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Docket No. R97-1

REBUTTAL TESTIMONY OF
DONALD M. BARON
ON BEHALF OF
UNITED STATES POSTAL SERVICE

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Autobiographical Sketch

Please refer to the autobiographical sketch contained in my direct testimony, USPS-T-17.

Purpose and Scope

My rebuttal testimony is divided into two parts. Part 1 responds to the direct testimony of Antoinette Crowder[1] I review three major arguments made in that testimony. These arguments criticize the current method used by the Postal Service to estimate accrued load-time costs. They also criticize some of the procedures in my direct testimony for estimating volume-variable load-time costs, and they propose alternative cost estimates.

Part 2 responds to the direct testimony of Sander Glick.[2] I describe the error that witness Glick discovered in the segment 10 workpapers that accompanied the direct testimony of Postal Service witness Joe Alexandrovich.[3] I then propose a superior correction to that error than is proposed by Mr. Glick, whose correction is faulty.

[1] Docket No. R97-1, JP-NOI-1.
[2] Docket No. R97-1, MPA-T-3.
[3] Docket No. R97-1, USPS-T-5, WP B, W/S 10.0.3 and 10.1.1 through 10.2.2.

Part 1 – Section 1. Overview of Witness Crowder's Testimony and My Rebuttal

Witness Crowder's first argument is that the Postal Service's accrued SDR, MDR, and BAM load-time cost estimates, which are based on STS proportions, far exceed the comparable costs derived from the load-time regressions. These costs derived from the regressions are called model-based costs. Ms. Crowder claims that the model-based costs are more realistic, and should be used in place of the STS-based costs.

I withhold final judgment on the merits of this model-based approach as a general methodology for deriving accrued cost. I believe that the discrepancy witness Crowder has revealed between model-based and STS-based costs is a serious concern requiring further evaluation. However, I also raise some issues relating to Ms. Crowder's specific application of the load-time regressions to derive her own model-based accrued cost estimates.

Ms. Crowder's second argument applies to the residual of accrued load-time cost over the product of the aggregate elasticity of load time with respect to the volume variables and this accrued cost. Consistent with the previous methodology applied by the Commission in its Docket No. R90-1 decision, Ms. Crowder calls this residual "coverage-related load time" cost.[4] She purports to prove that it exists by first claiming that system-wide accrued load-time cost can be accurately represented by an equation

[4] JP-NOI-1, Attachment B, page 5, line 12.

that defines accrued cost as load time at a stop receiving the average volume per stop times the total number of actual stops. She then differentiates this equation with respect to total system-wide volume to derive a formula that defines system-wide volume-variable load-time cost as the sum of an elemental cost component and the volume-variable portion of accrued coverage-related load-time cost. Moreover, Ms. Crowder interprets this accrued coverage-related cost as being variable with respect to volume in the same way that access time cost is variable with respect to volume. Thus, her measure of system-wide volume-variable coverage-related cost equals the elasticity of actual stops with respect to volume times the system-wide accrued coverage-related cost.

This entire analysis contradicts my direct testimony and interrogatory responses, which argue that the residual of accrued load time cost over the product of the aggregate volume elasticity and accrued cost is simply institutional cost, just as is the residual of accrued cost over the product of a volume variability and accrued cost in other cost segments and components. I argue in my direct testimony that like any other pool of institutional cost, this residual cost is, by definition, not assignable to individual mail subclasses.

Ms. Crowder's third argument rejects my direct testimony's estimates of volume-variable MDR and BAM costs that account for what I call the delivery effect. These volume-variable costs equal the elasticities of load time with respect to deliveries times the elasticities of deliveries with respect to volumes. Ms. Crowder claims that by including these costs in the volume-variable total, I double count costs already included in other calculations.

My response is presented in three sections, which follow the order of the above summary of Ms. Crowder's arguments. Section 2 considers Ms. Crowder's proposal to use the model-based estimates of accrued load time costs in place of the traditional STS-based estimates. I neither endorse nor reject the general notion that estimates of system-wide accrued load-time costs derived from the load-time regressions are more reliable and more consistent with the field studies than are the STS-based accrued costs. However, I identify a few analytical problems raised by Ms. Crowder's specific model-based estimates, her interpretation of these estimates, and her derivation and interpretation of the volume-variable portions of these estimates.

Section 3 shows why Ms. Crowder's purported mathematical proof of the existence of the residual, accrued coverage-related load time cost is flawed. I begin by showing why Ms. Crowder's equation that defines system-wide accrued load-time cost as the product of load time at the average stop and the total number of actual stops is mathematically incorrect. I observe that since this initial equation is incorrect, Ms. Crowder's derivations of accrued coverage-related cost and volume-variable coverage-related cost from that equation are also incorrect, and must be rejected.

Section 4 takes issue with Ms. Crowder's recommendation to exclude the delivery-effect measures of volume-variable MDR and BAM costs. I show that, contrary to Ms. Crowder's assertion, the volume terms in the MDR and BAM equations do not already account for the separate, distinct effects on load time of increases in deliveries that result from volume growth. Thus, the delivery terms must be explicitly included in the derivation of total volume-variable load time cost to ensure that this deliveries effect is accurately measured.

Part 1 – Section 2. Measuring Base Year Accrued Load-Time Costs

A. Overview

As witness Crowder observes, the Postal Service's estimates of initial base year FY 1996 accrued load-time costs for SDR, MDR, and BAM stops are calculated through multiplication of total street time cost by the Street Time Survey (STS) load-time proportions. These proportions are derived from the 1986 Street Time Survey. The results are $995,848,000 for SDR stops, $600,905,000 for MDR stops, and $186,333,000 for BAM stops.[5]

Ms. Crowder asserts that a better method for deriving accrued costs is to use the SDR, MDR, and BAM load-time regressions that produce the load-time volume variabilities. For each stop type, her approach first uses the appropriate regression to estimate load times at the average stop. This average stop is defined as one that:

1. receives the average daily FY 1996 CCS volumes for letters, flats, parcels, and accountables,
2. contains the average FY 1996 CCS number of possible deliveries,
3. provides average daily collection mail equal to the average 1985 LTV study collection volume per stop, and
4. reports the average 1985 values for the container and receptacle dummy variables in the load-time regressions.

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[5] These costs are derived in USPS-T-5, WP B, at W/S 7.0.4.2, lines 46-48.

The load times at this average stop are virtually the same predicted SDR, MDR, and BAM load times that I used, in combination with corresponding predicted partial derivatives, to derive the FY 1996 "volume-effect" elasticities presented in tables 8,10, and 11 of my direct testimony.[6] These seconds per stop are presented in the table at page 9 of Attachment A to the Crowder testimony, in the column labeled "LTV Model Sec./Stop."

Next, Ms. Crowder multiplies the load-time seconds per stop by estimates of total number of system-wide actual stops to calculate annual load-time seconds by stop type. She then multiplies these annual seconds by an average FY 1996 city carrier wage rate of $24.75 per hour to obtain the annual accrued load-time costs shown in the last column of her table. These "model-based" costs are listed in column 2 of table 1 below. Column 3 of table 1 presents the corresponding STS-based estimates, and columns 4 and 5 of table 1 show the differences between the two sets, in absolute and in percentage terms.

[6] USPS-T-17 at pages 26-30. Ms. Crowder's estimates of seconds per stop differ slightly from the estimates I used in deriving these elasticities. Ms. Crowder's table at page 9 of Attachment A to her testimony reports 8.29, 50.51, and 19.50 seconds per stop for SDR, MDR, and BAM stops, respectively. The corresponding estimates used to derive my elasticities are 8.28, 50.45, and 19.29 seconds per stop. I regard these differences as small enough to be considered rounding error.

Table 1. Comparison of STS-Based and Model-Based Estimates of Base Year 1996 Accrued Load-Time Costs ($1,000)				
Stop Type	**Crowder's Model-Based Cost Estimates[7]**	**STS-Based Cost Estimates**	**Excess of STS over Modeled Cost**	**Excess as a Percentage of Model-Based Cost**
SDR	**$702,622**	**$995,848**	**$293,226**	**41.7%**
MDR	**$351,733**	**$600,905**	**$249,172**	**70.8%**
BAM	**$159,278**	**$186,333**	**$27,055**	**17.0%**
TOTAL	**$1,213,633**	**$1,783,086**	**$569,453**	**47.0%**

The rationale presented by Ms. Crowder for judging the model-based estimates to be more accurate than the STS-based estimates of accrued costs is derived from her understanding of the objectives and implementation strategies of the field studies that produced the STS and LTV data sets. Because I have not had sufficient time to thoroughly analyze its implications, it is not my intention to criticize or endorse this rationale at this time. However, I do want to focus on certain technical problems created by Ms. Crowder's new methodology. These problems must be resolved before any specific model-based methodology can be effectively implemented.

Subsections B through C of this section of my testimony explore two such problems. One is the ambiguity of Ms. Crowder's treatment of the excess of the STS-based costs over her estimated model-based costs. A second concern results from the implication that if the model-based approach is appropriate for measuring accrued

[7] Source: Testimony of Antoinette Crowder, Docket No. R97-1, JLP-NOI-1, Attachment A, page 9.

load-time cost, it must likewise be appropriate for measuring other accrued costs in segment 7. The specific problem is that Ms. Crowder provides no guidance as to whether and how the STS proportions defined for street-time activities other than load time should be used to estimate accrued costs for those activities.

Observe, also, that the analysis of these two problems will assume, for the sake of argument, that Ms. Crowder's calculations of model-based accrued load-time costs are accurate. This, however, identifies a third problem. Those calculations are derived from an equation that defines system-wide accrued load time as the product of load time at a stop getting the average volume and total system-wide actual stops. In fact, this equation is **not** valid. It is based on the false premise that the true average load time over all actual stops equals load time at the stop receiving the average volume.

Section 3 of this testimony explains why this premise is wrong, and why this error invalidates Ms. Crowder's accrued load-time equation, and the model-based estimates of system-wide costs derived from that equation.

B. Allocation and Interpretation of the Excess of STS-based Costs Over LTV Model-Based Costs

The ambiguity in Ms. Crowder's interpretation of the excess of the STS-based accrued load-time costs over the model-based costs is important primarily because the amount of this excess is so substantial. It totals $569,453,000 over the three stop types. Ms. Crowder proposes to add all of this amount to accrued access costs. The results of doing so are shown in tables 1 through 3 of Ms. Crowder's direct testimony. For example, table 1 adds the $293,226,000 excess of STS-based SDR cost over model-based SDR cost to a category called "fixed stop time." Table 1 shows that the volume-variable portion of this $293,226,000 is $24,418,000, which equals $293,226,000 times the 8.327% that the Postal Service estimated as the elasticity of SDR actual stops with respect to aggregate volume.[8]

Thus, the calculations in Ms. Crowder's tables 1-3 interpret the excess of STS-based accrued load-time costs over her LTV model-based accrued load time costs as constituting strictly accrued access costs. Moreover, the label "fixed stop time" that the tables assign to this excess establishes it as not only accrued access cost, but also as strictly the cost of fixed-time at stops. The necessary implication is that the higher of the two alternative accrued costs – the STS-based total - must equal accrued load-time cost plus "fixed-time at stop" access cost. The lower of the two - the LTV model-based cost - must be pure load time – that is, non-fixed time, meaning, specifically, time that **does** vary with volume. This latter point is reiterated explicitly by Ms. Crowder at lines 5-8 on page 4 of her testimony's Attachment A. There she states that "the LTV definition of load time can be considered a narrower definition which encompasses **only** the carrier's direct handling of mail, mail-related equipment, and customer requirements at the load point." (Emphasis added).

However, the analysis elsewhere in Attachment A offers a different view. In other paragraphs, Ms. Crowder backs off from the quote just cited from page 4, and from her interpretation in tables 1-3. For example, at page 2, lines 8-9 of Attachment A, Ms. Crowder states only that the "excess of STS time over LTV modeled time is **"likely** fixed-stop **related."** (Emphasis added). Then at page 3, lines 4-6 of

[8] This 8.327% stops elasticity is derived in Docket No. R97-1, USPS LR-H-138.

Attachment A, she states that the STS-based accrued cost "**likely includes** both the volume-related (LTV-defined) stop time plus **relatively fixed** (non-volume-related) stop time, and **perhaps even a portion** of access time." (Emphasis added). Moreover, instead of viewing LTV load-time as encompassing "only the carrier's direct handling of mail, mail-related equipment, and customer requirements," as she does at page 4 lines 6-7, Ms. Crowder at page 2, lines 5-6 states only that "the LTV load time definition **principally encompasses** the time the carrier actually handles mail, mail equipment, or customer requirements...." Thus she implies that LTV load time might include some interval other than strictly volume-related time.

Phrase such as "likely fixed-stop related," "relatively fixed," and "principally encompasses" confuse the operational interpretation of the excess cost. They undermine confidence in Ms. Crowder's decision to add the excess to the access cost pool. The key problem is that the imprecision in the words is in sharp contrast to the precise calculations and labels presented in tables 1-3. The words indicate a reluctance to acknowledge that the excess of STS-based accrued cost over model-based accrued cost is definitely both accrued access cost and the cost of fixed-time at stops. As noted earlier, the tables show no such hesitation. They clearly label the excess "fixed stop time." They multiply the excess by the same elasticities of stops with respect to volume that the Postal Service applies – apparently with Ms. Crowder's approval – **strictly** to accrued access cost.

