

**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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SPONSORED LIBRARY REFERENCES

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

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

1 **I. PURPOSE AND SCOPE OF TESTIMONY**

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

4 **Inputs and Outputs**

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

7 **i. Delivery Costs by Rate Category**

8 **Inputs**

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

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

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

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

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

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

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

16 USPS-LR-L-87 for Revenue Pieces and Weight Estimates by Shape,

17 Weight Increment, and Indicia (Witness Loetscher)

18 **Outputs**

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

20 Page (USPS-T-23) for final adjustments

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

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

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

1 **II. DELIVERY COSTS BY RATE CATEGORY**

2 In this testimony, I sponsor USPS-LR-L-67, Delivery Costs by Rate Category.

3 The following witnesses use the test year unit delivery costs: Page (USPS-T-23) uses
4 for final adjustments; Taufique (USPS-T-32) for First-Class Mail rate design; Tang
5 (USPS-T-35) for Periodical rate design; and Kiefer (USPS-T-36) for Standard Mail rate
6 design.

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

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

18 The comparison required by this exercise cannot be equated with
19 sponsoring the preexisting methodology. It merely identifies and
20 gives context to the proposed change, serving as a benchmark so
21 that the impact can be assessed. ... [W]itnesses submitting
22 testimony under Rule 53(c) sponsor the proposed methodological
23 changes, not the preexisting methodology. That they may be
24 compelled to reference the preexisting methodology does not mean
25 that they are sponsoring it.
26

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

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

11 The final output of USPS-LR-L-67 is Table 1, which contains the unit delivery
12 costs for various rate categories. The unit costs listed in Table 1 represent marginal
13 costs for both the USPS and PRC versions. Any discrepancy between the two unit
14 delivery costs is explained by the different piggyback factors and test year costs
15 between the two versions. The specific rate categories listed in Table 1 are the only
16 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.

1

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

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.

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

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

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

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

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

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

18 **Sequenced Mail**

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

1 distribute the \$94 million in base year costs to letters, flats, and parcels within ECR
2 Saturation, and non-Saturation parcels.

3 As defined by Professor Bradley in his city carrier analysis upon which the CRA
4 is based, sequenced Mail is ECR Saturation mail that is delivered by the mailer to the
5 delivery unit already prepared, by the mailer, in walk sequence. By definition, the carrier
6 does not case sequenced mail, and it is delivered on the route as an additional bundle
7 or tray³. It is important to recognize that not all ECR Saturation mail is sequenced.
8 Some ECR saturation mail is delivery-point sequenced by the Postal Service. This mail
9 comes to the carrier unit intermingled with other delivery-point sequenced mail and is
10 delivered as a regular letter. It is not sequenced mail (as that term is used in city carrier
11 cost analysis) and should not be included in that cost pool.

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

17 *Sequenced Mail = Total ECR Saturation – DPS ECR Saturation – Cased ECR Saturation*

18 Although the Carrier Cost System provides an estimate of the total ECR
19 Saturation volume delivered, it does not separately identify how much of ECR
20 Saturation is sequenced mail. The volume of ECR Saturation that is sequenced mail
21 must be calculated. The first part of the calculation is to identify the ECR Saturation that
22 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.

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

7 **Step 1:** Identify the casing costs⁵ for ECR Saturation from IOCS

8
9 **Step 2:** Convert the casing costs into hours by dividing the casing costs by the
10 base year average hourly rate for city carriers.

11
12 **Step 3:** Use established saturation casing productivities to estimate the number
13 of pieces of ECR saturation cased per hour⁶ These are 41.2 pieces per minute
14 for letters and 27.4 pieces per minute for flats.

15
16 **Step 4:** Divide the IOCS hours by the casing productivity to obtain an estimate of
17 the number of pieces cased.

18
19 Steps one through four provide letter shape and flat shape estimates of
20 sequenced mail. Since ECR parcels are by definition host pieces of DAL mailings, it is
21 assumed that all ECR Saturation parcels⁷ are treated as sequenced mail. After the
22 volumes by shape have been estimated, the \$94 million in sequenced mail costs can be
23 distributed to shape.

24 In distributing the sequenced mail volume variable costs, the first step
25 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.

1 shapes. In FY 2005 the total volume variable cost of sequenced mail is \$93,989,000.
2 This is distributed to letters, flats, and small parcels according to proportions estimated
3 on the implicit assumption that the unit costs by shape of sequenced mail bear the
4 same relationship to each other as the unit costs by shape of nonsequenced mail.
5 Thus, we begin estimating the distribution proportions for sequenced mail by multiplying
6 each of the sequenced shape volumes by the unit cost for that shape of nonsequenced
7 mail. This multiplication results in \$32.3 million, \$99.5 million, and \$7.5 million for
8 letters, flats, and small parcels respectively. Aggregating those costs across the three
9 shapes equals \$139.2 million. The \$139.2 million serves as the denominator to derive a
10 distribution factor to distribute the total volume variable costs for sequenced mail to
11 shapes. The relevant proportions by shape, therefore are $32.3/139.2$, $99.5/139.2$, and
12 $7.5/139.2$. These proportions are used to distribute the \$93,989,000, which results in
13 final costs by shape for sequenced mail of \$21.8 million for ECR Saturation letters,
14 \$67.1 for ECR Saturation flats, and \$5.1 million for ECR parcels.

