A (FULL TRAYS)	0	N/A
Auto Carrier Route Presort Cards	Machinable ("CR" or "CR-RT")	Carrier Route	N/A (FULL TRAYS)	0	N/A
TOTAL				**0**	

*** In this instance, a "package" refers to the pieces per carrier route, whether an actual bundle or separator cards are used.**

Nonauto Presort Cards	**332,597,910**
Auto MAADC Presort Cards	**278,422,361**
Auto AADC Presort Cards	**199,770,572**
Auto 3-Digit Cards	**1,326,155,680**
Auto 5-Digit Cards	**1,419,050,781**
Auto Carrier Route Presort Cards	**0**
Total Presort Cards	**3,555,997,304**

MAILCHAR08V.xls

USPS-FY08-14
Table MCS - 2
FIRST-CLASS MAIL PRESORT LETTERS MAIL CHARACTERISTICS DATA

RATE CATEGORY	MACHINABILITY	TRAY PRESORT	PACKAGE PRESORT	VOLUME	AVERAGE PCS PER PACKAGE
Nonauto Presort Letters	Machinable ("MACH")	Mixed AADC	N/A (FULL TRAYS)	628,983,457	N/A
Nonauto Presort Letters	Machinable ("MACH")	AADC	N/A (FULL TRAYS)	209,735,305	N/A
Nonauto Presort Letters	Machinable ("MACH")	3-Digit	N/A (FULL TRAYS)	549,364,696	N/A
Nonauto Presort Letters	Machinable ("MACH")	5-Digit	N/A (FULL TRAYS)	118,982,847	N/A
TOTAL				**1,507,066,305**	

RATE CATEGORY	MACHINABILITY	TRAY PRESORT	PACKAGE PRESORT	VOLUME	AVERAGE PCS PER PACKAGE
Nonauto Presort Letters	Nonmachinable ("MANUAL")	Mixed ADC	Mixed ADC	495,465	20.6
Nonauto Presort Letters	Nonmachinable ("MANUAL")	Mixed ADC	ADC	1,681,159	15.8
Nonauto Presort Letters	Nonmachinable ("MANUAL")	Mixed ADC	3-Digit	636,311	17.8
Nonauto Presort Letters	Nonmachinable ("MANUAL")	Mixed ADC	5-Digit	7,935	19.0
Nonauto Presort Letters	Nonmachinable ("MANUAL")	Mixed ADC	N/A (FULL TRAYS)	7,594,367	N/A
Nonauto Presort Letters	Nonmachinable ("MANUAL")	ADC	ADC	278,693	12.8
Nonauto Presort Letters	Nonmachinable ("MANUAL")	ADC	3-Digit	3,398,351	18.5
Nonauto Presort Letters	Nonmachinable ("MANUAL")	ADC	5-Digit	534,383	17.2
Nonauto Presort Letters	Nonmachinable ("MANUAL")	ADC	N/A (FULL TRAYS)	717,713	N/A
Nonauto Presort Letters	Nonmachinable ("MANUAL")	3-Digit	3-Digit	1,935,018	20.1
Nonauto Presort Letters	Nonmachinable ("MANUAL")	3-Digit	5-Digit	2,107,227	18.9
Nonauto Presort Letters	Nonmachinable ("MANUAL")	3-Digit	N/A (FULL TRAYS)	2,276,939	N/A
Nonauto Presort Letters	Nonmachinable ("MANUAL")	5-Digit	N/A (FULL TRAYS)	1,278,931	N/A
TOTAL				**22,942,493**	

RATE CATEGORY	MACHINABILITY	TRAY PRESORT	PACKAGE PRESORT	VOLUME	AVERAGE PCS PER PACKAGE
Auto Carrier Route Presort Letters	Machinable ("CR" or "CR-RT")	3-Digit Carrier Route	Carrier Route	15,131	19.7
Auto Carrier Route Presort Letters	Machinable ("CR" or "CR-RT")	3-Digit Carrier Route	N/A (FULL TRAYS)	99	N/A
Auto Carrier Route Presort Letters	Machinable ("CR" or "CR-RT")	5-Digit Carrier Route	Carrier Route	69,885	25.5
Auto Carrier Route Presort Letters	Machinable ("CR" or "CR-RT")	5-Digit Carrier Route	N/A (FULL TRAYS)	8,574	N/A
Auto Carrier Route Presort Letters	Machinable ("CR" or "CR-RT")	Carrier Route	N/A (FULL TRAYS)	52,697	N/A
TOTAL				**146,386**	

RATE CATEGORY	VOLUME
Nonauto Presort Letters	**1,530,008,798**
Auto MAADC Presort Letters	**2,980,110,056**
Auto AADC Presort Letters	**2,388,754,900**
Auto 3-Digit Presort Letters	**20,157,561,454**
Auto 5-Digit Presort Letters	**21,323,292,062**
Auto Carrier Route Presort Letters	**146,386**
Total Presort Letters	**48,379,873,656**

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Table MCS - 3

FIRST-CLASS MAIL PRESORT FLATS MAIL CHARACTERISTICS DATA

RATE CATEGORY	MACHINABILITY	TUB PRESORT	PACKAGE PRESORT	VOLUME	AVERAGE PCS PER PACKAGE
Nonauto Presort Flats	AFSM100	Mixed ADC	Mixed ADC	2,302,528	20.5
Nonauto Presort Flats	AFSM100	Mixed ADC	ADC	6,528,960	17.7
Nonauto Presort Flats	AFSM100	Mixed ADC	3-Digit	4,057,077	16.3
Nonauto Presort Flats	AFSM100	Mixed ADC	5-Digit	231,034	25.6
Nonauto Presort Flats	AFSM100	Mixed ADC	N/A (FULL TRAYS)	2,050,013	N/A
Nonauto Presort Flats	AFSM100	ADC	ADC	4,716,516	14.0
Nonauto Presort Flats	AFSM100	ADC	3-Digit	8,535,553	15.6
Nonauto Presort Flats	AFSM100	ADC	5-Digit	1,543,150	14.3
Nonauto Presort Flats	AFSM100	ADC	N/A (FULL TRAYS)	1,134,355	N/A
Nonauto Presort Flats	AFSM100	3-Digit	3-Digit	14,057,923	17.9
Nonauto Presort Flats	AFSM100	3-Digit	5-Digit	11,109,109	15.4
Nonauto Presort Flats	AFSM100	3-Digit	N/A (FULL TRAYS)	872,375	N/A
Nonauto Presort Flats	AFSM100	5-Digit	5-Digit	1,255,521	23.5
Nonauto Presort Flats	AFSM100	5-Digit	N/A (FULL TRAYS)	2,805,124	N/A
Nonauto Presort Flats	UFSM1000	Mixed ADC	Mixed ADC	1,836,316	16.9
Nonauto Presort Flats	UFSM1000	Mixed ADC	ADC	3,457,502	18.5
Nonauto Presort Flats	UFSM1000	Mixed ADC	3-Digit	4,287,512	14.8
Nonauto Presort Flats	UFSM1000	Mixed ADC	5-Digit	0	0.0
Nonauto Presort Flats	UFSM1000	Mixed ADC	N/A (FULL TRAYS)	100,102	N/A
Nonauto Presort Flats	UFSM1000	ADC	ADC	9,991,798	15.6
Nonauto Presort Flats	UFSM1000	ADC	3-Digit	9,343,374	18.7
Nonauto Presort Flats	UFSM1000	ADC	5-Digit	516,637	13.1
Nonauto Presort Flats	UFSM1000	ADC	N/A (FULL TRAYS)	22,542	N/A
Nonauto Presort Flats	UFSM1000	3-Digit	3-Digit	6,622,673	16.3
Nonauto Presort Flats	UFSM1000	3-Digit	5-Digit	6,665,524	13.4
Nonauto Presort Flats	UFSM1000	3-Digit	N/A (FULL TRAYS)	2,125,653	N/A
Nonauto Presort Flats	UFSM1000	5-Digit	5-Digit	1,466,625	21.4
Nonauto Presort Flats	UFSM1000	5-Digit	N/A (FULL TRAYS)	1,419,771	N/A
TOTAL				**109,055,266**	