Ms. Crowder's contradictory interpretation of the excess of STS over modeled accrued load time cost is understandable, given the implications of accepting the interpretation given in tables 1-3, and in the quotation from page 4, lines 5-8 of

Attachment A. If, as these tables and the quotation indicate, the excess is indeed fixed-time at stop cost, and the remaining LTV model-based accrued cost is strictly the time spent handling mail, mail-related equipment, and customer requirements, then that model-based cost must be pure load time cost. No part of it can be fixed-time at stop. There is simply no way that a block of time spent entirely in the handling of mail and mail related equipment and customer requirements can be fixed time with respect to the amount and mix of volume at the stop. By its very definition, it must increase or decrease as volume loaded, the equipment containing that volume, or the accountables associated with the customer requirements increase or decrease. Therefore, no part of that block of time should be treated the way fixed-time at stop cost - that is, access cost - is treated; for access cost **is** cost that is fixed at each actual stop and that varies only as the number of actual stops varies.

The implication is clear. If model-based cost is pure load-time cost, and none of it is access cost, it is invalid to multiply the elasticities of stops with respect to volume by any part of the model-based cost, as Ms. Crowder does in tables 1-3, and in Attachment B to her testimony. Thus, the "volume-variable coverage-related" costs of $22,809,000, $8,000, and $2,396,000, which Ms. Crowder derives for SDR, MDR, and BAM stops, respectively, by multiplying the accrued coverage-related portions of her model-based costs by the stops elasticities are incorrect. Those stops elasticities are elasticities of access cost with respect to volume. They should be applied only to access cost or to cost which has the key characteristic of access cost – that of being fixed at a given set of actual stops with respect to the volume at those stops. If LTV-model accrued cost is pure load-time cost, which **is** entirely a function of volume, then only the elasticities of load time with respect to volumes loaded, volumes collected, and customer requirements serviced should be applied to that cost to derive volume-variable load-time costs. This is precisely what I do in my direct testimony.

C. Implications for Non-Load-Time Activities

The second problem with the Crowder proposal to substitute LTV model-based accrued load-time costs for the STS-based estimates is the implication of implementing this proposal for measuring accrued costs for city carrier street activities other than loading. As shown in WP B at W/S 7.0.4.1, lines 6 through 8b,[9] the Postal Service's segment 7 cost analysis defines five such activities: street support, driving time, Route/Access FAT, Route/Access CAT, and collection.

For two of these five, Route/Access FAT and Route/Access CAT, both the Commission and the Postal Service have derived regression estimations of the so-called running time equations for purposes of calculating volume-variable costs. These regressions, which are described in detail at pages 46-65 of my direct testimony,[10] define total running time on a route as a function of the number of stops accessed. They are used to calculate volume-variable costs through a three-step process. First, elasticities of running time with respect to actual stops are derived from the regressions. These elasticities are then multiplied by the accrued running time costs to produce accrued access costs. The last step defines volume-variable access costs as the product of these accrued access costs and the elasticities of actual stops with respect to volume.

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[9] This worksheet is part of the direct testimony of Joe Alexandrovich, Docket No. R97-1, USPS-T-5.
[10] Docket No. R97-1, USPS-T-17.

However, neither the Commission's nor the Postal Service's analysis of the running-time regressions has ever proposed going beyond this volume-variable cost calculation. In particular, neither has proposed using the running time regressions in the way Ms. Crowder proposes to use the load-time regressions, namely to calculate the system-wide accrued cost itself. However, the theoretical rationale presented by Ms. Crowder to justify use of the regression model-based estimate of accrued load-time costs would, if accepted, compel the same substitution of model-based running time costs for STS-based running time costs.[11]

Ms. Crowder presents this rationale at page 11 lines 9-20 of her testimony. She states that the inconsistency of calculating volume-variable cost estimates through multiplication of elasticities derived from load-time equations to accrued costs obtained from sources (namely the STS system) other than these equations causes these cost estimates to be inherently biased. To avoid this bias, the same LTV regressions that produce the variabilities must also be used to estimate the accrued costs to which the elasticities are applied to produce the volume-variable costs.

Clearly, acceptance of this argument as justification for using load-time regressions to estimate accrued load-time costs would also mandate the use of the running time regressions to estimate accrued running time costs. The logic seems inescapable. If the use of the same equations that produce the elasticities to also estimate the accrued costs by which these elasticities are multiplied to get volume-

[11] Elsewhere in her testimony, Ms. Crowder supplements this theoretical justification with empirical arguments relating to the difference between the STS and LTV data collection methodologies. See, in particular, Attachment A to the Crowder testimony at page 2 and pages 5 – 7.

variable costs is mandated to achieve unbiased load-time results, it must also be required to achieve unbiased accrued and volume-variable access costs.

Of course, this logical imperative creates a new dilemma. In insisting upon the model-based calculation of accrued load-time costs based upon arguments equally applicable to running time, Ms. Crowder is unavoidably disrupting the entire STS system. She raises, but leaves unanswered, not only the question of whether model-based running time costs should replace the STS-based costs, but other obvious follow-up questions as well. For example, what if the model-based estimates of running time costs are lower than the STS-based estimates, just as the model-based estimates of load-time costs are lower than STS-based estimates? What should be done with the excess running time costs? Should the STS percentages for collection, driving time and street support be somehow adjusted upwards to offset the decline in running time costs? Alternatively, what should be done if the model-based running time estimates are higher than the STS-based estimates? Moreover, should model-based alternatives be sought for the established STS-based accrued costs for the street support, driving time, and collection activities?

Until these questions are answered, the substitution of model-based estimates of accrued load-time costs for STS-based estimates should be deferred. This would give all interest parties the time needed to more carefully examine and interpret the implications of the model-based approach for all city carrier street time costs and activities.

Part 1 – Section 3. Interpretation of the Coverage-Related Load-Time Residual

A. The Crowder Model

Sections B and C of Part 1 to this testimony have assumed, for the sake of argument, that witness Crowder's estimates of system-wide accrued load-time costs, as presented in her Attachment A table (reproduced in this testimony in table 1 on page 9) are mathematically valid. This part of my testimony shows why they really aren't valid.

In Attachment B, Ms. Crowder first defines total accrued load time cost in general mathematical terms. She then derives a mathematical proof that system-wide volume-variable load-time cost equals the sum of what she calls elemental load-time cost and volume-variable coverage-related load-time cost.

The derivation proceeds as follows. First, Ms. Crowder assumes that system-wide accrued load time can be accurately represented by a simple, mathematically tractable equation relating aggregate load-time to load-time at one stop. This equation is expressed as:

(1) $L = g(V/S) * S$

where L is aggregate system-wide accrued load time, and where:

V = aggregate system-wide volume,

S = aggregate system-wide number of actual stops, with S = S(V),

V/S = average volume per actual stop, and

g(V/S) = load time at the stop that receives this average volume per stop.

Ms. Crowder then takes the derivative of system-wide accrued load time, L, in equation 1 with respect to system-wide volume, V, to derive equation 2.

(2) $[(\partial L / \partial V) * (V / L)] * L = L * E_e + (L - (L * E_e)) * E_s$.

In this equation, the left-hand side, $[(\partial L / \partial V) * (V / L)] * L$, is the product of system-wide accrued load time, L, and the total elasticity of system-wide accrued load time with respect to system-wide volume, V. Thus, it is a measure of system-wide volume-variable load-time cost. Equation 2 says this cost is equal to "elemental load time cost," defined as $L * E_e$, plus "volume-variable coverage-related load time cost," which is the residual, $[L - (L * E_e)]$, times the elasticity of stops with respect to volume, E_S.

Moreover:

E_e = elasticity of load time at the average stop with respect to volume just at that stop.

$L * E_e$ = system-wide elemental load time cost, which is the elasticity of load time at the average stop with respect to volume just at that stop times system-wide accrued load time, L

$L - (L * E_e)$ = system-wide accrued coverage-related load time, also known as the residual, because it equals system-wide accrued load time, L, minus system-wide elemental load time.

The remainder of this section shows why this derivation of system-wide volume-variable load-time cost is mathematically incorrect. This critique also applies to the Commission's own restatement of this derivation of system-wide volume-variable load time, since that restatement, presented in the Presiding Officer's February 25th Notice of Areas of Likely Inquiry At Hearing, is essentially a replication of the Crowder analysis.

B. Why Witness Crowder's Definition of System-Wide Volume-Variable Load Time is Incorrect

A critical assumption in witness Crowder's derivation of her equation 2 measure of system-wide volume-variable load-time cost is, of course, that equation 1 is itself a valid representation of system-wide accrued load time. It turns out that the validity of equation 1 is critically dependent upon a very strong assumption that Ms. Crowder implicitly relies upon in deriving equation 2. To see this assumption, observe first that system-wide accrued load time, L, obviously does equal average load-time per actual stop times total number of actual stops, S. This is just a restatement of the mathematical truth that a total equals an average per unit times the total number of units.

But equation 1 does not really say this. It states instead that system-wide accrued load time equals **load time at a stop that gets the average volume** times total number of actual stops. Ms. Crowder's unstated but key assumption here is therefore that the average of load times over all S of the system-wide actual stops simply equals load time at a single stop that gets the average volume. She assumes, that is, that

(3) $(\sum_{i=1}^{S} l_i) / S = g(\sum_{i}^{S} V_i /S)$

where:

$\sum_{i}^{S} l_i =$ sum of the individual load times, l_i, over all the actual stops,

$(\sum_{i=1}^{S} l_i) / S$ = average of these individual load times,

$\sum_{i=1}^{S} V_i$ = V = aggregate system-wide volume

$\sum_{i}^{S} V_i / S$ = average volume per stop

$g(\sum_{i}^{S} V_i / S)$ = load time at the stop that receives this average volume per stop.

To repeat, the true system-wide accrued load time L equals average load time over all the actual stops times total actual stops. Equation 1 produces this true system-wide load time if and only if equation 3 holds. Equation 1 is valid, that is, only if average load time over all actual stops equals load time at the stop that receives the average volume.

In fact, however, the assumption that equation 3 holds is incorrect. The reason is a well-known law of mathematics. It states that, in general, if g is a function of a random variable x, the average (i.e. expected) value of g does **not** equal the value of g evaluated at the expected value for x. In other words, $E(g(x)) \neq g(E(x))$.[12] To apply this law to the load-time analysis, observe that in that analysis:

x = volume at one stop, v_i

g(x) = load time at that one stop,

E(x) = V/S (average system-wide volume per stop),

g(E(x)) = load time at the stop that receives the average system-wide volume per stop,

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[12] This presentation of the law is found in Russell Davidson and James G. MacKinnon, Estimation and Inference in Econometrics, Oxford University Press, New York, 1993, at page 800.

$E(g(x))$ = the average of load times over all S stops.

Thus, $E(g(x))$ equals $(\sum_{i=1}^{S} l_i) / S)$, which is the left-hand side of equation 3, and $g(E(x))$ equals $g(\sum_{i}^{S} V_i /S)$, which is the right-hand side of equation 3. Moreover, since in general, $E(g(x)) \neq g(E(x))$, it follows that $(\sum_{i=1}^{S} l_i) / S \neq g(\sum_{i}^{S} V_i /S)$. That is, equation 3 fails.

The only exception to this general result that the average of g(x) does not equal g evaluated at the average value of x is the case in which g is a linear function of x. That is, g(x) would have to equal to $\alpha + \beta * x$. In the load-time analysis, this exception would be the linear load-time per stop equation.

(4) $l_i = \alpha + \beta * V_i$

Clearly this exception does **not** apply. The real load-time equation used to predict load time per stop for each of the three stop types, SDR, MDR, and BAM is, in each case, a highly **non-linear** regression equation. This non-linearity occurs because each regression has several right-hand side variables that equal the square of volume for some of the five volume variables (letters, flats, parcels, accountables, and collections), plus cross products between various pairs of these volume variables.

Thus, it is clear that for load-time analysis, the mathematical law that the expectation of g(x) does not equal g evaluated at E(x) does apply. Equation 3 does not hold. Ms. Crowder's definition of system-wide accrued load time as equal to

$g(\sum_{i}^{S} V_i /S)$ *S (where $g(\sum_{i}^{S} V_i /S)$ = g(V/S)) is therefore incorrect.[13] Moreover, since equation 1 does not hold, equation 2, which Ms. Crowder derives through differentiation of equation 1, is invalid. Ms. Crowder's conclusion that system-wide volume-variable load-time cost equals "elemental load-time" - the product of L and E_e - plus the product of the residual (L minus $L * E_e$) and the stops elasticity, E_S, must be rejected. Moreover, each individual component of this incorrect volume-variable load- time measure, including in particular, the system-wide coverage-related load time component, which is the residual, must also be regarded as invalid.[14]

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[13] Although the failure of equation 3 ensures that system-wide accrued load-time cannot be defined as load time at the average stop times total actual stops, it does not in any way affect the Postal Service's calculation of load-time elasticities. Recall that one of the inputs to this calculation is the predicted load-time at the stop that is assumed to receive the average daily FY 1996 values per stop for letters, flats, parcels, and accountables, and the average 1985 test value for collections per stop, and to also contain the average FY 1996 actual deliveries. This evaluation of the elasticity at the average-volume stop is not the same as using predicted load-time at the average-volume stop to infer total system-wide load-time cost. Moreover, the Postal Service does not multiply the elasticity evaluated at the average-stop by such a model-based estimate of accrued load time to measure volume-variable cost. Instead, it multiplies this elasticity by the STS-based estimate of accrued load time to derive volume-variable cost.

[14] Ms. Crowder may have erroneously concluded that I implicitly endorsed the model-based approach to estimating system-wide accrued load-time cost because of how I purportedly calculated system-wide fixed-time at stop cost. At page 6, lines 20-23 of her testimony, Crowder claims that I estimated this cost by multiplying my estimate of fixed-time per stop by total system-wide actual stops. This would indeed be comparable to calculating system-wide accrued load-time cost by multiplying load-time per stop by the same total number of actual stops.

