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BEFORE THE

POSTAL RATE COMMISSION

WASHINGTON DC, 20268-0001

POSTAL RATE AND FEE CHANGES, 2006	**Docket No. R2006-1**

DIRECT TESTIMONY

OF

JOHN P. KELLEY

ON BEHALF OF THE

UNITED STATES POSTAL SERVICE

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AUTOBIOGRAPHICAL SKETCH

My name is John P. Kelley. I am an economist in the Finance department at Postal Service Headquarters. I testified on costing issues in delivery and transportation in Docket No. R2005-1. I have been employed by the Postal Service since 1997. Prior to joining the Postal Service, I was employed as a statistician at the American Petroleum Institute as well as the Bureau of Labor Statistics. I received a B.S. in mathematics education from University of New Hampshire in 1986 and a M.A. in mathematics from Indiana University in 1990.

SPONSORED LIBRARY REFERENCES

The following Category Two Library Reference is sponsored in my testimony:

USPS-LR-L-67 Delivery Unit Costs by Rate Category

I. PURPOSE AND SCOPE OF TESTIMONY

The purpose of my testimony is to describe methodologies used to derive unit delivery costs by rate category (USPS-LR-L-67).

Inputs and Outputs

Below are the inputs used and the users of the output for unit delivery costs by rate category (USPS-LR-L-67)

i. Delivery Costs by Rate Category

Inputs

USPS-LR-L-5 CRA Workpapers (Milanovic – USPS-T-9)

USPS-LR-L-7 for test year costs (Waterbury –USPS-T-10)

USPS-LR-L-9 for In-Office costs

USPS-LR-L-11 for city carrier volumes by shape

USPS-LR-L-12 for rural carrier volumes by compensation category

USPS-LR-L-52 for test year piggybacks factors (Smith – USPS-T-13)

USPS-LR-L-53 for mail processing costs by shape (Smith – USPS-T-13)

USPS-LR-L-87 for Revenue Pieces and Weight Estimates by Shape, Weight Increment, and Indicia (Witness Loetscher)

Outputs

USPS-LR-L-67 used by the following witnesses:

Page (USPS-T-23) for final adjustments

Taufique (USPS-T-32) for First-Class Mail rate design

Tang (USPS-T-35) for Periodical rate design

Kiefer (USPS-T-36) for Standard Mail rate design

II. DELIVERY COSTS BY RATE CATEGORY

In this testimony, I sponsor USPS-LR-L-67, Delivery Costs by Rate Category. The following witnesses use the test year unit delivery costs: Page (USPS-T-23) uses for final adjustments; Taufique (USPS-T-32) for First-Class Mail rate design; Tang (USPS-T-35) for Periodical rate design; and Kiefer (USPS-T-36) for Standard Mail rate design.

This library reference updates the analyses done in library reference USPS-LR-K-67 in Docket No. R2005-1 sponsored by witness Kelley (USPS-T-16). In Docket R2006-1, the USPS and PRC versions of unit delivery costs only differ due to the different piggyback factors and test year costs that are used in the two versions. The methodology used to disaggregate the costs is the same for the USPS and PRC versions.

To the extent that, in response to Commission Rule 53, I discuss and compare PRC versions of delivery costs by rate category, I do not sponsor those materials, or in any way endorse the methodologies used to prepare them. In its Order No. 1380 adopting the roadmap rule, the Commission included the following statements regarding the role played by Postal Service witnesses under these circumstances:

> The comparison required by this exercise cannot be equated with sponsoring the preexisting methodology. It merely identifies and gives context to the proposed change, serving as a benchmark so that the impact can be assessed. … [W]itnesses submitting testimony under Rule 53(c) sponsor the proposed methodological changes, not the preexisting methodology. That they may be compelled to reference the preexisting methodology does not mean that they are sponsoring it.

Order No. 1380 (August 7, 2003) at 7. Therefore, although I may be compelled to refer to the PRC methodologies and versions corresponding to the Postal Service proposals which are the subject of my testimony, my testimony does not sponsor those PRC materials.