RATE CATEGORY	MACHINABILITY	TUB PRESORT	PACKAGE PRESORT	VOLUME	AVERAGE PCS PER PACKAGE
Mixed ADC Auto Presort Flats	AFSM100	Mixed ADC	Mixed ADC	26,893,059	10.1
Mixed ADC Auto Presort Flats	AFSM100	Mixed ADC	N/A (FULL TRAYS)	23,537,027	N/A
Mixed ADC Auto Presort Flats	UFSM1000	Mixed ADC	Mixed ADC	2,718,083	19.0
Mixed ADC Auto Presort Flats	UFSM1000	Mixed ADC	N/A (FULL TRAYS)	874,739	N/A
TOTAL				**54,022,908**	

RATE CATEGORY	MACHINABILITY	TUB PRESORT	PACKAGE PRESORT	VOLUME	AVERAGE PCS PER PACKAGE
ADC Auto Presort Flats	AFSM100	Mixed ADC	ADC	24,597,400	17.4
ADC Auto Presort Flats	AFSM100	ADC	ADC	21,842,424	7.0
ADC Auto Presort Flats	AFSM100	ADC	N/A (FULL TRAYS)	43,623,898	N/A
ADC Auto Presort Flats	UFSM1000	Mixed ADC	ADC	6,641,150	15.9
ADC Auto Presort Flats	UFSM1000	ADC	ADC	1,734,600	17.2
ADC Auto Presort Flats	UFSM1000	ADC	N/A (FULL TRAYS)	402,007	N/A
TOTAL				**98,841,478**	

RATE CATEGORY	MACHINABILITY	TUB PRESORT	PACKAGE PRESORT	VOLUME	AVERAGE PCS PER PACKAGE
3-Digit Auto Presort Flats	AFSM100	Mixed ADC	3-Digit	33,455,226	17.8
3-Digit Auto Presort Flats	AFSM100	ADC	3-Digit	55,691,961	26.0
3-Digit Auto Presort Flats	AFSM100	3-Digit	3-Digit	70,709,792	13.3
3-Digit Auto Presort Flats	AFSM100	3-Digit	N/A (FULL TRAYS)	95,878,344	N/A
3-Digit Auto Presort Flats	UFSM1000	Mixed ADC	3-Digit	6,149,881	14.0
3-Digit Auto Presort Flats	UFSM1000	ADC	3-Digit	7,097,504	26.9
3-Digit Auto Presort Flats	UFSM1000	3-Digit	3-Digit	10,719,861	21.2
3-Digit Auto Presort Flats	UFSM1000	3-Digit	N/A (FULL TRAYS)	1,709,098	N/A
TOTAL				**281,411,667**	

RATE CATEGORY	MACHINABILITY	TUB PRESORT	PACKAGE PRESORT	VOLUME	AVERAGE PCS PER PACKAGE
5-Digit Auto Presort Flats	AFSM100	Mixed ADC	5-Digit	3,221,453	13.5
5-Digit Auto Presort Flats	AFSM100	ADC	5-Digit	10,185,686	16.4
5-Digit Auto Presort Flats	AFSM100	3-Digit	5-Digit	90,490,538	24.3
5-Digit Auto Presort Flats	AFSM100	5-Digit	5-Digit	54,370,524	31.0
5-Digit Auto Presort Flats	AFSM100	5-Digit	N/A (FULL TRAYS)	44,698,615	N/A
5-Digit Auto Presort Flats	UFSM1000	Mixed ADC	5-Digit	372,179	10.1
5-Digit Auto Presort Flats	UFSM1000	ADC	5-Digit	4,764,041	16.3
5-Digit Auto Presort Flats	UFSM1000	3-Digit	5-Digit	18,654,035	14.9
5-Digit Auto Presort Flats	UFSM1000	5-Digit	5-Digit	2,403,136	20.0
5-Digit Auto Presort Flats	UFSM1000	5-Digit	N/A (FULL TRAYS)	92,093	N/A
TOTAL				**229,252,299**	

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Table MCS - 4
Model Volumes

Table A1: Outside County Sack & Pallet Counts By Entry Point & Container Presort (FY08)

Container		Entry Point						
Type	**Presort**	**DDU**	**DSCF**	**DADC**	**DBMC**	**OBMC**	**OADC**	**OSCF/OAO**
Sacks	**MADC**	0	0	0	75,236	457,073	4,150,149	950,059
	ADC	0	0	73,622	5,087	22,766	125,027	4,138,250
	3-D/SCF	0	1,640,280	329,324	16,658	70,337	338,892	13,305,572
	5-d	217,004	1,003,359	201,854	8,077	26,767	88,089	3,087,560
	5-d CR	174,299	354,532	70,287	1,233	2,535	11,170	696,887
	CR	123,460	480,225	47,716	122	2,182	9,381	807,147
Pallets	**ADC**	0	0	415,241	2,770	1,933	31,601	372,221
	3-D/SCF	0	1,334,446	286,538	6,678	1,601	38,106	398,966
	5-Digit	19,232	432,145	26,399	1,892	734	2,795	37,750

Table A2: Estimated FY08 Counts Of Bundles By Bundle & Container Presort Level

Bundle	**Sacks**						**Pallets**			**Total**	**Average Pieces**
Presort	**MADC**	**ADC**	**SCF/3-D**	**5-Digit**	**5-D CR**	**CR**	**ADC**	**3D-SCF**	**5-Digit**	**Bundles**	**per Bundle**
MADC	6,614,597	0	0	0	0	0	0	0	0	6,614,597	14.0
ADC	6,333,185	4,484,508	0	0	0	0	247,765	0	0	11,065,459	10.1
3-D	5,961,151	12,652,714	24,323,836	0	0	0	11,358,258	6,549,176	0	60,845,136	15.2
5-D	1,701,177	2,309,081	27,471,247	6,909,732	0	0	41,540,253	87,869,144	1,239,224	169,039,858	14.7
CR	0	7,833	5,794,660	1,216,540	5,638,038	2,298,108	19,977,650	246,533,895	33,978,110	315,444,833	12.8
Firm	4,982,114	4,962,039	5,827,128	633,287	189,868	20,996	7,098,158	12,620,950	1,113,970	37,448,511	1.1
Total	25,592,225	24,416,176	63,416,871	8,759,559	5,827,906	2,319,104	80,222,085	353,573,166	36,331,303	600,458,395	