In fact, however, system-wide fixed-time at stop cost is not estimated in this manner. The actual calculation is performed in Docket No. R97-1, USPS-T-5, WP B at W/S 7.0.4.2, lines 48b-48d. For each stop type, this calculation first determines the ratio of my measure of fixed-time per stop to the average of the total stop times recorded in the 1985 LTV tests. This ratio is then multiplied by the total STS-based accrued cost to derive an estimated system-wide fixed-time at stop cost.

Part 1 – Section 4. Critique of Witness Crowder's Argument that the Deliveries Coverage Effect Overstates Volume-Variable Cost

As witness Crowder notes, my direct testimony also offers a new interpretation of the deliveries variables that appear on the right-hand sides of the MDR and BAM load-time regressions. I view these variables as proxies for the numbers of actual deliveries at a stop. My interpretation argues that the deliveries variables account for the distinct positive effect that an increase in deliveries caused by volume growth will have on load time at a multiple-delivery stop. Therefore, I calculate the total elasticity of load time at an MDR or BAM stop as the sum of the elasticities of load-time with respect to the five volume variables plus the product of the elasticity of load time with respect to deliveries times the elasticity of deliveries with respect to volume. The sum of the volume elasticities alone is called the "volume effect." The product of the elasticity of load time with respect to deliveries and the elasticity of deliveries with respect to volume is called the deliveries effect.[15]

Ms. Crowder rejects this measurement of the deliveries effect. She claims instead that "separately attempting to estimate a deliveries variability for MDR and B&M stops is unnecessary."[16] She argues that the volume effect alone already encompasses the increase in load time that results from the increase in deliveries caused by volume growth. Mr. Crowder argues, specifically, that:

[15] A more comprehensive explanation and evaluation of the deliveries effect is presented at pages 16-23 of my direct testimony (Docket No. R97-1, USPS-T-17).
[16] Docket No. R97-1, JP-NOI-1, page 8, lines 20-21

> the variability measured from the stop load model already includes the effect of a marginal volume change on stop load time caused by both (1) the actual loading of mail at existing deliveries....and (2) the number of new deliveries loaded....Attempting to estimate and include one of these variabilities a second time (in a different way) causes an over-estimate of load time variability.....[17]

Ms. Crowder's justification for this view is derived from her alternative analysis of the general functional form for the equation defining MDR or BAM load time at one stop as a function of volume and deliveries. This function is defined as equation 3 in my direct testimony, reproduced here as equation 5.

$$(5)\quad LT = \alpha + \sum_{i=1}^{N}\gamma_i * R_i + \sum_{j=1}^{J}\delta_j * C_j + \sum_{k}^{K}\beta_k * V_k + \sum_{k}^{K}\beta_{kk} * V_k^2 + \sum_{k}^{K}\sum_{l}^{L}\beta_{kl} * V_k * V_l +$$

$$\theta_1 * PD + \theta_{11} * PD2 + \sum_{k}^{K}\phi_k V_k PD$$

where, according to my interpretation, PD, although technically defined as possible deliveries, can be viewed as actual deliveries.

Ms. Crowder's new analysis is presented at page 4 of Attachment C to her testimony. It begins by hypothesizing a simplified, specific version of equation 5. This version defines load time at an MDR or BAM stop as:

(6) $C_S = F + (C_D * D)$, where:

C_S = load time per stop,

D = actual deliveries at the stop = bv – cv^2, with v equaling total stop volume, and

> C_D = load time per actual delivery = f + p*(v/D) = fixed time per actual delivery plus the product of volume per actual delivery (v/D) and time per piece of volume (p).

[17] JP-NOI-1, page 9, lines 1-6.

As Ms. Crowder notes, this version ignores the effects of the receptacle and container dummy variables. It also assumes that only one type of volume is loaded, so that no cross product terms are needed.

Ms. Crowder next substitutes her definitions of D and C_D into the right-hand side of equation 6 to obtain the following expression for load time at a multiple-delivery stop:

(7) $C_S = F + [(f^*b) + p]^*v - (f^*c)^*v^2$.

She concludes that the expression [(f*b) + p] is the B_k coefficient in my equation 5, and that the expression (f*c) is the B_{kk} coefficient in that equation. Moreover, since B_k and B_{kk} in equation 5 are strictly coefficients for volume, Ms. Crowder concludes that the volume terms alone must be accounting for both types of increase in load time that occurs at a stop when volume grows. That is, the volume terms alone must be accounting for the increase in time that results from more pieces being loaded into pre-existing actual deliveries, and the increase that results from the accessing of new deliveries. Thus, Ms. Crowder concludes that there is no need to separately account for the second of these two effects – the increase due to new deliveries. Moreover, doing so would double count that effect, given that it is already captured by the volume terms.

My critique of this series of arguments consists of two major points. The first is that the assumptions Ms. Crowder makes in specifying her simplified load-time equation, equation 6, are incorrect. These errors imply that Ms. Crowder's transformation of equation 6 into equation 7 is also invalid. The second point restates the operational basis for recognizing the existence of the two distinct load-time effects at a multiple-delivery stop. It emphases why that operational basis justifies the approach implemented in my direct testimony.

1. Flaws in Witness Crowder's Mathematical Analysis

Ms. Crowder's mathematical analysis contains two errors. First, it assumes that actual deliveries, D, at one stop is strictly a function of volume at that stop. It defines D as simply $bv - cv^2$. This is clearly incorrect. Actual deliveries at a stop depend not just on volume but on **possible** deliveries.

A second error is her assumption that the time taken to deliver mail pieces is a simple linear function of the volume of these pieces. This is what allows her to assume that time per piece at each delivery is simply a constant amount p. This assumption is at the very least unrealistically restrictive, and it negates the general applicability of Ms. Crowder's equation 7. It is also directly contradicted by the Commission's load-time regressions, which show that load time per additional piece is not constant as total pieces at a stop rises.

These errors in Ms. Crowder's assumptions nullify her analysis precisely because both assumptions are necessary to the derivation of equation 7. Had Ms. Crowder, instead, explicitly recognized that D is a function of total possible deliveries, as well as v, then instead of her equation 7, the resulting equation would have had possible deliveries as well as volume on the right-hand side. Furthermore, had Ms. Crowder explicitly recognized that load time at a stop is a non-linear function of pieces loaded, she would have derived an equation 7 that has more terms than just $[f*b + p]*v$ and $-(f*c)*v^2$ to account for the effect of changes in volume on load time. These added terms would have invalidated Ms. Crowder's conclusion that the $\beta_k * V_k$ and $\beta_{kk} * V_k^2$ terms in equation (5) are the only ones needed to derive the total elasticity of load time at the multiple-delivery stop with respect to volume.

2. The Operational Basis of the Correct Multiple-Delivery Load-Time Analysis

The erroneous assumptions required to derive an equation for load time at an MDR or BAM stop, such as Ms. Crowder's equation 7, that assigns the entire load time effect of a volume increase to the volume terms alone, also conflict with the operational reality of the volume-growth scenario. An accurate operational perspective can be gained through a reexamination of equation 5. In keeping with Ms. Crowder's appropriate decision to remove irrelevant complicating factors from equation 5, this reexamination will, as did the Crowder analysis, ignore the terms involving the receptacle and container dummy variables, and it will assume that there is only one volume variable, V. The resulting simplification of equation 5 becomes:

(5a) $LT = \alpha + \beta_1 * V + \beta_{11} * V^2 + \theta_1 * D + \theta_{11} * D^2 + \phi * V * D$

A straightforward interpretation of the partial derivatives of this equation with respect to V and D reveals the operational reality. The first partial derivative produces the terms, $\beta_1 + 2 * \beta_{11} * V + \phi * D$, which clearly only account for the increase in load time at a multiple-delivery stop that occurs in response to a volume increase when actual deliveries are explicitly held constant. In this way, the partial derivative of LT with respect to V conforms exactly with the operational truth. The volume terms pick up only the first load-time effect of a volume increase – the increase in load time that results when more volume is loaded at deliveries that had already received mail prior to the volume increase. Contrary to what Ms. Crowder argues, but can only justify through application of erroneous assumptions, these volume terms do not pick up the second load-time effect of a volume increase - the increase in load time that results solely from the accessing of new deliveries.

The partial derivative of LT with respect to D - which equals $\theta_1 + 2 * \theta_{11} * D \ + \phi * V$ - is clearly required to account for this second effect. This derivative quantifies, specifically, the increase in load time that results just from the increase in actual deliveries caused by a volume increase. The volume terms defined in the partial derivative of LT with respect to V are not sufficient to capture this secondary deliveries effect.

Indeed, the only way the MDR and BAM equations could be specified to ensure that the volume terms alone account for both of the two load time effects is quite obvious. The delivery variable would have to be explicitly deleted from the right-hand side of equation 5a before the regression estimation would be conducted. Simply put, the equation would have to first be specified as:

(5b) $LT = \alpha + \beta_1 * V + \beta_{11} * V^2$

Only the estimation of this specification would produce estimates of volume coefficients that, by necessity, would account for all the effects of volume growth on load time at the multiple-delivery stop. This would be the case simply because no other variable would appear on the right-hand side to account for the deliveries effect.

Of course, neither the Commission nor I have ever recommended equation 5b as a legitimate specification for deriving an MDR or BAM regression. This rejection of the equation 5b form clearly recognizes that the elimination of the deliveries terms would greatly worsen the regression fit. The R-square would fall substantially. So would the precision of the predicted values for both load time at the average stop and the marginal load-times, all of which are needed to derive the volume elasticities. The accuracy of the elasticities themselves would obviously decline as well.

The current specification of the Commission's regression equations, which does include the delivery variables explicitly to pick up the deliveries effect on load time, is, in contrast, clearly in sync with operational fact. Consider two simple scenarios at a multiple-delivery stop. In scenario 1, volume grows by one piece that goes to a delivery that had received mail prior to that increase. Load time grows only as a result of more volume being loaded into a receptacle. In scenario 2, volume grows again by just one piece, but this piece is inserted into a new previously uncovered receptacle. Clearly load time will grow by even more than in the first scenario, because, in addition to the loading of one more piece into a receptacle, an additional movement is required by the carrier to reach a new receptacle. Moreover, only the equation that directly accounts for this second load-time effect through the explicit inclusion of delivery variables can accurately account for the entire change in carrier activity caused by the change in volume.

Part 1 – Section 5. Conclusions

The proposal that I have rejected to eliminate the deliveries effect from the calculation of volume-variable MDR and BAM load-time cost is one part of witness Crowder's new methodology for estimating system-wide volume-variable load-time cost. The major foundation of this proposal is Ms. Crowder's equation for estimating system-wide accrued cost. This equation defines total accrued cost as the product of cost at the stop that receives the average volumes for each volume type and that has the average possible deliveries times the total system-wide actual stops. Ms. Crowder uses this equation to derive total SDR, MDR, and BAM accrued costs that are far lower than the STS-based accrued costs.

My rebuttal testimony has shown that this equation violates a fundamental law of mathematics, and is therefore incorrect. Also incorrect is the measurement of system-wide volume-variable load-time cost that Ms. Crowder derives through differentiation of this equation. This error invalidates Ms. Crowder's proof that volume-variable load time includes a coverage-related component equal to the so-called residual, which is accrued load time minus the product of the elasticity of load time with respect to volume at a stop and this accrued time.

I have also emphasized that my analysis of Ms. Crowder's method for deriving system-wide accrued costs and volume-variable costs has assumed, for the sake of argument, that the entire model-based approach is valid to begin with, and should, as proposed by Ms. Crowder, replace the STS-based approach. I offer no judgement on Ms. Crowder's argument that the objectives and implementation of the field study that produced the load-time data establish the load-time regressions more appropriate than the STS proportions for measuring accrued costs. However, I do highlight problems created by Ms. Crowder's specific method of substituting her estimated LTV-based costs for the STS-based costs. These problems are Ms. Crowder's failure to provide a consistent, operationally-sensible definition of the excess of the STS-based costs over the LTV-based costs, and her failure to address the implications of these proposals for the measurement of accrued costs in non-load-time components of city carrier street time activity. Clearly, further study is needed not only to fully address these problems, but to further evaluate Ms. Crowder's views that the LTV field study produced data more suitable to measuring accrued load-time cost than did the STS field study.

In contrast, the analysis presented in my direct testimony does not argue for or against a particular method for estimating accrued load-time cost. It takes the STS-based estimates as given. It avoids the problems Ms. Crowder creates in substituting an LTV-model-based set of estimates for the STS-based estimates, and in implementing a volume-variability analysis based on those model-based estimates.

My direct testimony's analysis is instead analytically straightforward. It calculates volume-variable load-time cost in accordance with the definition, well-established on the record, that such cost equals accrued cost times the elasticity of load-time with respect to volume loaded. It recognizes that there is more to measuring volume-variable cost for time at stops than accounting for the effect of an increase in volume at existing stops. It takes seriously the judgement from the Docket No. R90-1 Commission decision that there is a fixed component, called fixed-time at a stop, that is found at every actual stop, and that is fixed in length with respect to the amount and mix of volume at the given stop.

In accordance with this judgment, my direct testimony produces the only available measurement of a truly fixed time component. It separately and explicitly accounts for the increase in fixed time at stops that results solely from the increase in actual stops caused by a volume increase. It does so by first treating the entire pool of cost for fixed-time at stop as essential an access cost, which by definition, is also invariant with respect to volume delivered at a given stop, It then multiplies this pool by the elasticity of actual stops with respect to volume. This approach ensures that the measured increase in fixed-time at stop with respect to an increase in number of actual stops is also strictly a fixed time interval, in the sense that it is wholly independent of the amount or mix of mail going to the new stop.