The derivation of unit delivery costs is a rather complicated process that involves several inputs and assumptions. USPS-LR-L-67.doc provides a detailed explanation for the derivation of unit delivery costs for three specific rate categories – 1) First Class Single Piece (letter rate), 2) Standard Regular (parcel rate), and 3) ECR Saturation (flat rate). My direct testimony includes explanations and justifications for several of the critical assumptions and issues that have a critical impact on unit delivery costs.

The final output of USPS-LR-L-67 is Table 1, which contains the unit delivery costs for various rate categories. The unit costs listed in Table 1 represent marginal costs for both the USPS and PRC versions. Any discrepancy between the two unit delivery costs is explained by the different piggyback factors and test year costs between the two versions. The specific rate categories listed in Table 1 are the only ones necessary for rate-making purposes.[1]

[1] Several meetings were held with individuals from pricing to arrive at the specific rate categories that required unit delivery costs for the purposes of postal ratemaking.

Table 1 – Test Year Unit Delivery Costs	USPS Version	PRC Version
Rate Category	**Unit Delivery Cost (Cents)**	**Unit Delivery Cost (Cents)**
First Class Single Piece		
Letters	7.734	7.778
Flats	14.327	14.401
Parcels	35.094	35.298
First Class Presort		
Non-automation Letters	4.696	4.719
Automation Letters	4.144	4.165
Presort Letters (Average)	4.164	4.185
Flats	11.588	11.632
Parcels	35.790	35.966
First Class Cards		
Single Piece	9.947	10.003
Non-automation	4.257	4.285
Automation	3.455	3.478
Presort Cards (Average)	3.679	3.697
Periodicals		
Letters	4.850	4.882
Flats	9.262	9.321
Parcels	33.559	33.782
Package Services – Bound Printed Matter		
Flats	11.132	11.205
Parcels	39.904	40.166
Package Services – Media Mail		
Flats	17.161	17.274
Parcels	39.746	40.008
Standard Regular		
Non-machinable Letters	7.362	7.413
Machinable Letters	3.596	3.620
Standard Regular Letters (Average)	3.798	3.822
Regular Flats	9.413	9.469
Regular Parcels	32.671	32.883
Regular Nonletter	10.367	10.430
ECR		
ECR Non-Saturation Letters	5.044	5.077
ECR Non-Saturation Flats	7.083	7.130
ECR Saturation Letters[2]	3.205	3.227
ECR Saturation Flats	5.213	5.249

[2] The unit cost for ECR Saturation Letters is calculated after all volume variable delivery costs from DAL (Detached Address Labels) are transferred to ECR Saturation Flats.

Unit Delivery Costs

The unit delivery costs in Table 1 are a ratio of volume variable test year delivery costs to originating test year volume. Throughout my testimony and USPS-LR-L-67 delivery costs are defined as all volume variable costs (including collection costs) from cost segments 6 (city in-office), 7 (city-street), and 10 (rural). Therefore the unit delivery costs displayed in Table 1 are derived in the following manner:

$$Unit\ Delivery\ Costs_i = \frac{TYVVCSeg6_i + TYVVCSeg7_i + TYVVCSeg10_i}{TYOrigVol_i}$$

An important concept in the derivation of unit delivery costs by rate category is that the sum of volume variable costs for all rate categories within a specific subclass must equal the volume variable delivery (cost segments 6, 7, and 10) costs at the subclass level from the Cost and Revenue Analysis (CRA) report.

The remaining part of my testimony on unit delivery costs will address how specific topics that are important to the derivation of the unit delivery costs are handled in USPS-LR-L-67.

Delivery Point Sequenced (DPS) Percentage

A significant portion of letter volume is processed through a process referred to as Delivery Point Sequencing (DPS) which arranges the letters in the order that the carrier travels the route. Letters that go through DPS processing on city routes do not need to be cased and incur a much smaller portion of direct casing costs (which form a large part of cost segment 6.1). However, I assume that ten percent of DPS letters do require casing and incur some direct labor casing costs. The basis for this relates to issues such as vacation holds and residents' change of address typically require the carrier to handle some mail in the office.

No such assumption was needed to derive rural route costs as DPS letters are placed in a different compensation category than regular letters and receive a lower unit cost than cased letters.

