OCA-T-5
Docket No. R2000-1

DIRECT TESTIMONY

OF

MARK D. EWEN

ON BEHALF OF

THE OFFICE OF THE CONSUMER ADVOCATE

MAY 22, 2000

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UNITED STATES OF AMERICA
Before The
POSTAL RATE COMMISSION
WASHINGTON, D.C. 20268-0001

Postal Rate and Fee Changes, 2000) Docket No. R2000-1

DIRECT TESTIMONY OF MARK D. EWEN

I. STATEMENT OF QUALIFICATIONS

My name is Mark Ewen, and I am a Senior Associate with Industrial Economics, Incorporated (IEc) of Cambridge, Massachusetts. I have been employed by IEc for approximately five years. I am an economist and financial analyst, specializing in utility economics, economic damages estimation, and financial analysis of entities that are the subjects of environmental enforcement actions. As part of this work, I have testified and submitted expert reports before Federal Administrative Court and Federal District Court. While this testimony constitutes my first appearance before the Postal Rate Commission, I participated in the assessment of postal ratemaking and policy during the Docket No. R97-1 rate case, while working with Sharon Chown on behalf of a different client. In that proceeding, I contributed to a number of analyses undertaken by my firm, including analyzing the United States Postal Service's methods for estimating volume-variable load-time costs generated on city delivery carrier routes. I received a Bachelor of Arts degree in economics and political science from the University of North Dakota, and a Masters in Public Policy from the University of Michigan.

II. PURPOSE AND SCOPE OF TESTIMONY

On behalf of the Office of the Consumer Advocate, I was asked to review the approach proposed by the Postal Service to estimate volume variable load-time costs for city delivery carriers, focusing on the testimony and analysis of Witness Baron (USPS-T-12). This testimony presents the results of my review.

As in his Docket No. R97-1 testimony, Witness Baron proposes to discard certain components of the Commission's established treatment of volume variable load-time costs. Specifically, he argues that a certain increment of estimated accrued load time *for each and every stop* should be regarded as independent of mail volume, and therefore should not vary as loaded volume at a stop changes. Witness Baron defines this concept as the "stops effect." He then defines a measure of "fixed time at stop" with available load-time data and argues that this portion of accrued load-time costs should be treated as access costs. Furthermore, after estimating the direct volume variability of the remaining load-time accrued cost pool (commonly referred to as "elemental" load time), he considers the residual component, or coverage-related load-time, to be an unattributable institutional cost. This treatment differs from the established approach of attributing coverage-related load-time based on the proportion of mail delivered to single subclass stops.

In its Opinion and Recommended Decision, Docket No. R97-1, the Commission specifically rejected this approach, concluding that the stops effect concept is theoretically flawed. The Commission was correct to do so, for the reasons specified in its decision. Primarily, this concept should be rejected because it has no real world

explanation for the alleged fixed costs incurred at every stop, and because the statistical analysis used by Witness Baron does not demonstrate that any fixed costs exist. In addition, I will demonstrate that Witness Baron's quantitative measure of the stops effect concept, irrespective of its theoretical flaws, must necessarily overstate any alleged stops effect and is incorrect. For these reasons, I recommend that the Commission again reject the Postal Service's approach and employ its established approach for evaluating volume variability of load time and attributing related costs.

The remainder of my testimony is divided into three sections. Section III summarizes the Postal Service's approach. Section IV provides a critique of the theoretical underpinnings of the stops effect concept, and summarizes the Commission's opinion concerning this approach in Docket No. R97-1. Section V expands the record on this issue by illustrating the effects of alternative, and equally plausible, approaches for estimating the stops effect as defined by Witness Baron.

III. OVERVIEW OF POSTAL SERVICE APPROACH

Both the Commission and the Postal Service maintain the same premise that the purpose of the load time analysis is to estimate the portion of load time that varies with volume. The established Commission approach begins by dividing total accrued load time into two categories. The first category, "elemental" load time, represents the portion of total time that varies directly with volume at a stop. Related elemental load time costs are attributed to mail classes using a piece-based distribution key. The second category, coverage-related load time, represents the residual of total load time remaining after elemental load is estimated. Volume indirectly influences coverage-

related load time to the extent volume affects the number of stops covered on a route. Coverage-related load-time costs are attributed based on the percentage of deliveries made to single subclass stops. These two categories effectively capture the direct stop-level influences of volume on load time and indirect system-level effects of volume on the number of stops covered.

Witness Baron proposes to abandon the Commission's established treatment of coverage-related load time. His proposal deviates from the established approach in two important ways. First, he rejects the definition of coverage-related load-time as the residual of total accrued load-time after the elemental component has been removed. Second, he does not employ the Commission's approach of attributing coverage-related costs based on the proportion of stops where only one subclass of mail is delivered.