Finally, consistent with this recognition than an increase in volume increases time not only at existing actual stops, but also through an increase in numbers of actual stops, my testimony recognizes that there are likewise two distinct effects of volume growth at one multiple-delivery stop. The first effect is the increase in load time resulting from the increase in pieces going into receptacles. The second distinct effect is the increase in numbers of deliveries accessed. Just as the distinct stops effect must be accounted for, so must this distinct deliveries effect.

Ms. Crowder's argument that the volume terms in the MDR and BAM regressions alone somehow pick up the delivery effect as well as the volume effect is in direct violation of the correct interpretation of the right-hand side of the MDR and BAM regressions. This interpretation states, in accordance with the law of partial derivatives, that the volume terms measure only the increase in load time caused by volume growth when deliveries are explicitly held constant. The deliveries terms are needed to measure the second effect - the increase in load time caused by the increase in deliveries that occurs when volume increases.

Witness Crowder deserves credit for having identified significant issues pertaining to the traditional calculation of accrued load-time costs. Her proposed alternative methods, however, are problematic from a technical and conceptual standpoint, and require substantially more analysis and refinement before a corrected version can be reliably implemented. It is also important to emphasize that witness Crowder and I are in agreement that the previous methods used to analyze load time have produced flawed estimates of volume-variable load-time costs. However, I believe that the volume-variable cost estimation methods presented in my direct testimony, and affirmed in my rebuttal, provide the theoretically valid, internally consistent procedures for eliminating these flaws and producing correct results.

Part 2 – Section 1. Overview of Witness Glick's Testimony and My Rebuttal

This second part of my rebuttal testimony evaluates issues raised by Magazine Publishers of America witness Sander Glick (MPA-T-3). In both the original and revised versions of his testimony, witness Glick argues that the segment 10 workpapers filed with witness Joe Alexandrovich's direct testimony (USPS-T-5, WP B, W/S 10.1.1 through 10.2.2) reveal discrepancies between two cost-per-piece measures. The first is the volume-variable cost per piece defined for each variable evaluation category (also known as evaluation item). This equals volume-variable costs allocated to the given evaluation category divided by the total FY 1996 Rural Carrier Cost System (RCCS) pieces reported for that category. Since volume-variable costs are distributed to mail subclasses, this cost per piece is also known as the distributed cost per piece. The second measure is the cost per piece implied by the category's evaluation allowance factor. For example, for the letters delivered category, this evaluation factor is 0.0791 minutes per piece. This implies a cost per piece, at the FY 1996 rural carrier salary of $21.07 per hour, of about $.028.

Mr. Glick finds that the ratio of the volume-variable cost per piece to this evaluation factor cost per piece is lower in the letters delivered category than it is in the flats delivered category. Mr. Glick's revised testimony proposes a change to the Postal Service's "flats-adjustment" procedure in order to increase the ratio in the letters delivered category to the point that it will equal the ratio for flats delivered.

The Postal Service's segment 10 workpapers allocate total FY 1996 volume-variable rural carrier costs to the different variable evaluation categories based on the results of the FY 1996 Rural Mail Count (RMC)[18]. This RMC was a four-week count of all mail on the majority of rural routes. The counts were used to derive the amounts and percentages of total carrier time on the average route that were spent performing the different activities defined by the rural evaluation categories. The percentages were used to divide the total volume-variable rural carrier costs among the variable evaluation categories. These costs were then distributed to mail subclasses.

As noted above, the volume-variable, or distributed, cost per piece for each variable evaluation category equals the cost allocated by the Postal Service to that category divided by the yearly volume obtained from the FY 1996 Rural Carrier Cost System (RCCS).[19] Mr. Glick expected to find that the ratio of this volume-variable cost per CCS piece to the cost per piece implied by the evaluation factor – what I call the evaluation factor cost per piece - would be nearly the same in the letters delivered category as in the flats delivered category. He recognized that, for this to occur, the percentages of total letters plus flats RMC volume allocated to each of these two evaluation categories would have to be the same as the corresponding percentages of the total letters plus flats RCCS volume allocated to the two categories.

The Postal Service did attempt to accomplish this equality. It first calculated the total RMC letters plus flats volume recorded during the FY 1996 mail count, which was conducted during pay periods 20 and 21. It then calculated the percentage of this total that was letters, and the percentage that was flats. Next, it calculated total RCCS

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[18] The Rural Mail Count data collection and the analysis of that data are documented in Postal Bulletin 21952 (8-14-97), pages 13-19, and in Docket No. R97-1, USPS LR-H-192.
[19] This system is documented in Docket No. R97-1, USPS LR-H-28 and USPS LR-H-31.

letters plus flats volume for the same pay periods, 20 and 21.[20] It applied the RMC percentages to this RCCS total to determine what the RCCS letters volume and the RCCS flats volume would have equaled during pay periods 20 and 21 had the RMC percentages applied. The result was that, during those pay periods, approximately 1 out of every 6.82 pieces identified by the RCCS as a letter would have been identified as a flat by the RMC counts. This occurred because the RMC flats percentage was so much higher than the RCCS flats percentage.[21]

To correct this discrepancy, the Postal Service reallocated 1 out of every 6.82 pieces recorded in the RCCS for all of FY 1996 from the letters delivered category to the flats delivered category. After this reallocation, known as the flats-adjustment, the percentages of total RCCS letters plus flats volume in each of these two evaluation categories became nearly the same as the corresponding percentages of RMC volume.[22]

Mr. Glick is correct in his assessment that this adjustment should have caused the ratios of volume-variable cost per piece over the evaluation factor cost per piece in the letters delivered category to become nearly equal to the corresponding ratio in the flats delivered category. The problem he uncovered was that the ratios calculated based on the data reported in the segment 10 workpapers accompanying Mr.

[20] Note that letters includes letter-shaped pieces plus cards.

[21] This calculation is documented in Docket No. R97-1, USPS LR-H-193, and in USPS-T-5, WP B, W/S 10.0.3.

[22] This adjustment is performed in Docket No. R97-1, USPS LR-H-201.

Alexandrovich's Docket No. R97-1 testimony (USPS-T-5) still remained quite different, even though the flats adjustment had been implemented.[23]

The problem Mr. Glick has uncovered is not, however, due to any fault in the flats adjustment procedure. Instead, it is caused entirely by the mistaken inclusion of DPS and sector segment volumes in the final allocation of the RCCS letters made to the letters delivered category. The mistake was that, even after the flats adjustment had correctly transferred 1 out of every 6.82 RCCS letter pieces from that category to the flats delivered category, the remaining letters delivered pieces still erroneously included DPS and sector segment pieces. This caused errors in the cost distribution procedure applied to the letters delivered category. In this procedure, the Postal Service first calculates the percentage distribution of RCCS pieces in the letters delivered category across the mail subclasses. This percentage allocation is known as the distribution key. Next, this key is applied to the total volume-variable cost allocated to the letters delivered category in order to distribute that cost across the subclasses.

One error caused by the incorrect inclusion of DPS and sector segment pieces in the total RCCS pieces placed into the letters delivered category was that it distorted the distribution key, causing the percentages of cost allocated to subclasses to be too high for some, and too low for others. Thus, the wrong cost amounts were distributed

[23] The volume-variable costs and allowance factors used to derive these ratios are documented in USPS-T-5, WP B, W/S 10.1.1 through 10.2.2. Docket No. R97-1, USPS LR-H-201 shows the allocation of RCCS pieces across the evaluation categories, and the subclass distribution of pieces within each category needed to create the distribution keys .

to the different subclasses. A second error was that because the inclusion of DPS and sector segment mail caused the total number of letters in the letters delivered category to be too high, the total volume-variable (i.e. distributed) cost per piece calculated by Mr. Glick was too low. This explains why, as Mr. Glick discovered, the ratio of this distributed cost per piece to the evaluation factor cost per piece in the letters delivered category fell below the corresponding ratio for the flats delivered category.

Correcting the mistake in the development of the letters delivered distribution key is the only necessary step to correcting this remaining discrepancy between the two ratios. The flats adjustment procedure itself does not need to be changed. The remainder of my testimony describes how this correction is implemented, and compares the correction to a different approach proposed by Mr. Glick. It then shows the effect of this correction on Periodicals cost.

Part 2 - Section 2. Adjusting the Letters Distribution Key to Remove DPS/Sector Segment Volumes.

DPS and sector segment volumes are estimated to make up 23% of non-presorted First Class letters[24] and 34.12% of presorted First Class letters. It is also estimated that DPS and sector segment account for 25.36% of Standard A regular presort letters, and 30.91% of Standard A nonprofit regular presort letters[25]. In Exhibit USPS-RT-1A, W/S 10.0.3, page 2, I use these percentages to remove DPS and sector segment volumes from the letters delivered category.[26] The new distribution of RCCS

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[24] Docket No. MC95-1, USPS-T-7 Exhibit E, page 4 of 6.

[25] Docket No. R97-1, USPS LR-H-129, pages I-11 and I-12.

[26] This is a revision to the version of W/S 10.0.3 filed with Joe Alexandrovich's direct testimony, USPS-T-5. Note that Exhibit USPS-RT-1A includes a complete set of the segment 10 calculations presented from worksheet 10.0.3 through worksheet 10.2.2, including both the sheets that I have revised, and the ones that are the same as the sheets submitted with the Alexandrovich testimony.

volumes is shown in the column labeled "BASE YEAR 1996 Post-Adjusted Letters Minus DPS/Sector Segment."

I then adjust the letters delivered distribution key to account for these deletions. In addition, the deleted volumes go into a separate evaluation category defined for the combination of DPS and sector segment mail. The distribution key for the DPS/sector segment category is then adjusted to account for these additional pieces. The flats delivered distribution key remains unchanged.

Exhibit USPS-RT-1A, W/S 10.1.2 and 10.2.2 show these revised distribution keys. They also show the resulting revised distributions of costs in the letters delivered and DPS/sector segment categories. Observe that with these new distributions, the cost distributed per letter delivered is now 13.8% higher than the letters delivered evaluation factor cost per piece, as illustrated in table 1 below.

One difference between my results and Mr. Glick's results is in the method used to adjust the letters distribution key. In his response to USPS/MPA-T3-3, Mr. Glick uses the percentage of DPS and sector mail reported in the RMC to remove DPS and sector segment pieces from the letters delivered evaluation category. But this percentage figure does not provide any information regarding the relative proportions of DPS and sector segment mail by individual mail subclass. My method does estimate the percentages of DPS and sector segment mail in each mail subclass. These percentages are the same as those used to formulate the initial DPS/Sector Segment distribution key.[27] Thus, my method not only correctly estimates the total number of pieces initially allocated to the letters delivered category that are really DPS and sector segment pieces, but it correctly determines how much volume should be removed from each individual subclass within the letters delivered category and moved into the DPS/sector segment category. It further correctly determines the distribution of the added pieces across the subclasses of the DPS/sector segment category.

Table 1. Cost Distributed per Piece and Evaluation Allowance Cost per Piece After Removing DPS and Sector Segment Volumes from Letters Delivered

Evaluation Item	Cost ($000)	Volume* (000)	Cost Distributed Per Piece	Evaluation Allowance Cost Per Piece	Difference
	(1)	(2)	(3) = (1)/(2)	(4)	(5)=((3)-(4))/(4)
Letters Delivered	450,698	14,263,536	3.16 cents	2.78 cents	13.8%
Flats Delivered	753,785	13,146,349	5.73 cents	4.97 cents	15.3%

* DPS and Sector Segment volumes were removed after the flats adjustment was applied.

Part 2 - Section 3. The Flats Adjustment Proposed by Witness Glick.

As indicated earlier, my correction to the distribution error does not require any change to the flats adjustment formula presented by witness Alexandrovich's workpapers. Mr. Glick, however, does modify this formula. As in the Alexandrovich procedure, he calculates the letters and flats percentages of the total letters plus flats RMC volume in pay periods 20-21. However, unlike Mr. Alexandrovich and myself, he does not then apply these percentages to the RCCS letters plus flats volume applicable just to those pay periods. Instead, he applies those percentages to the annual RCCS sum of letters and flats. This results in an adjustment different from the approximately

[27] USPS-T-5, WP B, W/S 10.1.2 and 10.2.2.

1 out of 6.82 letter pieces calculated in Mr. Alexandrovich's worksheet 10.0.3. The Glick adjustment moves more letters from the letters delivered category to the flats delivered category than does the Alexandrovich adjustment.[28]

Docket No. R90-1, USPS-T-13 at F-30 first proposed the mail shape adjustment, and it actually applies the same approach, just described, as Mr. Glick proposes. However, in Docket No. R94-1, USPS-T-4, WP B, W/S 10.0.3, the RMC percentages were applied only to the RCCS volumes recorded for the same 4-week period during which the RMC mail count was conducted. The fact that this was the method most recently employed, and was accepted by the Commission, explains why Mr. Alexandrovich employed it to produce the flats adjustment applied to the FY 1996 data. In the absence of any compelling argument to go back to the R90-1 procedure, I also decided to make no changes to the Alexandrovich flats adjustment.

Table 2 shows the consequence of modifying the mail shape adjustment as proposed by Mr. Glick. Since Mr. Glick's modification transfers more pieces from the letters delivered category to the flats delivered category than does the Alexandrovich adjustment that I endorse, it produces a distributed cost per piece for letters delivered, as shown in table 2, that is higher than the corresponding cost per piece produced by the Alexandrovich adjustment. (The Alexandrovich result is shown in table 1). Mr. Glick's method also produces a lower distributed cost per piece for flats delivered than does the Alexandrovich method.