The LR-67 model allocates First-Class Presort letter cost and postcard cost, Standard-Regular letter cost, and their corresponding RPW volumes into DPS and non-DPS subcategories. In Docket R2005-1, this allocation was done through the use of DPS and non-DPS percentages derived from a mail processing model. In the current Docket, the LR-67 model uses DPS and non-DPS percentages derived from city and rural delivery volumes. Specifically, it uses percentages equal to the DPS and non-DPS percentages of total city carrier cost system (CCCS) plus rural carrier cost system (RCCS) volumes. These DPS/non-DPS percentages of delivered mail are superior to percentages derived from a non-delivery costing model for purposes of breaking the corresponding delivery costs into DPS and non-DPS portions. Moreover, since most First-Class Presort and Standard-Regular RPW volumes are delivered to city and rural routes, as opposed to Post Office boxes or other modes, the current CCCS/RCCS-based DPS/non-DPS percentages are appropriate as well for breaking the total RPW volumes into DPS and non-DPS.

On rural routes, the DPS percentage is important in deriving unit delivery costs regardless of the number of letter-shaped rate categories within a particular subclass. This is true since DPS letters on rural routes are placed in a different, less expensive, compensation category than regular letters. Therefore, if volume for a rate category remained fixed, but a larger portion of letters passed through DPS on rural routes, the segment 10 volume variable costs for that rate category would be lower.

On city routes, however, the DPS percentage is only relevant for subclasses that have more than one letter shape rate category within them. For example, the DPS percentage is not important in deriving the cost segment 6 volume variable cost for First Class Single Piece (letter-shaped) pieces, since there is only one letter shape rate category within the subclass. Therefore, the rate category gets the entire cost segment 6 volume variable costs that are attributed to First Class Single Piece (letter-shaped) pieces.

For First Class Presort Letters, however, the DPS percentage is important in distributing direct labor casing costs to Non-Automation letters and Automation Letters. The First Class Presort Non-Automation letters receive a higher unit casing cost due to the lower DPS percentage (77 percent for non-auto and 85 percent for auto) estimated from the carrier cost system.

In summary, the current version of deriving unit delivery costs utilizes both carrier cost systems to estimate the percentage of letters by rate category that pass through DPS processing. This is a more consistent approach than has been used previously. The impact of the change is minimal, however, since the DPS percentages estimated from the carrier cost systems and the mail processing model are very similar.

Sequenced Mail

The purpose of this section is to explain how costs from the sequenced cost pool are distributed to rate categories. The city carrier street cost model has a cost pool for sequenced mail. Therefore the term sequenced mail is only relevant on city routes. The total Segment 7 cost for sequenced mail (in FY 2005 $94 million) is developed in the CRA, and the current cost exercise just distributes that costs to rate categories. To do so, I make the assumption that all sequenced mail is ECR Saturation mail, and thus

distribute the $94 million in base year costs to letters, flats, and parcels within ECR Saturation.

As defined by Professor Bradley in his city carrier analysis upon which the CRA is based, sequenced Mail is ECR Saturation mail that is delivered by the mailer to the delivery unit already prepared, by the mailer, in walk sequence. By definition, the carrier does not case sequenced mail, and it is delivered on the route as an additional bundle or tray[3]. It is important to recognize that not all ECR Saturation mail is sequenced. Some ECR saturation mail is delivery-point sequenced by the Postal Service. This mail comes to the carrier unit intermingled with other delivery-point sequenced mail and is delivered as a regular letter. It is not sequenced mail (as that term is used in city carrier cost analysis) and should not be included in that cost pool.

In addition, on foot and park-and-loop routes, (and on park-and-loop sections within all routes), the saturation mail may be cased (or collated) because the saturation mail bundle, when combined with the other bundles, exceeds the carrier's capacity to carry bundles. This saturation mail is also delivered like a regular letter or flat and is not sequenced mail. In sum:

$$Sequenced\ Mail = Total\ ECR\ Saturation - DPS\ ECR\ Saturation - Cased\ ECR\ Saturation$$

Although the Carrier Cost System provides an estimate of the total ECR Saturation volume delivered, it does not separately identify how much of ECR Saturation is sequenced mail. The volume of ECR Saturation that is sequenced mail must be calculated. The first part of the calculation is to identify the ECR Saturation that is delivery-point sequenced. Fortunately, the Carrier Cost System measures delivery-