The basic premise for Witness Baron's argument regarding the treatment of coverage-related load-time is that any load time increment dependent upon the number of stops receiving mail should be completely independent of the mail volume delivered. He therefore replaces the Commission's residual definition of coverage-related load-time with a concept referred to as the "stops effect." Witness Baron characterizes the stops effect as the "...increase in time that results from the accessing of a new stop" and regards this increment of time as "...independent of the amount and mix of volume delivered at that stop." USPS-T-12, p. 7. It is a fixed component of time that carriers repeat at every stop.

He defines this time increment for each stop type (SDR, MDR, and BAM) using data from the 1985 load time field test. In his definition, he assumes that the average

load times recorded in the field test for the lowest quintile of one-letter deliveries represent a reasonable proxy for the fixed amount of time carriers spend preparing to load and collect mail. He then calculates the ratio of this time increment relative to average load times for the entire sample of stops in the 1985 load time field test. Finally, Witness Baron multiplies this ratio by 1998 accrued load-time costs to estimate the portion of these costs related to the stops effect, repeating this process for each stop type. This pool of fixed-time costs is then transferred to the access cost pool.

The following simple formula illustrates this calculation:

$FTC_k = (AFT_k/ATT_k) * ALTC_k$, where

FTC_k equals fixed load time costs attributed to the stops effect for stop type k,
AFT_k (average fixed load time) equals the average load-time, in seconds, of the lowest quintile of one-letter sampled deliveries from the 1985 load time field test for stop type k,
ATT_k (average total load time) equals the average load time for all sampled deliveries from the 1985 load time field test for stop type k, and
$ALTC_k$ equals accrued load-time costs for stop type k.

Table 1 summarizes the derivation of the Postal Service's fixed time costs. As the table shows, these costs represent approximately 14 percent of accrued load-time costs for SDR stops, 2.2 percent of MDR stop costs, and 5.8 percent of BAM stop costs. These "fixed time costs" are then transferred to the access cost pool, and their volume variability is estimated using the established approach for access time.

Table 1

FIXED-TIME COSTS ATTRIBUTABLE TO THE STOPS EFFECT

Stop Type	Average Fixed Time (seconds) (a)	Average Total Time (seconds) (b)	Percent Fixed-Time Costs (c)	Accrued Load Time Costs ($000) (d)	Fixed-Time Costs ($000) (e)
SDR	1.052	7.515	13.999%	$1,571,780	$220,025
MDR	1.110	50.432	2.201%	$948,109	$20,868
BAM	0.919	15.971	5.754%	$336,286	$19,351
			Total	**$2,856,175**	**$260,244**

(a) USPS-T-17, Docket No. R97-1, Table 2.
(b) USPS-T-17, Docket No. R97-1, Table 2.
(c) equals (a)/(b).
(d) Response to OCA/USPS-T12-8.
(e) equals (c)*(d).

After removing the stops effect pool of accrued load-time costs, Witness Baron estimates elemental load time from the remaining pool of accrued load-time costs using the standard regression equations generated from the 1985 Load Time Variability (LTV) study.[1,2] Witness Baron treats coverage-related load time, or the portion of accrued load-time costs that remains after fixed-time costs and elemental load-time costs have been removed, as an unattributable, institutional cost.

[1] Witness Baron presents the load-time regression equations for SDR stops (equation 1) and MDR and BAM stops (equation 2) on pages 4 and 5 of USPS-T-12. In LR-H-137, the Postal Service provides a more detailed description concerning the estimation of these equations.

[2] For the MDR and BAM stop type regressions, Witness Baron reinterprets the "possible deliveries" variables and related coefficients to derive what he refers to as the "deliveries effect." He defines this effect as the extent to which actual deliveries increase with respect to increases in volume and regards it as a volume variable component of load time. Docket No. R97-1, USPS-T-17, pp. 16-23. Although I do not directly assess this approach in my testimony, the Commission expressly rejected this respecification in R97-1. PRC Op. R97-1, ¶ 3290.

I compare the results of this approach for calculating the volume variability of load-time to those generated by the established Commission approach in Table 2. As illustrated in this table, the Postal Service's approach yields significantly lower estimates of volume variable and attributable load-time costs compared to the established Commission approach. In particular, the Postal Service's approach reduces the pool of total accrued costs from which elemental load-time volume variability is estimated. In addition, it treats the remaining portion of load-time costs after elemental load-time has been calculated as an institutional cost, instead of attributing these costs on the basis of mail delivered to single subclass stops.