Table A3: FY08 Piece Counts By Bundle & Container Presort Level And Piece Characteristics

Bundle	Piece	Sacks						Pallets		
Level	Type	MADC	ADC	3-D	5-D	5-D CR	CR	ADC	3-D	5-D
MADC	NBC/NM	21,041,886	0	0	0	0	0	0	0	0
	NBC/M	26,211,036	0	0	0	0	0	0	0	0
	BC/NM	4,242,872	0	0	0	0	0	0	0	0
	BC/M	40,942,401	0	0	0	0	0	0	0	0
ADC	NBC/NM	10,265,032	4,128,650	0	0	0	0	111,267	0	0
	NBC/M	5,433,586	11,409,469	0	0	0	0	338,889	0	0
	BC/NM	2,749,577	3,213,662	0	0	0	0	356,083	0	0
	BC/M	34,653,351	37,961,263	0	0	0	0	1,602,981	0	0
3d	NBC/NM	4,750,558	2,824,094	25,201,731	0	0	0	4,077,664	3,561,899	0
	NBC/M	5,087,176	15,398,695	31,602,986	0	0	0	10,681,846	8,421,090	0
	BC/NM	2,316,398	5,867,937	11,813,634	0	0	0	14,123,360	12,382,091	0
	BC/M	37,327,429	98,765,708	346,105,977	0	0	0	186,745,185	99,520,937	0
5d	NBC/NM	1,774,573	222,333	12,015,556	15,550,353	0	0	1,937,211	10,735,490	644,794
	NBC/M	1,583,085	1,679,971	16,883,953	22,331,384	0	0	20,619,087	64,678,923	1,771,459
	BC/NM	309,522	695,606	3,095,007	740,754	0	0	7,054,852	64,770,416	3,066,733
	BC/M	8,742,581	14,963,242	225,948,185	130,932,999	0	0	534,617,856	1,302,555,813	13,915,281
CR	NM	0	56,184	375,140	59,078	204,517	1,118,346	1,268,807	61,144,920	43,186,218
	M	0	0	48,796,286	12,872,457	63,415,336	69,024,674	181,540,283	2,922,973,349	623,902,222
Firm	NM	719,414	761,374	443,923	24,688	0	0	870,463	746,069	88,330
	M	4,831,659	4,733,807	6,034,658	678,032	211,543	23,249	7,005,498	13,324,462	1,145,045
Total Pieces:		212,982,135	202,681,996	728,317,034	183,189,744	63,831,396	70,166,269	972,951,333	4,564,815,459	687,720,084
					Sacked:		1,461,168,575	Palletized:		6,225,486,876
								Total FY08:		7,686,655,450

Container	Level	NBC/NM	NBC/M	BC/NM	BC/M
MADC Sack	MADC	21,041,886	26,211,036	4,242,872	40,942,401
	ADC	10,265,032	5,433,586	2,749,577	34,653,351
	3-Digit	4,750,558	5,087,176	2,316,398	37,327,429
	5-Digit	1,774,573	1,583,085	309,522	8,742,581
	CR	0	0		
ADC Sack	ADC	4,128,650	11,409,469	3,213,662	37,961,263
	3-Digit	2,824,094	15,398,695	5,867,937	98,765,708
	5-Digit	222,333	1,679,971	695,606	14,963,242
	CR	56,184	0		
SCF/3D Sack	3-Digit	25,201,731	31,602,986	11,813,634	346,105,977
	5-Digit	12,015,556	16,883,953	3,095,007	225,948,185
	CR	375,140	48,796,286		
5- Digit Sack	5-Digit	15,550,353	22,331,384	740,754	130,932,999
	CR	59,078	12,872,457		
5 D CR Sack	CR	204,517	63,415,336		
CR Sack	CR	1,118,346	69,024,674		
ADC Pallet	ADC	111,267	338,889	356,083	1,602,981
	3-Digit	4,077,664	10,681,846	14,123,360	186,745,185
	5-Digit	1,937,211	20,619,087	7,054,852	534,617,856
	CR	1,268,807	181,540,283		
SCF/3D Pallet	3-Digit	3,561,899	8,421,090	12,382,091	99,520,937
	5-Digit	10,735,490	64,678,923	64,770,416	1,302,555,813
	CR	61,144,920	2,922,973,349		
5- Digit Pallet	5-Digit	644,794	1,771,459	3,066,733	13,915,281
	CR	43,186,218	623,902,222		

MADC Sacks	L201	2,197,689
	L009	3,434,827
		0.390178946

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Table MCS - 5

STANDARD MAIL PRESORT LETTERS MAIL CHARACTERISTICS DATA

RATE CATEGORY	MACHINABILITY	TRAY PRESORT	PACKAGE PRESORT	VOLUME	AVERAGE PCS PER PACKAGE
Nonauto MADC Presort Letters	Machinable ("MACH")	Mixed AADC	N/A (FULL TRAYS)	766,321,811	N/A
TOTAL				**766,321,811**	

RATE CATEGORY	MACHINABILITY	TRAY PRESORT	PACKAGE PRESORT	VOLUME	AVERAGE PCS PER PACKAGE
Nonauto ADC Presort Letters	Machinable ("MACH")	AADC	N/A (FULL TRAYS)	1,589,230,049	N/A
Nonauto ADC Presort Letters	Machinable ("MACH")	3-Digit	N/A (FULL TRAYS)	477,717,722	N/A
TOTAL				**2,066,947,771**	

RATE CATEGORY	MACHINABILITY	TRAY PRESORT	PACKAGE PRESORT	VOLUME	AVERAGE PCS PER PACKAGE
Nonauto MADC Presort Letters	Nonmachinable ("MANUAL")	Mixed ADC	Mixed ADC	12,295,174	27
Nonauto MADC Presort Letters	Nonmachinable ("MANUAL")	Mixed ADC	ADC	6,597,833	17
Nonauto MADC Presort Letters	Nonmachinable ("MANUAL")	Mixed ADC	3-Digit	824,144	17
Nonauto MADC Presort Letters	Nonmachinable ("MANUAL")	Mixed ADC	5-Digit	435,702	16
TOTAL				**20,152,853**	

RATE CATEGORY	MACHINABILITY	TRAY PRESORT	PACKAGE PRESORT	VOLUME	AVERAGE PCS PER PACKAGE
Nonauto ADC Presort Letters	Nonmachinable ("MANUAL")	ADC	ADC	15,293,629	20
Nonauto ADC Presort Letters	Nonmachinable ("MANUAL")	ADC	3-Digit	3,483,861	22
Nonauto ADC Presort Letters	Nonmachinable ("MANUAL")	ADC	5-Digit	96,768	19
Nonauto ADC Presort Letters	Nonmachinable ("MANUAL")	3-Digit	3-Digit	5,364,126	34
Nonauto ADC Presort Letters	Nonmachinable ("MANUAL")	3-Digit	5-Digit	309,419	30
TOTAL				**24,547,803**	