[3] Note that mailer prepared walk sequenced mail that comes to a delivery unit but is not taken to the street as an additional bundle is not defined as Sequence Mail within the Postal Service data systems.

point sequenced mail separately, and an estimate of the amount of ECR Saturation mail that is DPS can be directly obtained. Next, the amount of ECR Saturation that is cased must be estimated. There is no direct measure of this quantity and it must be inferred.[4] To estimate the amount of cased ECR Saturation mail that exists, the following four step procedure is followed. Note that the procedure is followed separately for letters and flats:

Step 1: Identify the casing costs[5] for ECR Saturation from IOCS

Step 2: Convert the casing costs into hours by dividing the casing costs by the base year average hourly rate for city carriers.

Step 3: Use established saturation casing productivities to estimate the number of pieces of ECR saturation cased per hour[6] These are 41.2 pieces per minute for letters and 27.4 pieces per minute for flats.

Step 4: Divide the IOCS hours by the casing productivity to obtain an estimate of the number of pieces cased.

Steps one through four provide letter shape and flat shape estimates of sequenced mail. Since ECR parcels are by definition host pieces of DAL mailings, it is assumed that all ECR Saturation parcels[7] are treated as sequenced mail. After the volumes by shape have been estimated, the $94 million in sequenced mail costs can be distributed to shape.

In distributing the sequenced mail volume variable costs, the first step distributes the volume variable costs for sequenced mail from cost segment 7 to

[4] During a CCS test, the sequenced mail is cased for the purpose of measuring volume per stop. Thus it is impossible to determine how much of the sequenced mail would have been cased had it not been for the test.

[5] Casing costs are identified through direct casing tallies from IOCS. A more restrictive definition of casing is used in the current docket than in Docket R2005-1, which allowed for strapping out or pulling down mail from the case to be defined as casing.

[6] See, Testimony of Thomas Shipe on behalf of the United States Postal Service, USPS-T-10, Docket No. R90-1

[7] The vast majority of costs being incurred by ECR Saturation Parcels from sequenced and non-sequenced mail will be shifted to flats after the parcel crosswalk.

shapes. In FY 2005 the total volume variable cost of sequenced mail is $93,989,000. This is distributed to letters, flats, and small parcels according to proportions estimated on the implicit assumption that the unit costs by shape of sequenced mail bear the same relationship to each other as the unit costs by shape of nonsequenced mail. Thus, we begin estimating the distribution proportions for sequenced mail by multiplying each of the sequenced shape volumes by the unit cost for that shape of nonsequenced mail. This multiplication results in $32.3 million, $99.5 million, and $7.5 million for letters, flats, and small parcels respectively. Aggregating those costs across the three shapes equals $139.2 million. The $139.2 million serves as the denominator to derive a distribution factor to distribute the total volume variable costs for sequenced mail to shapes. The relevant proportions by shape, therefore are 32.3/139.2, 99.5/139.2, and 7.5/139.2. These proportions are used to distribute the $93,989,000, which results in final costs by shape for sequenced mail of $21.8 million for ECR Saturation letters, $67.1 for ECR Saturation flats, and $5.1 million for ECR Saturation parcels.

Detached Address Labels (DALs)

DALs are common with ECR Saturation flats. They consist of a card with an address which usually accompanies a wrap of advertisements. DAL mailings can occur with other rate categories, but they are predominantly associated with ECR Saturation mailings. I do not separate out DAL costs for any other rate category because they are insignificant. The reason DAL mailings require special consideration in deriving unit delivery costs is that cost and volume systems within the Postal Service treat these pieces differently. For example, the In-Office Cost System (IOCS) distributes tallies from DALs to their host pieces. The carrier cost systems count the DALs as letters and the wraps as flats. This means that the carrier cost systems treat DAL mailings as two

separate pieces, one letter and one flat. The Revenue Pieces and Weight System (RPW), which provides the denominator for base year unit delivery costs, counts DAL mailings as one-piece mailings – flats - and does not have a complete count of DAL mailings[8]. The different treatment of DAL mailings by these systems complicates the methods used to derive unit delivery costs for ECR Saturation rate categories.