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[28] Mr. Glick's alternative adjustment is presented in his response to USPS/MPA-T3-3, and in MPA-T-3, Exhibit MPA 3-1.

As a result, Mr. Glick's proposed change in the adjustment factor actually increases the discrepancy between the ratio of distributed cost to evaluation allowance cost in the letters delivered category and the corresponding ratio in the flats delivered category. To see why, observe that the ratio of Mr. Glick's estimated distributed cost per piece for letters to the evaluation cost per piece for letters deviates from the his corresponding ratio for flats delivered by 4.3 percentage points (16.2% minus 11.9%). In contrast, the ratio of my proposed distributed cost per piece for letters to the evaluation cost differs from my corresponding ratio for flats by only 1.5 percentage points (15.3% minus 13.8%).

Table 2. Cost Distributed per Piece and Evaluation Allowance Cost per Piece with Glick's Modified Flats Adjustment

Evaluation Item	Cost ($000)	Volume* (000)	Cost Distributed Per Piece	Evaluation Allowance Cost Per Piece	Difference
	(1)	(2)	(3) = (1)/(2)	(4)	(5)=((3)-(4))/(4)
Letters Delivered	450,698	13,967,447	3.23 cents	2.78 cents	16.2%
Flats Delivered	753,785	13,542,194	5.57 cents	4.97 cents	11.9%

* DPS and Sector Segment volumes were removed after Mr. Glick's modified flats adjustment was applied.

Part 2 – Section 4. Conclusions and Implications for Periodicals Costs

Thus, although witness Glick correctly identifies inconsistencies between volume variable costs per piece and evaluation factor costs per piece for letters and flats, his solution is incorrect. In contrast, my analysis correctly reduces these inconsistencies to a very small level through the removal of DPS and sector segment volumes from the letters delivered evaluation category. I do this by using estimates of the percentages of DPS and sector segment letters found in each mail subclass to determine how much volume to remove from each subclass in that category, and how much to add to subclasses in the DPS/sector segment category. The mail shape adjustment proposed by witness Alexandrovich's direct testimony in this docket, and affirmed in this rebuttal testimony, follows the methodology employed in Docket No. R94-1, and does not need to be modified.

Table 3 shows the increase in Periodicals cost for the base year between the methodology employed by witness Alexandrovich and my revised methodology. The total increase in Periodicals cost is $2.0 million for the base year. Specifically, Exhibit USPS-RT-1B estimates the increase in Periodicals in the test year to be $2.1 million, and, taking into account piggybacks, $2.5 million. Table 3 disaggregates this cost increase into subclasses.

Table 3. Increase in Periodicals Cost by Subclass using Revised USPS Methodology

Subclass	**Cost Increase Base Year ($000)**	**Cost Increase Test Year with Piggybacks ($000)**
In-County	$176	$224
Regular	$1,402	$1,779
Nonprofit	$442	$537
Classroom	$12	$12

Exhibit USPS-RT-1A

Revised Cost Segment 10 Workpapers

Worksheet Designation	Worksheet Title	Page(s)
W/S 10.0.3	Mail Shape Adjustment Summary	3
W/S 10.1.1	Development of Evaluated Routes Volume Variable Cost	1
W/S 10.1.2	Distribution of Evaluated Routes Volume Variable Cost	4
W/S 10.2.1	Development of Other Routes Volume Variable Cost	1
W/S 10.2.2	Distribution of Other Routes Volume Variable Cost	4

W/S 10.0.3

FY 1996 MAIL SHAPE ADJUSTMENT SUMMARY

1996 National Mail Count:

LETTERS	1,063,825,516	58.01%	Includes DPS&Sector Segment
FLATS	770,015,490	41.99%	
	1,833,841,006	100.00%	

FY 1996 2858R Survey Data:

LETTERS AND CARDS	1,546,130	67.35%
FLATS	749,690	32.65%
	2,295,820	

If the 1996 2858R data had the same percentages of letters and flats as the 1996 National Mail Count, there would have to be the following distribution:

LETTERS	1,331,823	58.01%
FLATS	963,997	41.99%
	2,295,820	100.00%

This would require an adjustment of 214,307 letters and cards pieces

RESULT: 1 out of ever 6.81994 letters would have to be reclassified as a flat.

Note: Such reclassifying can only occur if there are already both letters and flats in the category.

OBS		Letters		
5	Postalcards	4170		
6	NS Postcards	50189		
7	PS Postcards	30211		
13	Mailgrams	0	84570	
52	Total 2858	1546130		
	Tot. minus OBS(6,7,11,15)		1461560	0.14662385
				6.8199405

	BASE YEAR 1996 Pre-adjusted Letters	Post-Adjusted Letters BASE YEAR 1996 Adjusted Ltrs Pre Ltrs times 0.85337	Difference	BASE YEAR 1996 Post-Adjusted Letters Minus DPS/ Sector Segment	BASE YEAR 1996 Post-Adjusted DPS/Sector Segment	BASE YEAR 1996 Pre-adjusted Flats	BASE YEAR 1996 Post-adjusted Flats
LTRS & PARCELS	6,348,432	5,417,569	930,863	4,171,528	1,246,041	748,470	1,679,333
PRE. LTRS & PARCELS	7,168,204	6,117,139	1,051,065	4,029,873	2,087,266	334,061	1,385,126
CAR PRESORT LETTERS	349,030	297,852	51,178	196,220	101,632	20,787	71,965
ZIP+4 FIRST	0	0	0			0	0
TOTAL PRESORTED	7,517,234	6,414,991	1,102,243	4,226,093	2,188,897	354,848	1,457,091
GOV'T POST CARDS	42,417	42,417	0	32,237	10,180	0	0
PRIVATE CARDS	615,117	615,117	0	467,489	147,628	0	0
PRESORT PRIV CARDS	353,285	353,285	0	232,739	120,546	0	0
CARR PRESORT CARDS	40,252	40,252	0	26,517	13,735	0	0
ZIP+4 PRIV CARDS	0	0	0			0	0
TOTAL PS PRV CARDS	393,537	393,537	0	259,256	134,281	0	0
TOTAL FIRST	14,916,737	12,883,630	2,033,107	9,156,603	3,727,028	1,103,318	3,136,425
PRIORITY MAIL	2,483	2,119	364	2,119		35,961	36,325
EXPRESS MAIL	0	0	0	-		0	0
MAILGRAM	325	325	0	325		0	0
SECOND-CLASS MAIL:	0	0	0	-		0	0
WITHIN COUNTY		0	0	-			0
OUTSIDE COUNTY	0	0	0	-		0	0
OTHER REGULAR RATE		0	0	-			0
2ND NONPROFIT		0	0	-			0
CLASSROOM		0	0	-			0
TOT. PUBLISHERS	297,675	254,027	43,648	254,027		2,543,919	2,587,567
TOTAL SECOND	297,675	254,027	43,648	254,027		2,543,919	2,587,567
THIRD-CLASS MAIL							
SINGLE PIECE RATE	3,217	2,745	472	2,745		4,613	5,085
BULK RATE - REGULAR				-			0
- CARR RT	1,825,310	1,557,667	267,643	1,557,667		2,798,495	3,066,138
- 3/5-DIG PRSRT	3,564,987	3,042,257	522,730	2,270,741	771,516	2,905,243	3,427,973
TOTAL REGULAR	5,390,297	4,599,924	790,373	3,828,408	771,516	5,703,738	6,494,111
BULK RATE - NP							0
- CARR RT	198,821	169,668	29,153	169,668		115,593	144,746
- 3/5-DIG PRSRT	1,301,467	1,110,634	190,833	767,337	343,297	468,378	659,211
TOTAL NONPROFIT	1,500,288	1,280,303	219,985	937,005	343,297	583,971	803,956
TOTAL THIRD	6,893,802	5,882,972	1,010,830	4,768,158	1,114,813	6,292,322	7,303,152
FOURTH-CLASS MAIL:	0	0	0	-		0	
TOTAL ZONE RATE	3,214	2,743	471	2,743		10,681	11,152
BOUND PRINTED MATTER	1,822	1,555	267	1,555		27,897	28,164
SPECIAL FOURTH	303	259	44	259		8,376	8,420
LIBRARY RATE	2,726	2,326	400	2,326		2,851	3,251
TOTAL FOURTH	8,065	6,882	1,183	6,882		49,805	50,988

W/S 10.0.3 Page 3

PENALTY-USPS	29,783	25,416	4,367	25,416		5,585	9,952
FREE BLIND/HNDC SERV	4,860	4,147	713	4,147		4,246	4,959
INTERNATIONAL MAIL	53,737	45,858	7,879	45,858		9,103	16,982
BUNDLED MAIL	0	0	0			0	0
TOTAL ALL MAIL	22,207,467	19,105,377	3,102,090	14,263,536	4,841,841	10,044,259	13,146,349
SPECIAL & OTHER SERVICES							
REGISTRY - FEES AFFIXED	0	0	0			0	0
INSURANCE	0	0	0			0	0
COD	0	0	0			0	0
CERTIFIED	0	0	0			0	0
SPECIAL DELIVERY	0	0	0			0	0
MONEY ORDER	0	0	0			0	0
REG & COD	0	0	0			0	0
RETURN RECEIPTS	0	0	0			0	0
TOTAL SPEC. SERVICES	0	0	0			0	0
TOTAL MAIL&SPEC SERV	22,207,467	19,105,377	3,102,090	14,263,536	4,841,841	10,044,259	13,146,349

BASE YEAR 1996
COST SEGMENT 10 – RURAL CARRIERS
WORKSHEET 10.1.1 – DEVELOPMENT OF EVALUATED ROUTES VOLUME VARIABLE COSTS
PAGE 1 OF 1

				EVALUATION ALLOWANCE				DELIVERED AND COLLECTED MAIL COSTS				
LINE NO	ROUTE EVALUATION ITEM	AVERAGE VALUE	EVALUATION FACTOR	UNADJUSTED	VEHICLE LOAD ADJUSTMENT	MARKUPS ADJUSTMENT	ADJUSTED	UNADJUSTED	BNDLD LTRS AND FLATS ADJUSTMENT	ADJUSTED	ADJUSTED (000,000)	LINE NO.
	(1)	(2)	(3)	(4)=	(5)	(6)	(7)=	(8)	(9)	(10)=	(11)=	
1	COLUMN SOURCE>>	[a]	[b]	(2)x(3)	[c]	[d]	(4)..(6)	[e]	[f]	(8)+(9)	(10)/1000	1
2	VOLUME VARIABLE											2
3	LETTERS DELIVERED	571,336 <	0.07910 <	45,192.68	836.34	833.41	46,862.43	409,347	102	409,449	409	3
4	FLATS DELIVERED	535,884 <	0.14160 <	75,881.17	1,404.30	1,399.34	78,684.81	687,319	171	687,490	688	4
5	PARCELS DELIVERED	18,967 <	0.33300 <	6,316.01	116.89	116.48	6,549.38	57,209	(273)	56,936	57	5
6	BOXHOLDERS DELIVERED	143,042 <	0.04000 <	5,721.68	105.89	105.51	5,933.08	51,826		51,826	52	6
7	COD DELIVERED	70 <	5.50000 <	385.00	7.13	7.10	399.23	3,487		3,487	3	7
8	ACCOUNTABLES DELIVERED	1,565 <	4.00000 <	6,260.00	115.85	115.44	6,491.29	56,702		56,702	57	8
8a	DPS	103,242 <	0.03330 <	3,437.96	63.62	63.40	3,564.98	31,140		31,140	31	8a
8b	SECTOR SEGMENT	62,453 <	0.04440 <	2,772.91	51.32	51.14	2,875.37	25,117		25,117	25	8b
9	POSTAGE DUE	299 <	0.20000 <	59.80	1.11	1.10	62.01	542		542	1	9
10	RETURN RECEIPTS	10 <	0.25000 <	2.50	0.05	0.05	2.60	23		23	0	10
11	LETTERS/FLATS COLLECTED	110,572 <	0.04000 <	4,422.88			4,422.88	38,634		38,634	39	11
12	PARCELS ACCEPTED	298 <	4.00000 <	1,192.00			1,192.00	10,412		10,412	10	12
13	ACCOUNTABLES ACCEPTED	53 <	2.00000 <	106.00			106.00	926		926	1	13
14	MONEY ORDERS	38 <	3.50000 <	133.00			133.00	1,162		1,162	1	14
15	VEHICLE LOADING	5,405 <	0.50000 <	2,702.50	(2,702.50)							15
16	MARKUPS	11,538 <	0.23340 <	2,692.97		(2,692.97)						16
17	TOTAL			157,279.06	0.00	0.00	157,279.06	1,373,846	0	1,373,846	1,374	17
18	FIXED											18
19	MILES	5,268 <	12.00000 <	63,216.00								19
20	REGULAR BOXES	23,179 <	2.00000 <	46,358.00								20
21	CENTRALIZED BOXES	6,027 <	1.00000 <	6,027.00								21
22	L BOXES	20,614 <	1.64000 <	33,806.96								22
23	NDCBU COMPARTMENTS	246 <	1.00000 <	246.00								23
24	PARCEL POST LOCKERS	290 <	2.00000 <	580.00								24
25	POUCHES	50 <	1.00000 <	50.00								25
26	WITHDRAWLS	2,396 <	1.00000 <	2,396.00								26
27	CHANGE OF ADDRESS	471 <	2.00000 <	942.00								27
28	FORM 3579	385 <	2.00000 <	770.00								28
29	OFFICE WORK	3,000 <	1.00000 <	3,000.00								29
30	PURCHASE STAMPS	1,905 <	1.00000 <	1,905.00								30
31	OTHER SUITABLE ALLOWANCE	2,132 <	1.00000 <	2,132.00								31
32	DISMOUNT	2,679 <	0.10000 <	267.90								32
33	DISMOUNT DISTANCE	246,218 <	0.00284 <	699.26								33
34	TOTAL											34
35	VOLUME VARIABLE [e]							1,373,846		1,373,846	1,374	35
36	OTHER							1,427,578		1,427,578	1,427	36
37	TOTAL	1,879,632		319,675.18				2,801,424		2,801,424	2,801	37

[a] - LR H-192, (LINES 15, 25, 26, 29, 30, 31 ARE FOR ALLOWANCE FOR AVERAGE ROUTE).
[b] - LR H-33, SEC VI (LINES 15, 25, 26, 29, 30, 31 = 1.0000 TO CONFORM WITH NOTE a, ABOVE).
[c] - C4L15 APPORTIONED ON C4L3..L10.
[d] - C4L16 APPORTIONED ON C4L3..L10.