RATE CATEGORY	MACHINABILITY	TRAY PRESORT	PACKAGE PRESORT	VOLUME	AVERAGE PCS PER PACKAGE
Nonauto 3 Digit Presort Letters	Machinable ("MACH")	3-Digit	N/A (FULL TRAYS)	0	N/A
TOTAL				**0**	

RATE CATEGORY	MACHINABILITY	TRAY PRESORT	PACKAGE PRESORT	VOLUME	AVERAGE PCS PER PACKAGE
Nonauto 5 Digit Presort Letters	Machinable ("MACH")	5-Digit	N/A (FULL TRAYS)	0	N/A
				0	

RATE CATEGORY	MACHINABILITY	TRAY PRESORT	PACKAGE PRESORT	VOLUME	AVERAGE PCS PER PACKAGE
Nonauto 3 Digit Presort Letters	Nonmachinable ("MANUAL")	3-Digit	3-Digit	32,250,568	29
Nonauto 3 Digit Presort Letters	Nonmachinable ("MANUAL")	3-Digit	5-Digit	8,772,197	27
TOTAL				**41,022,765**	

RATE CATEGORY	MACHINABILITY	TRAY PRESORT	PACKAGE PRESORT	VOLUME	AVERAGE PCS PER PACKAGE
Nonauto 5 Digit Presort Letters	Nonmachinable ("MANUAL")	5-Digit	N/A (FULL TRAYS)	50,322,316	23
TOTAL				**50,322,316**	

RATE CATEGORY	VOLUME
Nonauto Presort Letters	**2,969,315,318**
Auto MAADC Presort Letters	**2,711,932,945**
Auto AADC Presort Letters	**2,740,813,505**
Auto 3-Digit Presort Letters	**21,121,827,750**
Auto 5-Digit Presort Letters	**27,543,118,361**
Total Presort Letters	**57,087,007,879**

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Table MCS - 6
STANDARD MAIL PRESORT FLATS MAIL CHARACTERISTICS DATA

RATE CATEGORY	MACHINABILITY	CONTAINER PRESORT	PACKAGE PRESORT	PALLET VOLUME	SACK VOLUME	TOTAL VOLUME	PALLET AVERAGE PCS PER PACKAGE	SACK AVERAGE PCS PER PACKAGE
Nonauto MADC Presort Flats	AFSM100	Mixed ADC	Mixed ADC	0	34,991,413	34,991,413	0.0	27.2
Nonauto MADC Presort Flats	AFSM100	Mixed ADC	ADC	0	56,448,434	56,448,434	0.0	17.0
Nonauto MADC Presort Flats	AFSM100	Mixed ADC	3-Digit	0	20,118,365	20,118,365	0.0	16.3
Nonauto MADC Presort Flats	AFSM100	Mixed ADC	5-Digit	0	1,203,895	1,203,895	0.0	15.9
Nonauto MADC Presort Flats	AFSM100	BMC/ADC	Mixed ADC	1,501,371	0	1,501,371	9.2	0.0
Nonauto MADC Presort Flats	UFSM1000	Mixed ADC	Mixed ADC	0	848,263	848,263	0.0	21.3
Nonauto MADC Presort Flats	UFSM1000	Mixed ADC	ADC	0	56,609	56,609	0.0	16.7
Nonauto MADC Presort Flats	UFSM1000	Mixed ADC	3-Digit	0	329,168	329,168	0.0	16.6
Nonauto MADC Presort Flats	UFSM1000	Mixed ADC	5-Digit	0	52,451	52,451	0.0	19.0
Nonauto MADC Presort Flats	UFSM1000	BMC/ADC	Mixed ADC	1,933	0	1,933	9.0	0.0
TOTAL				**1,503,304**	**114,048,597**	**115,551,901**		

RATE CATEGORY	MACHINABILITY	CONTAINER PRESORT	PACKAGE PRESORT	PALLET VOLUME	SACK VOLUME	TOTAL VOLUME	AVERAGE PCS PER PACKAGE	AVERAGE PCS PER PACKAGE
Nonauto ADC Presort Flats	AFSM100	BMC/ADC	ADC	4,756,817	13,254,011	18,010,828	18.0	19.8
Nonauto ADC Presort Flats	AFSM100	BMC/ADC	3-Digit	0	36,284,673	36,284,673	0.0	22.3
Nonauto ADC Presort Flats	AFSM100	BMC/ADC	5-Digit	0	3,686,186	3,686,186	0.0	19.2
Nonauto ADC Presort Flats	AFSM100	3-Digit	3-Digit	0	2,741,289	2,741,289	0.0	34.1
Nonauto ADC Presort Flats	AFSM100	3-Digit	5-Digit	0	2,942,796	2,942,796	0.0	29.9
Nonauto ADC Presort Flats	UFSM1000	BMC/ADC	ADC	25,161	21,882	47,043	18.2	21.3
Nonauto ADC Presort Flats	UFSM1000	BMC/ADC	3-Digit	0	123,406	123,406	0.0	22.2
Nonauto ADC Presort Flats	UFSM1000	BMC/ADC	5-Digit	0	42,034	42,034	0.0	19.1
Nonauto ADC Presort Flats	UFSM1000	3-Digit	3-Digit	0	227,500	227,500	0.0	33.4
Nonauto ADC Presort Flats	UFSM1000	3-Digit	5-Digit	0	386,170	386,170	0.0	29.9
TOTAL				**4,781,978**	**59,709,946**	**64,491,924**		

RATE CATEGORY	MACHINABILITY	CONTAINER PRESORT	PACKAGE PRESORT	PALLET VOLUME	SACK VOLUME	TOTAL VOLUME	AVERAGE PCS PER PACKAGE	AVERAGE PCS PER PACKAGE
Nonauto 3 Digit Presort Flats	AFSM100	BMC/ADC	3-Digit	70,205,115	0	70,205,115	33.9	25.9
Nonauto 3 Digit Presort Flats	AFSM100	3-Digit	3-Digit	51,608,289	54,728,406	106,336,695	34.7	29.2
Nonauto 3 Digit Presort Flats	AFSM100	3-Digit	5-Digit	0	45,128,886	45,128,886	26.8	26.8
Nonauto 3 Digit Presort Flats	UFSM1000	BMC/ADC	3-Digit	2,802,131	0	2,802,131	33.0	0.0
Nonauto 3 Digit Presort Flats	UFSM1000	3-Digit	3-Digit	810,104	1,601,646	2,411,750	36.3	28.7
Nonauto 3 Digit Presort Flats	UFSM1000	3-Digit	5-Digit	0	2,324,294	2,324,294	30.2	26.1
TOTAL				**125,425,639**	**103,783,232**	**229,208,871**		