In Docket No. R2005-1, all delivery costs (segments 6, 7, and 10) associated with ECR Saturation DALs were transferred to ECR Saturation Flats. That procedure is repeated in USPS-LR-L-67. Approximately $165 million in base year delivery costs are attributed to DALs, and placed in the numerator of ECR Saturation Flat unit delivery costs.

For cost segment 6, DAL costs are recorded through direct tallies from sampling city letter carriers. The specific costs were identified in the CARMM casing report that uses IOCS data.

However for cost segments 7 and 10, the cost systems do not record DALs separately from other ECR Saturation letters, so the number of DALs delivered on city and rural routes needs to be estimated.

In addition, the opportunity for mailers to utilize simplified addresses (address not unique to a specific location) on rural routes increases the complexity of calculating unit DAL costs. DALs with simplified addresses are placed in the lower cost boxholder compensation category. DALs with complete addresses on rural routes are placed in the other letter compensation category.

[8] The Postal Service permit system starting compiling data on the volume of DAL mailings in February 2006.

USPS-LR-L-67 estimates that three percent of DAL mailings on rural routes use simplified addresses. In Docket No. R2005-1, the assumption was that twenty percent used simplified addresses, but a major mailer of DALs has greatly reduced or stopped using simplified addresses in order to comply with a federal law that mandates that customers who do not want to receive mailings regarding sweepstakes can be removed from the mailing list. This is the reason for the reduction in the estimate of DALs with simplified addresses, relative to the estimate produced for Docket No. R2005-1. In terms of cost implications, the effect of reducing the percentage of DALs with simplified addresses raises the cost segment 10 costs for DALs which increases the costs for ECR Saturation flats, since the DAL costs are eventually transferred to ECR Saturation flats.

Two other issues regarding DALs merit discussion before proceeding to an an explanation of how the volume estimate is calculated. First, an assumption is made that zero DALs pass through DPS processing. The justification for this assumption is that the paper stock that is used for DAL mailings is too thin to run on mail processing equipment. Since the DALs are not barcoded at the time of mailing, they require multiple runs on mail processing equipment to reach DPS. Secondly, an assumption is made that DALs are cased at the same casing productivity rate (41.2 per minute), and with the same probability, as other non-DPS ECR Saturation letters.

Estimation of the Number of DALs on city and rural routes

In transferring segment 7 and 10 costs from ECR Saturation letters to ECR Saturation flats, it is important to begin with a reasonable volume estimate of the number of DALs delivered on city and rural routes. USPS-LR-L-67 contains DAL

volume estimates for all modes of delivery[9](4.6 billion), city routes (2.8 billion) and rural routes (1.1 billion, of which three percent are boxholder) separately. This section of my testimony provides the justification for those DAL estimates.

Total Estimate

The final estimated volume of DALs for FY 2004 was 4,314,881,000[10]. USPS-LR-L-67 needs an updated total. A new estimate is derived by taking the previous estimate and multiplying it by the ratio FY 2005 RPW ECR Saturation flats to FY 2004 RPW ECR Saturation flats.

$$FY2005\ DAL\ Vol\ Estimate = \frac{FY2005\ RPW\ ECR\ Saturation\ Flats}{FY2004\ RPW\ ECR\ Saturation\ Flats} \times FY2004\ DAL\ Volume$$

$$4{,}607{,}996{,}000 = 1.0679 \times 4{,}314{,}881{,}000$$

The calculation yields a FY 2005 estimate of 4,607,996,000 DALs. These DALs need to be partitioned into those delivered on city routes, rural routes, and other modes of delivery.

City Estimate

The starting point for estimating the FY 2005 volume of DALs delivered on city routes is the total volume of ECR Saturation letters delivered on city routes (5.6 billion). An important point to remember is that the City Carrier Cost System (CCCS) records DALs as letters, so the DAL volume was included in the total ECR Saturation letter

[9] An estimate of total DAL volume is necessary to accurately distribute the rural boxholder volume to shape.
[10] PRC-LR-7 workbook ADVO-LR-1.xls worksheet 1.VP Table A-8 Modified cell C13.

volume estimate. The total estimated ECR Saturation volume is multiplied by 50.18 percent[11] for a city DAL volume estimate of 2,807,807,000 pieces.