[e] - L17 and L35, W/S 10.0.1 C4L6; L1..14, L15 APPORTIONED ON C7;
L37, W/S 10.0.1 C4L4; L36, L37-L35.
[f] - C9L5 (C8L5 x BUNDLED LETTERS AND FLATS FACTOR) APPORTIONED ON
COMPOSITION OF [C8L3 + C8L4]
FACTOR = 0.004780 (SEE W/S 10.1.2, FN c).

BASE YEAR 1996
COST SEGMENT 10 -- RURAL CARRIERS
WORKSHEET 10.1.2 -- DISTRIBUTION OF EVALUATED ROUTES VOLUME VARIABLE COSTS
PAGE 1 OF 4

		DISTRIBUTION KEY						COST DISTRIBUTION							
LINE NO.	CLASS, SUBCLASS, OR SPECIAL SERVICE	LETTERS DEL	FLATS DEL	PARCELS DEL	BOX/HLDRS DEL	ACCTBLS DEL	DPS/SEC SEG	LETTERS DEL	FLATS DEL	PARCELS DEL	BOX/HLDRS DEL	ACCTBLS DEL	DPS/SEC SEG	TOTAL	LINE NO.
	(1) COLUMN SOURCE >>	(2) [a]	(3) [a]	(4) [a]	(5) [a]	(6) [a]	(7)	(8) [b]	(9) [b]	(10) [b]	(11) [b]	(12) [b]	(13)	(14)= (8)..(13)	
	FIRST-CLASS MAIL:														
1	LETTERS & PARCELS	29,244	12,775	13,033	587	0	25,735 [j]	119,740	87,828	7,455	303	0	14,477	229,803	1
2	PRESORT LTR & PCL	29,629	11,083	290	361	0	49,208 [k]	121,316	78,195	166	187	0	25,433	223,297	2
3	POSTAL CARDS	226	0	0	0	0	210	925	0	0	0	0	118	1,043	3
4	PRIVATE POSTCARDS	3,278	0	0	219	0	3,049 [j]	13,422	0	0	113	0	1,716	15,250	4
5	PRESORT PRVT P CS	1,818	0	0	56	0	2,774 [k]	7,444	0	0	29	0	1,561	9,034	5
6	TOTAL FIRST	64,195	23,858	13,323	1,223	0	78,976	262,847	164,023	7,621	632	0	43,304	478,427	6
7	*PRIORITY MAIL*	15	276	15,214	3	0	0	81	1,897	8,704	2	0	0	10,684	7
8	EXPRESS MAIL	0	0	0	0	7,369	0	0	0	0	0	4,178	0	4,178	8
9	MAILGRAMS	2	0	0	0	0	0	8	0	0	0	0	0	8	9
	SECOND-CLASS MAIL:														
10	WITHIN COUNTY	1,781	19,683	1,986	2,437	0	0	7,292	135,319	1,136	1,263	0	0	145,010	10
	OUTSIDE COUNTY														
11	REG RATE PUB	*	*	*	*	*	*	*	*	*	*	*	*	*	11
12	NONPROFIT PUB	*	*	*	*	*	*	*	*	*	*	*	*	*	12
13	CLASSROOM PUB	*	*	*	*	*	*	*	*	*	*	*	*	*	13
14															14
15	TOTAL SECOND	1,781	19,683	1,986	2,437	0	0	7,292	135,319	1,136	1,263	0	0	145,010	15
	THIRD-CLASS MAIL:														
16	SINGLE PIECE RATE	19	39	498	0	0	0	78	268	285	0	0	0	631	16
	BULK RATE-REG														
17	CAR PRESORT	10,921	23,323	562	82,592	0	0	44,716	160,343	322	42,804	0	0	248,185	17
18	*OTHER*	15,920	26,075	33,086	9,233	0	15,934 [k]	65,184	179,263	18,928	4,785	0	8,964	277,124	18
19	TOTAL REGULAR(BR)	26,841	49,398	33,648	91,825	0	15,934	109,900	339,606	19,250	47,589	0	8,964	525,309	19
	BULK RATE-NONPROF														
20	CAR PRESORT	1,190	1,101	86	2,613	0	0	4,872	7,569	49	1,354	0	0	13,844	20
21	OTHER	5,380	5,014	1,341	1,285	0	7,090 [k]	22,028	34,471	767	666	0	3,989	61,921	21
22	TOTAL NONPROF(BR)	6,570	6,115	1,427	3,898	0	7,090	26,900	42,040	816	2,020	0	3,989	75,765	22
23	TOTAL THIRD	33,430	55,552	35,573	95,723	0	23,024	136,878	381,914	20,351	49,609	0	12,953	601,705	23
	FOURTH-CLASS MAIL:														
24	PARCELS ZONE RATE	19	85	12,842	7	0	0	78	584	7,347	4	0	0	8,013	24
25	BOUND PRNT MATTER	11	214	13,095	7	0	0	45	1,471	7,492	4	0	0	9,012	25
26	SPC 4TH-CL. RATE	2	64	5,899	0	0	0	6	440	3,375	0	0	0	3,823	26
27	LIBRARY RATE	18	25	688	3	0	0	66	172	394	2	0	0	634	27
28	TOTAL FOURTH	48	388	32,524	17	0	0	197	2,667	18,608	10	0	0	21,482	28

[a] - USPS FORM 2858R, AMOUNTS ARE PROPORTIONS
[b] - C8L44 THRU C12L44 FROM W/S 10.1.1 C10, AND DISTRIBUTED ON C2 THRU C6.
* - INCLUDED IN L10.

[c] - COLUMN 4 EXCLUDES BUNDLED LETTERS AND FLATS: 478 <
TOTAL BEFORE EXCLUSION: 100,000
BUNDLED LETTERS AND FLATS FACTOR: 0.004780
[j] - MC95-1 USPS-T-7 Exhibit E, p 4 of 6. DPS and sector segment are 23% of non-presorted letters and 24% of non-presorted postcards.
[k] - R97-1, LR H-129. DPS and sector segment are 34.1216% of first class presort volume
25.36% of third class bulk other volume, and 30.91% of third non-profit other volume.

BASE YEAR 1996
COST SEGMENT 10 – RURAL CARRIERS
WORKSHEET 10.1.2 – DISTRIBUTION OF EVALUATED ROUTES VOLUME VARIABLE COSTS
PAGE 2 OF 4

LINE NO	CLASS, SUBCLASS, OR SPECIAL SERVICE	DISTRIBUTION KEY						COST DISTRIBUTION							LINE NO.
		LETTERS DEL	FLATS DEL	PARCELS DEL	BOXHLDRS DEL	ACCTBLS DEL	OPS/SEC SEG	LETTERS DEL	FLATS DEL	PARCELS DEL	BOXHLDRS DEL	ACCTBLS DEL	OPS/SEC SEG	TOTAL	
	(1) COLUMN SOURCE >>	(2) [a]	(3) [a]	(4) [a]	(5) [a]	(6) [a]	(7) [a]	(8) [b]	(9) [b]	(10) [b]	(11) [b]	(12) [b]	(13)	(14)= (8)..(13)	
29	PENALTY-USPS	178	76	49	529	0	0	729	522	28	274	0	0	1,553	29
30	FREE MAIL - BLIND & HNDC & SERVICEMEN	29	38	455	0	0	0	119	261	260	0	0	0	640	30
31	INTERNATIONAL MAIL:	322	129	398	89	0	0	1,318	887	228	34	0	0	2,469	31
32	TOTAL ALL MAIL	100,000	100,000	99,522 [c]	100,000	7,369	100,000	409,449	687,490	56,936	51,826	4,178	56,257	1,266,136	32
	SPECIAL SERVICES:														
33	REGISTRY	0	0	0	0	3,656	0					2,073		2,073	33
34	CERTIFIED	0	0	0	0	84,343	0					47,824		47,824	34
35	INSURANCE	0	0	0	0	4,285	0					2,430		2,430	35
36	COD	0	0	0	0	0	0					0		0	36
37	*SPECIAL DELIVERY*	0	0	0	0	347	0					197		197	37
38	MONEY ORDERS	0	0	0	0	0	0					0		0	38
39	STAMPED ENVELOPES											0		0	39
40	SPECIAL HANDLING											0		0	40
41	POST OFFICE BOX											0		0	41
42	OTHER											0		0	42
43	TOTAL SPC SVCS	0	0	0	0	92,631	0	0	0	0	0	52,524	0	52,524	43
44	TOTAL VOLUME VARIABLE	100,000	100,000	99,522	100,000	100,000	100,000	409,449	687,490	56,936	51,826	56,702	56,257	1,318,660	44
								14,283,536	13,146,349						
45	OTHER							0.03160	0.05734						45
46	TOTAL COSTS														46
								0.88608							
	NOTES: SEE PAGE 1							0.87199							

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BASE YEAR 1996
COST SEGMENT 10 – RURAL CARRIERS
WORKSHEET 10 1.2 – DISTRIBUTION OF EVALUATED ROUTES VOLUME VARIABLE COSTS
PAGE 3 OF 4

LINE NO.	CLASS, SUBCLASS, OR SPECIAL SERVICE	DISTRIBUTION KEY: POSTAGE DUE	DISTRIBUTION KEY: LTRS/FLATS COLLECTED	DISTRIBUTION KEY: PARCELS ACCEPTED	DISTRIBUTION KEY: ACCTBLS ACCEPTED	COST DISTRIBUTION: POSTAGE DUE	COST DISTRIBUTION: LTRS/FLATS COLLECTED	COST DISTRIBUTION: PARCELS ACCEPTED	COST DISTRIBUTION: ACCTBLS ACCEPTED	COST DISTRIBUTION: SPECIAL SERVICES	PAGE 1	SUBTOTAL	DIST KEY	COMP 10.1 CRA 069	LINE NO.
	(1)	(15) [d]	(16) [d]	(17) [d]	(18) [d]	(19) [e]	(20) [e]	(21) [e]	(22) [e]	(23) [f]	(24)=(14)	(25)= (19)..(24)	(26) [g]	(27) [h]	
	GPW/S 10.1.2 PG 4														
	FIRST-CLASS MAIL:														
1	LETTERS & PARCELS	70,672	95,665	58,199	0	384	36,963	8,059	0		229,803	273,209		273,209	1
2	PRESORT LTR & PCL	1,785	0	0	0	10	0	0	0		223,297	223,307		223,307	2
3	POSTAL CARDS	174	310	345	0	1	120	36	0		1,043	1,200		1,200	3
4	PRIVATE POSTCARDS	987	3,270	1,179	0	5	1,263	123	0		15,250	16,641		16,641	4
5	PRESORT PRVT P CS	44	0	0	0	0	0	0	0		9,034	9,034		9,034	5
6	TOTAL FIRST	73,662	99,245	59,723	0	400	38,346	8,218	0		478,427	523,391		523,391	6
7	PRIORITY MAIL	2,801	206	10,052	0	15	80	1,047	0		10,664	11,806		11,806	7
8	EXPRESS MAIL	0	0	0	1,624	0	0	0	75		4,178	4,253		4,253	8
9	MAILGRAMS	435	0	0	0	2	0	0	0		8	10		10	9
	SECOND-CLASS MAIL:														
10	WITHIN COUNTY	1,466	0	0	0	8	0	0	0		145,010	145,018	877,829 <	12,671	10
	OUTSIDE COUNTY														
11	REG RATE PUB	*				*	*	*	*		*	*	6,984,301 <	100,023	11
12	NONPROFIT PUB	*				*	*	*	*		*	*	2,208,180 <	31,581	12
13	CLASSROOM PUB	*				*	*	*	*		*	*	58,885 <	843	13
14											0	0			14
15	TOTAL SECOND	1,466	0	0	0	8	0	0	0		145,010	145,018	10,129,194	145,018	15
	THIRD-CLASS MAIL:														
16	SINGLE PIECE RATE	914	262	3,139	0	5	101	327	0		631	1,064		1,064	16
	BULK RATE-REG														
17	CAR PRESORT	668	0	0	0	4	0	0	0		248,185	248,189		248,189	17
18	OTHER	4,237	0	0	0	23	0	0	0		277,124	277,147		277,147	18
19	TOTAL REGULAR(BR)	4,905	0	0	0	27	0	0	0		525,309	525,336		525,336	19
	BULK RATE-NONPROF														
20	CAR PRESORT	174	0	0	0	1	0	0	0		13,844	13,845		13,845	20
21	OTHER	914	0	0	0	5	0	0	0		61,921	61,926		61,926	21
22	TOTAL NONPROF(BR)	1,088	0	0	0	6	0	0	0		75,765	75,771		75,771	22
23	TOTAL THIRD	6,907	262	3,139	0	38	101	327	0		601,705	602,171		602,171	23
	FOURTH-CLASS MAIL:														
24	PARCELS ZONE RATE	2,583	18	8,536	0	14	7	889	0		8,013	8,923		8,923	24
25	BOUND PRNT MATTER	4,426	11	3,874	0	24	4	403	0		9,012	9,443		9,443	25
26	SPC 4TH-CL. RATE	5,572	13	8,337	0	30	5	868	0		3,823	4,726		4,726	26
27	LIBRARY RATE	435	8	4,869	0	2	3	507	0		634	1,146		1,146	27
28	TOTAL FOURTH	13,016	50	25,616	0	70	19	2,667	0		21,482	24,238		24,238	28

[d] - USPS FORM 2858R, AMOUNTS ARE PROPORTIONS.
[e] - C19L44 THRU C22L44 FROM W/S 10.1.1 C10, AND DISTRIBUTED ON C15 THRU C18.
* - INCLUDED IN L10.