RATE CATEGORY	MACHINABILITY	CONTAINER PRESORT	PACKAGE PRESORT	PALLET VOLUME	SACK VOLUME	TOTAL VOLUME	AVERAGE PCS PER PACKAGE	AVERAGE PCS PER PACKAGE
Nonauto 5 Digit Presort Flats	AFSM100	BMC/ADC	5-Digit	61,427,768	0	61,427,768	23.6	19.5
Nonauto 5 Digit Presort Flats	AFSM100	3-Digit	5-Digit	169,708,746	0	169,708,746	28.7	21.0
Nonauto 5 Digit Presort Flats	AFSM100	5-Digit	5-Digit	9,483,734	50,318,273	59,802,007	35.7	47.5
Nonauto 5 Digit Presort Flats	UFSM1000	BMC/ADC	5-Digit	3,029,279	0	3,029,279	22.8	0.0
Nonauto 5 Digit Presort Flats	UFSM1000	3-Digit	5-Digit	6,062,615	0	6,062,615	30.1	0.0
Nonauto 5 Digit Presort Flats	UFSM1000	5-Digit	5-Digit	557,180	2,876,697	3,433,876	34.6	59.7
TOTAL				**250,269,322**	**53,194,969**	**303,464,291**		

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Table MCS - 6 (Continued)
STANDARD MAIL PRESORT FLATS MAIL CHARACTERISTICS DATA

RATE CATEGORY	MACHINABILITY	CONTAINER PRESORT	PACKAGE PRESORT	PALLET VOLUME	SACK VOLUME	TOTAL VOLUME	AVERAGE PCS PER PACKAGE	AVERAGE PCS PER PACKAGE
Auto MADC Presort Flats	AFSM100	Mixed ADC	Mixed ADC	0	75,144,169	75,144,169	0	25
Auto MADC Presort Flats	AFSM100	BMC/ADC	Mixed ADC	3,790,325	0	3,790,325	9	0
Auto MADC Presort Flats	UFSM1000	Mixed ADC	Mixed ADC	0	5,968,959	5,968,959	0	22
Auto MADC Presort Flats	UFSM1000	BMC/ADC	Mixed ADC	22,877	0	22,877	10	0
TOTAL				**3,813,202**	**81,113,128**	**84,926,330**		

RATE CATEGORY	MACHINABILITY	CONTAINER PRESORT	PACKAGE PRESORT	PALLET VOLUME	SACK VOLUME	TOTAL VOLUME	AVERAGE PCS PER PACKAGE	AVERAGE PCS PER PACKAGE
Auto ADC Presort Flats	AFSM100	Mixed ADC	ADC	0	96,379,739	96,379,739	0	16
Auto ADC Presort Flats	AFSM100	BMC/ADC	ADC	15,044,936	69,803,246	84,848,182	17	21
Auto ADC Presort Flats	UFSM1000	Mixed ADC	ADC	0	8,134,141	8,134,141	0	15
Auto ADC Presort Flats	UFSM1000	BMC/ADC	ADC	43,862	123,608	167,470	18	23
				15,088,798	**174,440,733**	**189,529,531**		

RATE CATEGORY	MACHINABILITY	CONTAINER PRESORT	PACKAGE PRESORT	PALLET VOLUME	SACK VOLUME	TOTAL VOLUME	AVERAGE PCS PER PACKAGE	AVERAGE PCS PER PACKAGE
Auto 3 Digit Presort Flats	AFSM100	Mixed ADC	3-Digit	0	168,814,891	168,814,891	0	17
Auto 3 Digit Presort Flats	AFSM100	BMC/ADC	3-Digit	1,178,798,822	513,116,508	1,691,915,331	34	23
Auto 3 Digit Presort Flats	AFSM100	3-Digit	3-Digit	403,890,190	314,801,984	718,692,174	35	30
Auto 3 Digit Presort Flats	UFSM1000	Mixed ADC	3-Digit	0	5,813,288	5,813,288	0	15
Auto 3 Digit Presort Flats	UFSM1000	BMC/ADC	3-Digit	6,935,110	791,000	7,726,110	33	28
Auto 3 Digit Presort Flats	UFSM1000	3-Digit	3-Digit	128,561	3,043,223	3,171,784	35	33
TOTAL				**1,589,752,683**	**1,006,380,895**	**2,596,133,578**		

RATE CATEGORY	MACHINABILITY	CONTAINER PRESORT	PACKAGE PRESORT	PALLET VOLUME	SACK VOLUME	TOTAL VOLUME	AVERAGE PCS PER PACKAGE	AVERAGE PCS PER PACKAGE
Auto 5 Digit Presort Flats	AFSM100	Mixed ADC	5-Digit	0	17,627,414	17,627,414	0	16
Auto 5 Digit Presort Flats	AFSM100	BMC/ADC	5-Digit	2,030,808,915	65,195,651	2,096,004,566	24	19
Auto 5 Digit Presort Flats	AFSM100	3-Digit	5-Digit	3,719,207,106	338,520,001	4,057,727,107	29	26
Auto 5 Digit Presort Flats	AFSM100	5-Digit	5-Digit	46,157,488	156,111,484	202,268,973	36	44
Auto 5 Digit Presort Flats	UFSM1000	Mixed ADC	5-Digit	0	240,541	240,541	0	15
Auto 5 Digit Presort Flats	UFSM1000	BMC/ADC	5-Digit	1,732,518	446,859	2,179,377	24	53
Auto 5 Digit Presort Flats	UFSM1000	3-Digit	5-Digit	882,715	7,378,467	8,261,182	30	25
Auto 5 Digit Presort Flats	UFSM1000	5-Digit	5-Digit	1,603	39,942,260	39,943,862	33	108
TOTAL				**5,798,790,344**	**625,462,677**	**6,424,253,021**		

MAILCHAR08V.xls

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Table MCS - 7

STANDARD MAIL ECR FLATS MAIL CHARACTERISTICS DATA

RATE CATEGORY	MACHINABILITY	CONTAINER PRESORT	PACKAGE PRESORT	PALLET VOLUME	SACK VOLUME	TOTAL VOLUME
Saturation	ECR	ADC/BMC	CR	22,647,919	0	22,647,919
Saturation	ECR	3-Digit/SCF	CR	1,243,757,901	0	1,243,757,901
Saturation	ECR	5-Digit	CR	7,709,754,036	55,887,763	7,765,641,799
Saturation	ECR	CRTS	CR	0	113,765,751	113,765,751
Saturation	ECR	CR	CR	0	1,898,063,982	1,898,063,982
TOTAL				**8,976,159,856**	**2,067,717,496**	**11,043,877,352**

RATE CATEGORY	MACHINABILITY	CONTAINER PRESORT	PACKAGE PRESORT	PALLET VOLUME	SACK VOLUME	TOTAL VOLUME
High Density	ECR	ADC/BMC	CR	11,621,607	0	11,621,607
High Density	ECR	3-Digit/SCF	CR	433,198,465	0	433,198,465
High Density	ECR	5-Digit	CR	1,369,936,991	130,548	1,370,067,539
High Density	ECR	CRTS	CR	0	281,980	281,980
High Density	ECR	CR	CR	0	185,948,256	185,948,256
TOTAL				**1,814,757,063**	**186,360,784**	**2,001,117,847**