Rural Estimate

The estimate of DALs delivered on rural routes is a bit more complicated due to the availability of simplified addresses, which are recorded as boxholder mailings as part of the Rural Carrier Cost System (RCCS).

The starting point is the estimated volume of ECR Saturation (non-boxholder) letters delivered on rural routes, which for FY 2005 equals 1,710,114,000. Total FY 2005 rural boxholder volume[12] is 1,636,522,000. The boxholder volume is partitioned to shape in the same ratio as RPW, which yields an estimate of 235,138,000 boxholder ECR Saturation letters. Aggregating the regular letters with the boxholder letters gives a total estimated volume of 1,945,252,000 ECR Saturation letters delivered on rural routes in FY 2005. Similar to the CCCS, the RCCS estimate of ECR Saturation letter and boxholder volume contains DALs. The aggregate (non-boxholder and boxholder) ECR Saturation letter volume is multiplied by 57.76 percent[13] to give a FY 2005 estimate of DAL volume delivered on rural routes of 1,123,632,000 of which three percent (or 33,707,000) are assumed to consist of simplified addresses.

[11] This percentage is consistent with Docket No. R2005-1 PRC-LR-7 workbook ADVO-LR-1 worksheet 4.Attch3 ADVO-VP-T2-2 cell C41. It is the percentage of DALs from the total ECR Saturation letters delivered on city routes.

[12] RCCS tests do not record the shape for boxholder mail, so it is divided to shapes using the same letter, flat, and parcel splits as RPW for ECR Saturation.

[13] This percentage is consistent with Docket No. R2005-1 PRC-LR-7 workbook ADVO-LR-1 worksheet 4.Attch3 ADVO-VP-T2-2 cell C42. It is the percentage of DAL from the total ECR Saturation letters delivered on rural routes.

Transferring Costs Between Shapes

The purpose of USPS-LR-L-67 is to calculate accurate delivery costs by rate category. This involves both the shape – letter, flat, or parcel – and the content of the mail. The denominator for all of the unit delivery costs is the total originating volume for that rate category. However, the costs are largely dependent on the volumes recorded from the city and rural cost systems (CCS). Since the costs and volumes are derived from different systems, the possibility exists that the estimated aggregate volume from CCS, which provides a distribution key for cost segment 7 and 10 costs, exceeds the estimated total originating volume. This is an incongruous result since it leads to the conclusion that more mail from a specific rate category is delivered on city and rural routes than was mailed. USPS-LR-L-67 handles this situation by transferring costs from cost segments 6, 7, and 10 from the rate category with the anomalous estimated volume to a rate category that does not have this situation. In practical terms, the volume variable cost segment 6, 7, and 10 costs are generally transferred from parcels to flats[14] within a particular category of mail (i.e. Standard Regular).

USPS-LR-L-67.doc provides the specific details of the manner in which the costs are transferred from parcels to flats for the rate category Standard Regular.

Summary

The purpose of this testimony is threefold 1) to present the test year unit delivery costs for various rate categories as is done in Table 1, 2) to present and discuss some of pertinent issues that arise in disaggregating delivery costs from the subclass level to the rate category level, and 3) explaining the methods used to resolve those issues. USPS-LR-L-67 contains SAS programs, three workbooks, and a Word document that

[14] Within the Periodicals rate category a similar adjustment is made that transfers letter costs to flats.

provides the technical details in calculating the unit costs presented in Table 1. In addition, the Word document details the methods and calculations used in calculating the test year unit delivery costs for three specific rate categories 1) First Class Single Piece (letters), 2) Standard Regular (parcels), and 3) ECR Saturation (flats). Those particular rate categories are chosen to illustrate the nuances involved in disaggregating delivery costs at the subclass level.

III. ADDENDUM

After results of the initial model were incorporated into the analysis of downstream witnesses, I discovered errors in the calculations for four rate categories that affect the unit delivery costs. The updated test year unit delivery costs are listed below:

Rate Category	Unit Delivery Cost (cents)
First Class Presort Automation Cards	3.576
First Class Presort Non-Automation Cards	4.452
Standard Regular Machinable Letters	3.782
Standard Regular Non-Machinable Letters	8.069