[f] - W/S 10.1.1, C10.
[g] - RPW NATIONAL VOLUMES (PIECES). See W/S 1.1.1, current Pieces column.
[h] - C27(L10 THRU L13), C27L15 DISTRIBUTED ON C26(L10 THRU L15).

[i] - COLUMN 17 EXCLUDES BUNDLED LETTERS AND FLATS: 44
TOTAL BEFORE EXCLUSION: 100,000
BUNDLED LETTERS AND FLATS FACTOR: 0.000440

BASE YEAR 1996
COST SEGMENT 10 – RURAL CARRIERS
WORKSHEET 10.1.2 – DISTRIBUTION OF EVALUATED ROUTES VOLUME VARIABLE COSTS
PAGE 4 OF 4

		DISTRIBUTION KEY				COST DISTRIBUTION									
LINE NO.	CLASS, SUBCLASS, OR SPECIAL SERVICE	POSTAGE DUE	LTRS/FLATS COLLECTED	PARCELS ACCEPTED	ACCTBLS ACCEPTED	POSTAGE DUE	LTRS/FLATS COLLECTED	PARCELS ACCEPTED	ACCTBLS ACCEPTED	SPECIAL SERVICES	PAGE 2	SUBTOTAL	DIST KEY	COMP 10.1 CRA 069	LINE NO.
	(1) COLUMN SOURCE >>	(15) [d]	(16) [d]	(17) [d]	(18) [d]	(19) [e]	(20) [e]	(21) [e]	(22) [e]	(23) [f]	(24)=(14)	(25)= (19)..(24)	(26) [g]	(27) [h]	
29	PENALTY-USPS	1,408	36	100	0	8	14	10	0		1,553	1,585		1,585	29
30	FREE MAIL - BLIND & HNDC & SERVICEMEN	0	0	0	0	0	0	0	0		640	640		640	30
31	INTERNATIONAL MAIL:	261	192	1,370	0	1	74	143	0		2,469	2,687		2,687	31
32	TOTAL ALL MAIL	99,956	99,991	100,000 [i]	1,624	542	38,634	10,412	75	0	1,266,136	1,315,799		1,315,799	32
	SPECIAL SERVICES:														
33	REGISTRY	0	0	0	586				27		2,073	2,100		2,100	33
34	CERTIFIED	0	0	0	17,019				781		47,824	48,615		48,615	34
35	INSURANCE	0	0	0	707				33		2,430	2,463		2,463	35
36	COD	0	0	0	0				0	3,487 L7	0	3,487		3,487	36
37	SPECIAL DELIVERY	0	0	0	0				0		197	197		197	37
38	MONEY ORDERS	0	0	0	0				0	1,162 L14	0	1,162		1,162	38
39	STAMPED ENVELOPES								0		0	0		0	39
40	SPECIAL HANDLING								0		0	0		0	40
41	POST OFFICE BOX								0		0	0		0	41
42	OTHER								0	23 L10	0	23		23	42
43	TOTAL SPC SVCS	0	0	0	18,314	0	0	0	851	4,672	52,524	58,047		58,047	43
44	TOTAL VOLUME VARIABLE	99,956	99,991	100,000	19,938	542	38,634	10,412	926	4,672	1,318,660	1,373,846		1,373,846	44
45	OTHER													1,427,578	45
46	TOTAL COSTS													2,801,424	46

NOTES: SEE PAGE 3

				EVALUATION ALLOWANCE				DELIVERED AND COLLECTED MAIL COSTS				
LINE NO	ROUTE EVALUATION ITEM	AVERAGE VALUE	EVALUATION FACTOR	UNADJUSTED	VEHICLE LOAD ADJUSTMENT	MARKUPS ADJUSTMENT	ADJUSTED	UNADJUSTED	BNDLD LTRS AND FLATS ADJUSTMENT	ADJUSTED	ADJUSTED (000,000)	LINE NO.
	(1)	(2)	(3)	(4)=	(5)	(6)	(7)=	(8)	(9)	(10)=	(11)=	
1	COLUMN SOURCE>>	[a]	[b]	(2)x(3)	[c]	[d]	(4)..(6)	[e]	[f]	(8)+(9)	(10)/1000	1
2	VOLUME VARIABLE											2
3	LETTERS DELIVERED	318.918 <	0.07910	25,226.41	604.71	553.33	26,384.45	41,238	11	41,249	41	3
4	FLATS DELIVERED	286,336 <	0.14160	40,545.18	971.95	889.35	42,406.48	66,278	17	66,295	67	4
5	PARCELS DELIVERED	10,678 <	0.33300	3,555.77	85.24	78.00	3,719.01	5,813	(28)	5,785	6	5
6	BOXHOLDERS DELIVERED	72,727 <	0.04000	2,909.08	69.74	63.81	3,042.63	4,755		4,755	5	6
7	COD DELIVERED	43 <	5.50000	236.50	5.67	5.19	247.36	387		387	0	7
8	ACCOUNTABLES DELIVERED	968 <	4.00000	3,872.00	92.82	84.93	4,049.75	6,329		6,329	6	8
8a	DPS	43,085 <	0.03330	1,434.73	34.39	31.47	1,500.59	2,345		2,345	2	8a
8b	SECTOR SEGMENT	53.147 <	0.04440	2,359.73	56.57	51.76	2,468.06	3,857		3,857	4	8b
9	POSTAGE DUE	179 <	0.20000	35.80	0.86	0.79	37.45	59		59	0	9
10	RETURN RECEIPTS	8 <	0.25000	2.00	0.05	0.04	2.09	3		3	0	10
11	LETTERS/FLATS COLLECTED	60,993 <	0.04000	2,439.72			2,439.72	3,813		3,813	4	11
12	PARCELS ACCEPTED	171 <	4.00000	684.00			684.00	1,069		1,069	1	12
13	ACCOUNTABLES ACCEPTED	39 <	2.00000	78.00			78.00	122		122 ·	0	13
14	MONEY ORDERS	13 <	3.50000	45.50			45.50	71		71	0	14
15	VEHICLE LOADING	3,844 <	0.50000	1,922.00	(1,922.00)							15
16	MARKUPS	7,535 <	0.23340	1,758.67		(1,758.67)						16
17	TOTAL			87,105.09	0.00	(0.00)	87,105.09	136,139	0	136,139	136	17
18	FIXED											18
19	MILES	2,415 <	12.00000	28,980.00								19
20	REGULAR BOXES	10,062 <	2.00000	20,124.00								20
21	CENTRALIZED BOXES	6,207 <	1.00000	6,207.00								21
22	L BOXES	11,396 <	1.64000	18,689.44								22
23	NOCBU COMPARTMENTS	269 <	1.00000	269.00								23
24	PARCEL POST LOCKERS	285 <	2.00000	570.00								24
25	POUCHES	15 <	1.00000	15.00								25
26	WITHDRAWLS	2,364 <	1.00000	2,364.00								26
27	CHANGE OF ADDRESS	271 <	2.00000	542.00								27
28	FORM 3579	279 <	2.00000	558.00								28
29	OFFICE WORK	3,000 <	1.00000	3,000.00								29
30	PURCHASE STAMPS	1,594 <	1.00000	1,594.00								30
31	OTHER SUITABLE ALLOWANCE	1,901 <	1.00000	1,901.00								31
32	DISMOUNT	2,851 <	0.10000	285.10								32
33	DISMOUNT DISTANCE	273,799 <	0.00284	777.59								33
34	TOTAL											34
35	VOLUME VARIABLE [e]							136,139		136,139	136	35
36	OTHER							136,871		136,871	137	36
37	TOTAL	1,175,392		172,981.22				273,010		273,010	273	37

[a] - LR H-192, (LINES 7, 15, 26, 29, 30, 31 ARE FOR ALLOWANCE FOR AVERAGE ROUTE).
[b] - LR H-33, SEC VI (LINES 7, 15, 26, 29, 30, 31 = 1.0000 TO CONFORM WITH NOTE a, ABOVE)
[c] - C4L15 APPORTIONED ON C4L3..L10.
[d] - C4L16 APPORTIONED ON C4L3..L10.

[e] - L17 and L35, W/S 10.0.1 C5L6; L1..14, L15 APPORTIONED ON C7;
L37, W/S 10.0.1 C5L4; L36, L37-L35.
[f] - C9L5 (C8L5 x BUNDLED LETTERS AND FLATS FACTOR) APPORTIONED ON
COMPOSITION OF [C8L3 + C8L4].
FACTOR = 0.004780 (SEE W/S 10.2.2, FN c).

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BASE YEAR 1996
COST SEGMENT 10 – RURAL CARRIERS
WORKSHEET 10.2.2 – DISTRIBUTION OF OTHER ROUTES VOLUME VARIABLE COSTS
PAGE 1 OF 4

LINE NO.	CLASS, SUBCLASS, OR SPECIAL SERVICE	DISTRIBUTION KEY: LETTERS DEL	FLATS DEL	PARCELS DEL	BOXHLDRS DEL	ACCTBLS DEL	DSP/SEC SEG	COST DISTRIBUTION: LETTERS DEL	FLATS DEL	PARCELS DEL	BOXHLDRS DEL	ACCTBLS DEL	DSP/SEC SEG	TOTAL	LINE NO.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)= (8)..(13)	
	COLUMN SOURCE >>	[a]	[a]	[a]	[a]	[a]		[b]	[b]	[b]	[b]	[b]			
	FIRST-CLASS MAIL:														
1	LETTERS & PARCELS	29,244	12,775	13,033	587		25,735 [j]	12,061	8,470	759	30	0	1,596	22,916	1
2	PRESORT LTR & PCL	29,629	11,083	290	361		45,208 [k]	12,222	7,347	17	17	0	2,804	22,407	2
3	POSTAL CARDS	226			0		210	93	0	0	0	0	13	106	3
4	PRIVATE POSTCARDS	3,278	0	0	219		3,049 [j]	1,362	0	0	10	0	189	1,561	4
5	PRESORT PRVT P CS	1,818			56		2,774 [k]	780	0	0	3	0	172	929	5
6	TOTAL FIRST	64,195	23,858	13,323	1,223	0	78,976	26,478	15,617	776	60	0	4,774	47,908	6
7	PRIORITY MAIL	15	276	15,214	3		0	6	183	884	0	0	0	1,073	7
8	EXPRESS MAIL	0		0	0	7,369	0	0	0	0	0	466	0	466	8
9	MAILGRAMS	2						1	0	0	0	0	0	1	9
	SECOND-CLASS MAIL:														
10	WITHIN COUNTY	1,781	19,683	1,986	2,437		0	735	13,049	115	116	0	0	14,015	10
	OUTSIDE COUNTY														
11	REG RATE PUB	*	*	*	*	*	*	*	*	*	*	*	*	*	11
12	NONPROFIT PUB	*	*	*	*	*	*	*	*	*	*	*	*	*	12
13	CLASSROOM PUB	*	*	*	*	*	*	*	*	*	*	*	*	*	13
14															14
15	TOTAL SECOND	1,781	19,683	1,986	2,437	0	0	735	13,049	115	116	0	0	14,015	15
	THIRD-CLASS MAIL:														
16	SINGLE PIECE RATE	19	39	498	0		0	8	26	29	0	0	0	63	16
	BULK RATE-REG														
17	CAR PRESORT	10,921	23,323	562	82,592		0	4,505	15,462	33	3,927	0	0	23,927	17
18	OTHER	15,920	26,075	33,086	9,233		15,934 [k]	6,667	17,206	1,923	439	0	968	27,203	18
19	TOTAL REGULAR(BR)	26,841	49,398	33,648	91,825	0	15,934	11,072	32,748	1,956	4,366	0	968	51,130	19
	BULK RATE-NONPROF														
20	CAR PRESORT	1,190	1,101	86	2,613		0	491	730	5	124	0	0	1,350	20
21	OTHER	5,380	5,014	1,341	1,285		7,090 [k]	2,219	3,324	78	61	0	440	6,122	21
22	TOTAL NONPROF(BR)	6,570	6,115	1,427	3,898	0	7,090	2,710	4,054	83	186	0	440	7,472	22
23	TOTAL THIRD	33,430	55,552	35,573	95,723	0	23,024	13,790	36,028	2,088	4,551	0	1,428	58,665	23
	FOURTH-CLASS MAIL:														
24	PARCELS ZONE RATE	19	85	12,842	7		0	8	56	746	0	0	0	810	24
25	BOUND PRNT MATTER	11	214	13,095	7		0	5	142	761	0	0	0	908	25
26	SPC 4TH-CL. RATE	2	64	5,899	0		0	1	42	343	0	0	0	386	26
27	LIBRARY RATE	16	25	688	3		0	7	17	40	0	0	0	64	27
28	TOTAL FOURTH	48	388	32,524	17	0	0	21	257	1,890	0	0	0	2,168	28

[a] - USPS FORM 2858R, AMOUNTS ARE PROPORTIONS.
[b] - C8L44 THRU C12L44 FROM W/S 10.2.1 C10 AND DISTRIBUTED ON C2 THRU C6.
* - INCLUDED IN L10.