RATE CATEGORY	MACHINABILITY	CONTAINER PRESORT	PACKAGE PRESORT	PALLET VOLUME	SACK VOLUME	TOTAL VOLUME
Basic ECR	ECR	ADC/BMC	CR	839,658,169	0	839,658,169
Basic ECR	ECR	3-Digit/SCF	CR	7,987,738,666	0	7,987,738,666
Basic ECR	ECR	5-Digit	CR	1,727,984,892	82,388,054	1,810,372,945
Basic ECR	ECR	CRTS	CR	0	223,678,600	223,678,600
Basic ECR	ECR	CR	CR	0	193,186,232	193,186,232
TOTAL				**10,555,381,726**	**499,252,886**	**11,054,634,612**

MAILCHAR08V.xls

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Table MCS - 8

Standard Mail FY08 Mail Entry Profile Inputs

Point of Deposit		Pounds (000s)	Percent
Origin AO (OAO)	**(1)**	3,210	0.03%
Origin SCF (OSCF)	**(2)**	1,472,739	13.27%
Origin BMC (OBMC)	**(3)**	74,854	0.67%
Destination BMC (DBMC)	**(4)**	2,171,365	19.57%
Destination SCF (DSCF)	**(5)**	5,924,115	53.38%
Destination DU (DDU)	**(6)**	1,451,135	13.08%
		11,097,418	**100.00%**

Pieces (Thousands)

Entry Type	Trays on Pallets	Loose Trays	Bundles or Sacks on Pallets	Loose Sacks	Total
Origin AO	-	122,191	-	204	122,395
Origin SCF	1,603,377	3,354,802	649,663	672,491	6,280,333
Origin ADC	3,916,516	4,956,793	1,195,991	788,266	10,857,567
Origin BMC	249,615	630,154	82,869	113,171	1,075,809
Destination BMC	14,605,509	2,441,303	4,219,286	69,044	21,335,142
Destination ADC	61,323	492,025	114,571	58,688	726,607
Destination SCF	24,320,206	7,471,345	18,069,967	851,007	50,712,525
Destination DU	2,284	9,815	5,931,311	1,290,660	7,234,070
Total	**44,758,829**	**19,478,427**	**30,263,659**	**3,843,532**	**98,344,446**

Pounds (Thousands)

Entry Type	Trays on Pallets	Loose Trays	Bundles or Sacks on Pallets	Loose Sacks	Total
Origin AO	-	3,119	-	90	3,210
Origin SCF	97,360	167,739	202,602	137,690	605,391
Origin ADC	249,788	177,709	310,066	129,786	867,349
Origin BMC	15,372	23,615	17,702	18,165	74,854
Destination BMC	911,952	121,840	1,068,226	12,464	2,114,482
Destination ADC	3,230	15,754	29,281	8,618	56,883
Destination SCF	1,077,233	316,375	4,372,855	157,651	5,924,115
Destination DU	132	562	1,283,250	167,190	1,451,135
Total	**2,355,067**	**826,714**	**7,283,982**	**631,655**	**11,097,418**

(1) Origin AO Total Pounds
(2) Origin SCF Total Pounds + Origin ADC Total Pounds
(3) Origin BMC Total Pounds
(4) Destination BMC Total Pounds + Destination ADC Total Pounds
(5) Destination SCF Total Pounds
(6) Destination DU Total Pounds

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Table MCS - 9
STANDARD MAIL & PERIODICALS MAIL CHARACTERISTICS DATA
Average Number of Pieces by Container Type

	Pallet	Sack	Tray
CR	0.00	139.31	270.97
CRTS	0.00	63.12	287.91
5-Digit	3,610.10	77.98	291.54
3-Digit/SCF	3,622.54	123.47	245.87
ADC/BMC	2,896.37	118.42	193.24
Mixed ADC	0.00	145.33	216.96
All Standard Containers	3,490.27	118.65	260.84
Periodical Containers	1,825.09	44.13	

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Table MCS - 10

PERIODICALS BUNDLE DISTRIBUTION MAIL FLOW DENSITY TABLES SUMMARY

Development Based on FY 08 Mail.dat files

	MADC Bundle	**ADC Bundle**	**3D Bundle**	**5D Bundle**	**CR Bundle**
MADC Container to:	MADC	ADC	3D	5D	CR
Piece	100.00%	1.08%	0.25%	0.00%	0.00%
ADC		98.92%	99.16%	98.33%	92.66%
3D			0.59%	1.13%	2.06%
5D				0.54%	5.28%
CR					0.00%
	100.00%	100.00%	100.00%	100.00%	100.00%
ADC Container to:					
Piece		100.00%	25.23%	0.00%	0.00%
3D			74.77%	70.27%	77.99%
5D				29.73%	22.01%
CR					0.00%
		100.00%	100.00%	100.00%	100.00%

MAILCHAR08.xls

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Table MCS - 11

BUNDLE DISTRIBUTION MAIL FLOW DENSITY TABLES SUMMARY

Development Based on FY 08 Mail.dat files

	MADC Bundle	**ADC Bundle**	**3D Bundle**	**5D Bundle**	**CR Bundle**
MADC Container to:	MADC	ADC	3D	5D	CR
Piece	100.00%	2.78%	1.08%		
ADC		97.22%	97.75%	93.49%	93.49%
3D			1.17%	4.68%	4.68%
5D				1.84%	1.84%
CR					0.00%
	100.00%	100.00%	100.00%	100.00%	100.00%
ADC Container to:					
Piece		100.00%	13.91%		
3D			86.09%	98.44%	100.00%
5D				1.56%	
CR					
		100.00%	100.00%	100.00%	100.00%
3D Container to:					
Piece			100.00%		0.00%
5D				100.00%	100.00%
CR					0.00%
			100.00%	100.00%	100.00%
5D Container to:					
Piece				100.00%	0.00%
CR					100.00%
				100.00%	100.00%
CR Container to:					
Piece					100.00%
					100.00%

MAILCHAR08V.xls
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Table MCS - 12
Average Bundle Size of non-5-Digit Containers

Periodicals

C-Type	(All)

	Data	
C-Lev	Sum of Volume	Sum of Bundles
O-MADC	81,725,578	11,714,055
MADC	131,256,557	13,878,170
ADC	1,175,633,329	104,638,261
3D/SCF	5,293,132,493	416,990,036
5-DIGIT	865,089,830	44,683,572
5DCRTS	69,651,394	6,235,197
CR	70,166,269	2,319,104
Grand Total	7,686,655,450	600,458,395

Non 5D Containe	6,681,747,957	547,220,522

Average Size 19.44474291

Standard

Shape	Flat

	Data	
Clev	Sum of Volume	Sum of Bundles
BMC	4,253,460,667	178,190,902
MADC	489,175,424	27,339,795
ADC	706,865,073	32,251,764
3D/SCF	14,788,365,853	599,413,108
5DCRTS	337,722,686	16,317,718
5-DIGIT	11,254,405,231	252,913,901
CR	2,277,195,291	61,125,464
Grand Total	34,107,190,225	1,167,552,652