15 **Detached Address Labels (DALs)**

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

1 separate pieces, one letter and one flat. The Revenue Pieces and Weight System
2 (RPW), which provides the denominator for base year unit delivery costs, counts DAL
3 mailings as one-piece mailings – flats - and does not have a complete count of DAL
4 mailings⁸. The different treatment of DAL mailings by these systems complicates the
5 methods used to derive unit delivery costs for ECR Saturation rate categories.

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

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

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

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

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

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

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

20 **Estimation of the Number of DALs on city and rural routes**

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

1 volume estimates for all modes of delivery⁹(4.6 billion), city routes (2.8 billion) and rural
 2 routes (1.1 billion, of which three percent are boxholder) separately. This section of my
 3 testimony provides the justification for those DAL estimates.

4 **Total Estimate**

5 The final estimated volume of DALs for FY 2004 was 4,314,881,000¹⁰. USPS-
 6 LR-L-67 needs an updated total. A new estimate is derived by taking the previous
 7 estimate and multiplying it by the ratio FY 2005 RPW ECR Saturation flats to FY 2004
 8 RPW ECR Saturation flats.

$$9 \quad \text{FY2005 DAL Vol Estimate} = \frac{\text{FY2005 RPW ECR Saturation Flats}}{\text{FY2004 RPW ECR Saturation Flats}} \times \text{FY2004 DAL Volume}$$

10

$$11 \quad 4,607,996,000 = 1.0679 \times 4,314,881,000$$

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

15 **City Estimate**

16 The starting point for estimating the FY 2005 volume of DALs delivered on city
 17 routes is the total volume of ECR Saturation letters delivered on city routes (5.6 billion).
 18 An important point to remember is that the City Carrier Cost System (CCCS) records
 19 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 ADV0-LR-1.xls worksheet 1.VP Table A-8 Modified cell C13.

1 volume estimate. The total estimated ECR Saturation volume is multiplied by 50.18
2 percent¹¹ for a city DAL volume estimate of 2,807,807,000 pieces.

3 **Rural Estimate**

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

7 The starting point is the estimated volume of ECR Saturation (non-boxholder)
8 letters delivered on rural routes, which for FY 2005 equals 1,710,114,000. Total FY
9 2005 rural boxholder volume¹² is 1,636,522,000. The boxholder volume is partitioned to
10 shape in the same ratio as RPW, which yields an estimate of 235,138,000 boxholder
11 ECR Saturation letters. Aggregating the regular letters with the boxholder letters gives
12 a total estimated volume of 1,945,252,000 ECR Saturation letters delivered on rural
13 routes in FY 2005. Similar to the CCCS, the RCCS estimate of ECR Saturation letter
14 and boxholder volume contains DALs. The aggregate (non-boxholder and boxholder)
15 ECR Saturation letter volume is multiplied by 57.76 percent¹³ to give a FY 2005
16 estimate of DAL volume delivered on rural routes of 1,123,632,000 of which three
17 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.

1 **Transferring Costs Between Shapes**

2 The purpose of USPS-LR-L-67 is to calculate accurate delivery costs by rate
3 category. This involves both the shape – letter, flat, or parcel – and the content of the
4 mail. The denominator for all of the unit delivery costs is the total originating volume for
5 that rate category. However, the costs are largely dependent on the volumes recorded
6 from the city and rural cost systems (CCS). Since the costs and volumes are derived
7 from different systems, the possibility exists that the estimated aggregate volume from
8 CCS, which provides a distribution key for cost segment 7 and 10 costs, exceeds the
9 estimated total originating volume. This is an incongruous result since it leads to the
10 conclusion that more mail from a specific rate category is delivered on city and rural
11 routes than was mailed. USPS-LR-L-67 handles this situation by transferring costs from
12 cost segments 6, 7, and 10 from the rate category with the anomalous estimated
13 volume to a rate category that does not have this situation. In practical terms, the
14 volume variable cost segment 6, 7, and 10 costs are generally transferred from parcels
15 to flats¹⁴ within a particular category of mail (i.e. Standard Regular).

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

18 **Summary**

19 The purpose of this testimony is threefold 1) to present the test year unit delivery
20 costs for various rate categories as is done in Table 1, 2) to present and discuss some
21 of pertinent issues that arise in disaggregating delivery costs from the subclass level to
22 the rate category level, and 3) explaining the methods used to resolve those issues.
23 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.

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

1 **III. ADDENDUM**

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

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

11