[c] - COLUMN 4 EXCLUDES BUNDLED LETTERS AND FLATS:	478
TOTAL BEFORE EXCLUSION:	100,000
BUNDLED LETTERS AND FLATS FACTOR:	0.004780

[j] - MC95-1 USPS-T-7 Exhibit E, p 4 of 6. DPS and sector segment are 23% of non-presorted letters and 24% of non-presorted postcards.
[k] - R97-1, LR H-129. DPS and sector segment are 34.1218% of first class presort volume
25.38% of third class bulk other volume, and 30.91% of third non-profit other volume.

BASE YEAR 1996
COST SEGMENT 10 – RURAL CARRIERS
WORKSHEET 10.2.2 – DISTRIBUTION OF OTHER ROUTES VOLUME VARIABLE COSTS
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LINE NO.	CLASS, SUBCLASS, OR SPECIAL SERVICE	DISTRIBUTION KEY: LETTERS DEL	FLATS DEL	PARCELS DEL	BOXHLDRS DEL	ACCTBLS DEL	DSP/SEC SEG	COST DISTRIBUTION: LETTERS DEL	FLATS DEL	PARCELS DEL	BOXHLDRS DEL	ACCTBLS DEL	DSP/SEC SEG	TOTAL	LINE NO.
	(1) COLUMN SOURCE >>	(2) [a]	(3) [a]	(4) [a]	(5) [a]	(6) [a]	(7)	(8) [b]	(9) [b]	(10) [b]	(11) [b]	(12) [b]	(13)	(14)= (8)..(13)	
29	PENALTY-USPS	178	76	49	528		0	73	60	3	25	0	0	161	29
30	FREE MAIL - BLIND & HNDC & SERVICEMEN	29	30	455	0		0	12	25	26	0	0	0	63	30
31	INTERNATIONAL MAIL	322	129	398	69		0	133	86	23	3	0	0	245	31
32	TOTAL ALL MAIL	100,000	100,000	99,522 [c]	100,000	7,369	100,000	41,249	66,295	5,785	4,755	466	6,202	124,752	32
	SPECIAL SERVICES														
33	REGISTRY					3,656						231		231	33
34	CERTIFIED					84,343						5,339		5,339	34
35	INSURANCE					4,285						271		271	35
36	COD											0		0	36
37	SPECIAL DELIVERY					347						22		22	37
38	MONEY ORDERS											0		0	38
39	STAMPED ENVELOPES											0		0	39
40	SPECIAL HANDLING											0		0	40
41	POST OFFICE BOX											0		0	41
42	OTHER											0		0	42
43	TOTAL SPC SVCS	0	0	0	0	92,631	0	0	0	0	0	5,863	0	5,863	43
44	TOTAL VOLUME VARIABLE	100,000	100,000	99,522	100,000	100,000	100,000	41,249	66,295	5,785	4,755	6,329	6,202	130,615	44
45	OTHER														45
46	TOTAL COSTS														46

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BASE YEAR 1996
COST SEGMENT 10 – RURAL CARRIERS
WORKSHEET 10.2.2 – DISTRIBUTION OF OTHER ROUTES VOLUME VARIABLE COSTS
PAGE 3 OF 4

LINE NO	CLASS, SUBCLASS, OR SPECIAL SERVICE	DISTRIBUTION KEY: POSTAGE DUE	DISTRIBUTION KEY: LTRS/FLATS COLLECTED	DISTRIBUTION KEY: PARCELS ACCEPTED	DISTRIBUTION KEY: ACCTBLS ACCEPTED	COST DISTRIBUTION: POSTAGE DUE	COST DISTRIBUTION: LTRS/FLATS COLLECTED	COST DISTRIBUTION: PARCELS ACCEPTED	COST DISTRIBUTION: ACCTBLS ACCEPTED	COST DISTRIBUTION: SPECIAL SERVICES	PAGE 1	SUBTOTAL	DIST KEY	COMP 10.2 CRA 070	LINE NO.
	(1)	(15) [d]	(16) [d]	(17) [d]	(18) [d]	(19) [e]	(20) [e]	(21) [e]	(22) [e]	(23) [f]	(24)=(14)	(25)= (19)..(24)	(26) [g]	(27) [h]	
	FIRST-CLASS MAIL:														
1	LETTERS & PARCELS	70,672	95,685	58,199		40	3,649	822	0		22,916	27,227		27,227	1
2	PRESORT LTR & PCL	1,785				1	0	0	0		22,407	22,408		22,408	2
3	POSTAL CARDS	174	310	345		0	12	4	0		106	122		122	3
4	PRIVATE POSTCARDS	987	3,270	1,179		1	125	13	0		1,551	1,690		1,690	4
5	PRESORT PRVT P CS	44				0	0	0	0		925	925		925	5
6	TOTAL FIRST	73,662	99,245	59,723	0	42	3,786	839	0		47,905	52,372		52,372	6
7	PRIORITY MAIL	2,801	206	10,052		2	8	107	0		1,073	1,190		1,190	7
8	EXPRESS MAIL				1,624	0	0	0	10		466	476		476	8
9	MAILGRAMS	435				0	0	0	0		1	1		1	9
	SECOND-CLASS MAIL:														
10	WITHIN COUNTY	1,466				1	0	0	0		14,016	14,018	877,829	1,218	10
	OUTSIDE COUNTY														
11	REG RATE PUB	*				*	*	*	*		*	*	6,984,301	9,667	11
12	NONPROFIT PUB	*				*	*	*	*		*	*	2,205,180	3,052	12
13	CLASSROOM PUB	*				*	*	*	*		*	*	58,885	82	13
14											0	0			14
15	TOTAL SECOND	1,466	0	0	0	1	0	0	0		14,016	14,018	10,126,194	14,018	15
	THIRD-CLASS MAIL:														
16	SINGLE PIECE RATE	914	262	3,139		1	10	34	0		63	108		108	16
	BULK RATE-REG														
17	CAR PRESORT	668				0	0	0	0		23,927	23,927		23,927	17
18	*OTHER*	4,237				3	0	0	0		27,203	27,206		27,206	18
19	TOTAL REGULAR(BR)	4,905	0	0	0	3	0	0	0		51,130	51,133		51,133	19
	BULK RATE-NONPROF														
20	CAR PRESORT	174				0	0	0	0		1,350	1,350		1,350	20
21	OTHER	914				1	0	0	0		6,122	6,123		6,123	21
22	TOTAL NONPROF(BR)	1,088	0	0	0	1	0	0	0		7,472	7,473		7,473	22
23	TOTAL THIRD	6,907	262	3,139	0	5	10	34	0		58,665	58,714		58,714	23
	FOURTH-CLASS MAIL:														
24	PARCELS ZONE RATE	2,583	18	8,536		2	1	91	0		810	904		904	24
25	BOUND PRNT MATTER	4,426	11	3,874		3	0	41	0		908	952		952	25
26	*SPC 4TH-CL. RATE*	5,572	13	8,337		3	0	89	0		386	478		478	26
27	LIBRARY RATE	435	8	4,869		0	0	52	0		64	116		116	27
28	TOTAL FOURTH	13,016	50	25,616	0	8	1	273	0		2,168	2,450		2,450	28

[d] - USPS FORM 2858R, AMOUNTS ARE PROPORTIONS.
[e] - C19L44 THRU C22L44 FROM W/S 10.1.1 C10 AND DISTRIBUTED ON C15 THRU C18.
* - INCLUDED IN L10.

[f] - *W/S 10.1.1, C10.*
[g] - RPW NATIONAL VOLUMES (PIECES). See W/S 1.1.2, current volumes.
[h] - C27(L10 THRU L13), C27L15 DISTRIBUTED ON C26(L10 THRU L15)

i - COLUMN 17 EXCLUDES BUNDLED LETTERS AND FLATS:	44
TOTAL BEFORE EXCLUSION:	100,000
BUNDLED LETTERS AND FLATS FACTOR:	0.000440

BASE YEAR 1996
COST SEGMENT 10 -- RURAL CARRIERS
WORKSHEET 10.2.2 -- DISTRIBUTION OF OTHER ROUTES VOLUME VARIABLE COSTS
PAGE 4 OF 4

LINE NO.	CLASS, SUBCLASS, OR SPECIAL SERVICE	DISTRIBUTION KEY: POSTAGE DUE	DISTRIBUTION KEY: LTRS/FLATS COLLECTED	DISTRIBUTION KEY: PARCELS ACCEPTED	DISTRIBUTION KEY: ACCTBLS ACCEPTED	COST DISTRIBUTION: POSTAGE DUE	COST DISTRIBUTION: LTRS/FLATS COLLECTED	COST DISTRIBUTION: PARCELS ACCEPTED	COST DISTRIBUTION: ACCTBLS ACCEPTED	COST DISTRIBUTION: SPECIAL SERVICES	PAGE 2	SUBTOTAL	DIST KEY	COMP 10.2 CRA 070	LINE NO.
	(1) COLUMN SOURCE >>	(15) [d]	(16) [d]	(17) [d]	(18) [d]	(19) [e]	(20) [e]	(21) [e]	(22) [e]	(23) [f]	(24)=(14)	(25)= (19)..(24)	(26) [g]	(27) [h]	
29	PENALTY-USPS	1,408	34	100		1	1	1	0		151	154		154	29
30	FREE MAIL - BLIND & HNDC & SERVICEMEN	0				0	0	0	0		63	63		63	30
31	INTERNATIONAL MAIL:	261	192	1,370	0	0	7	15	0		245	267		267	31
32	TOTAL ALL MAIL	99,956	99,991	100,000 [f]	1,624	59	3,813	1,069	10	0	124,752	129,703		129,703	32
	SPECIAL SERVICES:														
33	REGISTRY				588				4		231	235		235	33
34	CERTIFIED				17,019				104		5,339	5,443		5,443	34
35	INSURANCE				707				4		271	275		275	35
36	COD								0	387 L7	0	387		387	36
37	SPECIAL DELIVERY				0				0		22	22		22	37
38	MONEY ORDERS								0	71 L14	0	71		71	38
39	STAMPED ENVELOPES								0		0	0		0	39
40	SPECIAL HANDLING								0		0	0		0	40
41	POST OFFICE BOX								0		0	0		0	41
42	OTHER								0	3 L10	0	3		3	42
43	TOTAL SPC SVCS	0	0	0	18,314	0	0	0	112	461	5,863	6,436		6,436	43
44	TOTAL VOLUME VARIABLE	99,956	99,991	100,000	19,938	69	3,813	1,069	122	461	130,616	136,139		136,139	44
45	OTHER													136,871	45
46	TOTAL COSTS													273,010	46

NOTES: SEE PAGE 3

Exhibit USPS-RT-1B Base Year 1996 and Test Year After Rates Rural Carrier Attributable Cost under Revised USPS Cost Methodology

			C/S 10 DIFFERENCE		
	C/S 10, USPS-T-5	Revised C/S 10	Base Year w/o Piggybacks	TYAR w/o Piggybacks	TYAR with Piggybacks
	(1)	(2)	(3)	(4)	(5)
First-Class Mail:					
Letters and sealed parcels	296,468	300,436	3,968	4,131	4,945
Presort letters and sealed parcels	263,567	245,715	(17,852)	(19,431)	(23,257)
Private post cards	19,248	19,653	405	421	504
Presort private post cards	11,053	9,959	(1,094)	(1,427)	(1,708)
Total First-Class Mail	590,336	575,763	(14,573)	(15,550)	(18,613)
Priority Mail	12,979	12,996	17	20	24
Express Mail	4,729	4,729	-	-	-
Mailgrams	11	11	-	-	-
Publishers:					
Within County	13,610	13,786	176	187	224
Outside County					
Regular rate publications	108,288	109,690	1,402	1,486	1,779
Nonprofit publications	34,191	34,633	442	449	537
Classroom publications	913	925	12	10	12
Total Publishers	157,002	159,034	2,032	2,133	2,553
Standard A:					
Single piece rate	1,149	1,172	23	26	32
Bulk rate - carrier presort	259,640	272,116	12,476	12,706	15,208
- other	304,392	304,353	(39)	(50)	(60)
- subtotal	564,032	576,469	12,437	14,509	17,365
Bulk rate - nonprofit carrier presort	13,834	15,195	1,361	1,246	1,492
- other	70,010	68,049	(1,961)	(2,305)	(2,759)
- subtotal	83,844	83,244	(600)	(680)	(813)
Total Standard A	649,025	660,885	11,860	13,783	16,497
Standard B:					
Parcels (zone rate)	9,804	9,827	23	26	31
Bound printed matter	10,381	10,395	14	16	19
Special fourth-class rate	5,199	5,204	5	5	7
Library rate	1,243	1,262	19	19	22
Total Standard B	26,627	26,688	61	68	81
Penalty - U.S. Postal Service	1,537	1,739	202	173	207
Free mail for blind, handicapped,					
and servicemen	671	703	32	37	45
International Mail	2,585	2,954	369	365	437
Total All Mail	1,445,502	1,445,502	-	-	-

(1) USPS-T-5, WP B-10, W/S 10.1.2 and 10.2.2
(2) Exhibit USPS-RT-?A WS 10.1.2 and 10.2.2
(3) = (2) - (1)
(4) = (3) * [Exhibit USPS-15H, p 33-34 / (1)]
(5) = (4) * LR H-177 p. 138