	20,237,867,017	837,195,569

Facility Study.xls

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Table FS - 1

Field Study Parameter Estimates

Conversion Factors	Estimate	Std Error
Average pieces per tub	56.61	3.08
Tubs per OWC	22.10	1.13
Pieces per OWC	1,251.23	NA
Average bundles per OWC	97.88	9.72

Productivity Estimates	Estimate	Std Error
Average bundles prepped per hour	136.66	8.30
Average tubs prepped per hour	50.09	7.23
Manual bundle sorting productivity per hour - Plant	502.62	30.25
Manual bundle sorting productivity per hour - DDU	431.41	38.67

Bundle Breakage	Estimate	Std Error
Bundle breakage rates - Sacks	10.36%	2.16%
Bundle breakage rates - Pallets	0.61%	0.22%
Bundle breakage rates - Downflow to Plant	3.67%	0.59%
Bundle breakage rates - Downflow to Delivery Unit	0.70%	0.33%

Single Piece sorts as a proportion of TPH	Proportion SP Sorts
APPS	3.8%
SPBS	5.2%

III. PROGRAM DOCUMENTATION

1. Preparation of the Standard Mail Characteristics.

The following programs aggregate Standard Mail mail.dat files from the PostalOne! eVS system by stratum; weight strata by PostalOne! using the mailing statement data program; and control estimates by shape and rate element, to produce estimates of containers, bundles and pieces by container type, container presort level, container entry point, bundle presort level, piece barcode status, and piece machinability.

Program: **roll_to_rr_2008.f; roll_to_np_2008.f** – FORTRAN Program that aggregates eVS mail.dat and sample by stratum and weights observations using the PostalOne! mailing statement data to produce disaggregated national estimates.

Subroutines:
- get_maps.f
- ave_bundle.f
- ave_con.f
- ave_par.f
- check_rec.f
- results.f

Input:
- **ContainerTable.txt** - Summary container characteristics by job/observation ID.
- **PackageTable.txt**- Summary package characteristics by job/observation ID.
- **RateTable.txt** – Summary rate characteristics by job/observation ID.
- **MCSBun.prn** – Map of mail.dat bundle level code to estimated level code.
- **MCSent.prn** - Map of mail.dat entry code to estimated entry code.
- **MCSLevel.prn** – Map of mail.dat container level to estimated container level code.
- **MCSType.prn** – Map of mail.dat container type code to estimated container type code.
- **RPWRR2008.prn** – Standard Mail commercial rate piece control values by shape, presort level and entry discount.
- **RPWNP2008.prn** - Standard Mail nonprofit rate piece control values by shape, presort level and entry discount.
- **map2008.txt** – Listing of jobs/observations.
- **mcs08.txt.rr** – PostalOne! Standard Mail commercial rate mailing statement weights by strata, presort rate level and entry discount.
- **mcs08.txt.np** - PostalOne! Standard Mail nonprofit mailing statement weights by strata, presort rate level and entry discount.

Output: **Chars.txt.r7** - Estimates of Standard Mail commercial rate pieces and bundles by container type, container presort level, container entry facility type, parent container type, parent container level, parent container entry, bundle presort level, presort rate element, machinability, and barcode status.
Chars.txt.n7 - Estimates of Standard Mail nonprofit rate pieces and bundles by container type, container presort level, container entry facility type, parent container type, parent container level, parent container entry, bundle presort level, presort rate element, machinability, and barcode status.
constats.txt.r7 – Estimates of Standard mail commercial rate containers by container type, container level and container entry facility type.
constats.txt.n7– Estimates of Standard mail nonprofit rate containers by container type, container level and container entry facility type.

Program: **Sum_to_mcs_ent.f** – FORTRAN program that aggregates and formats data to modeled components.

Input: **ratemap.txt** – Map of mail characteristic to model component.
Chars.txt.* - Estimates of Standard Mail commercial or nonprofit rate pieces and bundles by container type, container presort level, container entry facility type, parent container type, parent container level, parent container entry, bundle presort level, presort rate element, machinability, and barcode status.
constats.txt.* – Estimates of Standard mail commercial or nonprofit rate containers by container type, container level and container entry facility type.

Output: **FY2008_std_mcs.txt** – Standard mail pieces by modeled element
MCSdrop.txt – Standard Mail average pieces per container by container type and level.
Flatsbyconrate.txt- Pieces by rate element and container type and level.

2. Preparation of the Periodicals Mail Characteristics.

The following programs aggregate Periodicals Mail mail.dat files from the PostalOne! eVS system by stratum; weight strata by PostalOne! using mailing statement data program; and control estimates by shape and rate element, to produce estimates of containers, bundles and pieces by container type, container presort level, container entry point, bundle presort level, piece barcode status, and piece machinability.

Program: **roll_to_CL.f; roll_to_NP.f , roll_to_RR.f;** – FORTRAN programs that aggregate eVS mail.dat and sample observations from LR-L-92 by stratum and

weights observations using the PostalOne! mailing statement data to produce disaggregated national estimates

Subroutines:
get_maps.f
ave_bundle.f
ave_con.f
ave_par.f
check_rec.f
results.f

Input: **ContainerTable.08.txt** - Summary container characteristics by job/observation ID.
PackageTable.08.txt- Summary package characteristics by job/observation ID.
RateTable.08.txt – Summary rate characteristics by job/observation ID.
MCSBun.prn – Map of mail.dat bundle level code to estimated level code.
MCSent.prn - Map of mail.dat entry code to estimated entry code.
MCSLevel.prn – Map of mail.dat container level to estimated container level code.
MCSType.prn – Map of mail.dat container type code to estimated container type code.
RPW2008C.prn – Periodicals flats control volumes by presort rate element and subclass.
pubs.08.draw – Map of observed publication numbers, shape, publication sample weight and subclass.
pubpieces_bypub_fy08.csv – PostalOne! Periodicals 3541 postage statement data by publication number.
p1pub08.srt - map of PostalOne! eVS publications.
pubtorate.txt.6 – Map of the universe of publications and subclass.

Output: **Chars.txt.CL, Chars.txt.NP, Chars.txt.RR** - Estimates of Periodicals Outside County flat-shaped pieces and bundles by container type, container presort level, container entry facility type, parent container type, parent container level, parent container entry, bundle presort level, presort rate element, machinability, and barcode status.
constats.txt.CL, constats.txt.NP , constats.txt.RR – Estimates of Periodicals Outside County flat-shaped mail containers by container type, container level and container entry facility type.

3. Preparation of the First-Class Mail Characteristics.

The following set of Excel workbooks documents the development of the FY 2008 containerization and bundling estimates of First-Class Mail Presort

nonautomation letters and cards; presort flats; automation carrier route letters; and automation carrier route cards. These estimates rely on the methodology and data collected and documented in Docket No. R2006-1, USPS-LR-L-32, and differ only in the use of FY 2008 control values.

Workbook: **NonAutoLetters.xls** – Inflation of nonautomation letter survey observations. Distribution of estimates for unknown tray type, package type. Estimation of unknown package sizes.

Input: First-Class MCS Data Entry.mdb.

Workbook: **NonAutoLetters.xls** – Inflation of nonautomation letter survey observations. Distribution of estimates for unknown tray type, package type. Estimation of unknown package sizes.

Input: First-Class MCS Data Entry.mdb.

Workbook: **NonAutoCards.xls** – Inflation of nonautomation card survey observations. Distribution of estimates for unknown tray type, package type. Estimation of unknown package sizes.

Input: First-Class MCS Data Entry.mdb.

Workbook: **NonAutoFlats.xls** – Inflation of nonautomation flat survey observations. Distribution of estimates for unknown tray type, package type. Estimation of unknown package sizes.

Input: First-Class MCS Data Entry.mdb.

Workbook: **AutoCRLetters.xls** – Inflation of automation carrier route letter survey observations. Distribution of estimates for unknown tray type, package type. Estimation of unknown package sizes.

Input: First-Class MCS Data Entry.mdb.

Workbook: **AutoCRCards.xls** – Inflation of automation carrier route card survey observations. Distribution of estimates for unknown tray type, package type. Estimation of unknown package sizes.

Input: First-Class MCS Data Entry.mdb.

Workbook: **AutoFlats.xls** – Inflation of automation flat survey observations. Distribution of estimates for unknown tray type, package type. Estimation of unknown package sizes.

Input: First-Class MCS Data Entry.mdb.

Workbook: **Inflation Controls.xls** – Computation of office sample inflation factors. Computation of the number of observations inflation factor. Computation of control factor to adjust inflated survey estimates to annual RPW pieces.

Input: Simulated sampling frequencies.
jan10_post1.txt.
Class MCS Data Entry.mdb.
RPW Volumes by rate element.
Links: **NonAutoLetters.xls, NonAutoCards.xls, NonAutoFlats,xls, AutoCRLetters.xls, AutoCRCards.xls, AutoFlats.xls**

Workbook**:** **ResultsTables.xls** Assembles estimates into report tables.

4. Preparation of First-Class Mail RPW by Shape and Indicia.

The following set of FORTRAN programs and Microsoft Excel workbooks documents the development of the FY 2008 First-Class Mail volumes by shape and indicia.

Office Stratification Programs

Program: **roll_NCTB.f**- Reads in monthly Trial Balance by finance number data.
Input: all_finnames.dat.
tb08{mo}.dat.
Output: NCTB.MO{mo}.

Program: **diffNCTB.f-** Creates files for each month containing First-Class Mail stamped, metered, and permit imprint revenue by finance numbers.
Input: NCTB.MO{mo}.
Output: findata.mo{mo}.

Program: **make_s41416.f -** Creates a file with First-Class Mail permit imprint revenue by month by finance number.
Input: all_finnames.dat.
findata.mo{mo}.
Output: s41416.

Program: **pnctbrev.f-** Creates a file with First-Class Mail permit imprint revenue by quarter for PostalOne! offices.
Input: finstrata.pmt.
s41416.
Output: pnctbstr.dat.

Program**: tnctbrev.f**- Creates a file with First-Class Mail permit imprint revenue by quarter for all offices.

Input: finstrata.new.08.
s41416.
Output: tnctbstr.dat.

Program: **buildconnew.f** - Creates stratified control revenue files for First-Class Mail stamped and metered mail. There is a file created for PostalOne! office revenue, and one for PostalOne! office revenue plus the estimated stamped and metered revenue from non-PostalOne! offices.
Input: finstrata.new.08.
finrev.{mo}.
averev.dat.
finrev.1st.{mo}.
nonpfit.rev.
Output:trevenue.dat.
prevenue.dat.

Summarization of Data

Program: **perrolln.f** Aggregates and checks the validity of PostalOne! transaction records. Maintains detail by ounce increment up to 13 ounces.

Input: finstrata.new.08.
vipmap.1st.08.
ns_pair.08new.
ratetable.08new.
ratetable.08may.
PostalOne! mailing statement database.

Output:perrolln.1st.{mo}.
finrev.1st.{mo}.

Program: **rollcbcis.f** - Aggregates the CBCIS records to finance number and revenue type.

Input: finstrata.new.08.
vipmap.1st.08.cbcis
cbc08{mo}.dat.

Output: finrev.{mo}.

Program: **ave.f**- Creates average stamped and metered revenue and average permit imprint revenue by finance number using CBCIS data.

Input: finstrata.new.08.
finrev.{mo}.

Output: averev.dat.

Program: **fit.nonp.f**- Estimates First-Class Mail stamped and metered revenue by month for non-PostalOne! offices.

Input: fins.
finstrata.new.08.
findata.mo{mo}.

Output: nonpfit.rev.

Program: **control_shape_new.f** -Inflates the PostalOne! data using the stratification revenue files. Creates a file by VIP code and ounce increment for revenue, pieces, and weight. Estimates and distributes weight for unknown weight transactions.

Input: trevenue.dat.
prevenue.dat.
tnctbstr.dat.
pnctbstr.dat.
rates.08may.
perrolln.1st.{mo}.

Output:indicia08q4.csv.

distkey.1st.txt.

Workbook: **IndShape{quarter}.xls** – Final distribution to shape and indicia and control to official RPW First-Class Mail values.

Input: indicia08q4.csv.
RPW tables.

5. Preparation of Periodicals RPW by Shape.

The following set of FORTRAN programs and Microsoft Excel workbooks documents the development of the FY 2008 Periodicals Mail volumes by shape and indicia.

Program: **Post1_per_qtrnew.f** Rolls up PostalOne! mailing statement data by subclass, VIP code, finance number and shape, and then inflates to trial balance revenues.

Subroutine: inflate_quarter.f
Input: fins.
linesq2.prn .
rates.srt .
PostalOne! mailing statement database.
fin_strata.map.rev.
strata.41310.
strata.41316.
Output: good.all.inflated.{quarter}.

Workbooks: **Periodicals Shape {quarter}r.xls**- Distributes official revenue, pieces, and weight estimates to shape.

Input: good.all.inflated.{quarter}.
RPW tables.

6. Preparation of Standard Mail RPW by Shape.

Program: **std_shape_08.f** - Aggregates PostalOne! Standard Mail data by stratum, VIP, shape, weight increment and month

Input: finstrata. 08 – Map of PostalOne! finance numbers and stata.
VIPSR2008.prn(Regular Rate), VIPSNP2008.prnvips.np(Nonprofit) - Map of VIP codes and rates.
PostalOne! mailing statement database.
Output: pmt_std.wi.{month}.

Program: **eststda_08.f** - Inflates the PostalOne! data using the stratification revenue files. Creates a file by RPW mail category code and ounce increment

for revenue, pieces, and weight. Estimates and distributes weight for unknown weight transactions.

Input: finstrata.08.
VIPSR20081.prn/VIPSNP20081.prn .
pmt_std.wi.[month].
Strata07.41411.sort.
strata.41411 (Regular),strata.41414(Nonprofit).

Output: stda.{quarter].csv.