Table 2

COMPARISON OF LOAD TIME COST ESTIMATES ($000)

	PRC Methodology (a)	Postal Service Methodology (b)
1. Total Accrued Costs	$2,856,175	$2,856,175
2. Fixed-Time Costs	$0	$260,244[c]
3. Volume Variable Fixed-Time Costs	**$0**	**$18,933[c]**
4. Adjusted Accrued Load (line 1-line 2)	$2,856,175	$2,595,931
5. Elemental Load	**$1,751,769**	**$1,736,424[d]**
6. Coverage Related Load (line 4-line 5)	$1,104,406	$859,507
7. Attributable Coverage-Related Load	**$192,807[e]**	**$0**
8. Total Volume Variable and Attributable Load Time Costs (line 3+line5+line 7)	**$1,944,576**	**$1,755,357**

(a) OCA/USPS-T12-8, sum of column labeled "previous" from tables 1, 2, and 3
(b) OCA/USPS-T12-8, sum of column labeled "new" from tables 1, 2, and 3
(c) Fixed-time costs transferred to access cost pool; volume variable fixed-time costs calculated using standard methods for access cost component.
(d) Includes direct volume variable load-time costs related to mail shape and volume, and Witness Baron's "deliveries effect" at MDR and BAM stops.
(e) Calculated using single-subclass stop ratios from USPS-T-11, Workpaper B, CS06&7, Worksheet 7.0.4.2.

IV. CRITIQUE OF POSTAL SERVICE APPROACH

A. Witness Baron's Theoretical Basis

Witness Baron offers two theoretical justifications for the Postal Service's measure of fixed time at a stop. First, he argues the approach is consistent with the Commission's Recommended Decision in Docket No. R90-1, where it concludes that coverage-related load time "is independent of volume delivered at a stop," depending, instead, on whether the "stop receives mail at all." USPS-T-12 at 7 citing PRC Op. R90-1, ¶ 3125. He asserts that the stops effect approach meets this criterion, while the established method does not.

In the Docket No. R97-1 Recommended Decision, the Commission sought to clarify the meaning of this statement. Most importantly, it places the critical quotation used by Witness Baron to justify the stops effect approach in the broader context of related statements made by the Commission in other proceedings. Specifically, the Commission cites from the R87-1 docket, where the Commission said:

> [T]he intent of the LTV analysis was to find the volume variable portion of total load time, given that a stop actually had mail. The coverage-related load time analysis was intended to find the additional volume variability resulting from the fact that additional deliveries are caused by additional volumes.

PRC Op. R97-1, ¶ 3278, citing PRC Op. R87-1, ¶ 3373. Placed within this broader context, the Commission draws the reasonable conclusion that Witness Baron "reads far too much into the Commission's previous descriptions of the distinction between elemental and coverage-related load time," and that the Commission's prior statements regarding coverage-related load "do not mean that coverage-related load time is

completely insulated from all influence of volume, direct or indirect." PRC Op. R97-1, ¶ 3278.

In raising this justification again in the current proceeding, Witness Baron offers no additional support for it other than to reiterate his interpretation of the R90-1 decision, an interpretation that is inconsistent with the Commission's own provided in R97-1.

The second justification offered by Witness Baron is that the stops effect measure is consistent with the "activity-based functional" approach for allocating total accrued street-time costs across the six major street-time activities, including load-time, driving time, curb running time, foot/park & loop running time, collection time, and street support. USPS-T-12, pp. 7-8. Total street-time costs are allocated to each major activity based on the percentage of total street-time that carriers spend conducting each activity. Witness Baron correctly observes that to complete this allocation, each functional category must be viewed and measured as a "separable, explicitly defined" activity. USPS-T-12, p. 8.

From this basic premise, Witness Baron concludes that the elemental and coverage-related components ***within*** load time must also be regarded as "distinct, separately identified" actions. USPS-T-12, p. 8. This conclusion stretches the "mandate" of the functional approach too far. The functional approach provides the basis for allocating total street-time and related accrued costs to each major category of carrier activity. For the carrier activity of interest in this testimony, load-time, the next

step is to determine the portion of this time that varies with volume, either directly or indirectly.

To complete this procedure, it is unnecessary to separately identify and regard all of the actions occurring during the loading process as distinct.[3] Indeed, as the Commission has stated:

> There was then, and is now, no need to decide whether new stops might affect load time because they require a "fixed observable activity" to be repeated at each new stop, or because they might require a variety of additional activities that are directly related to the loading of mail, and vary in duration from stop to stop.

PRC Op. R97-1, ¶ 3282. Once the proper proportion of total accrued carrier street-time and related costs have been allocated to load time, Witness Baron's activity-based functional approach has served its purpose. By stretching the purported requirements of this approach to say that elemental and coverage-related load time must be regarded as "distinct, separately identified actions," Witness Baron unnecessarily restricts the assessment of attributable load-time costs.

B. Real World Basis for the Stops Effect

In addition to the theoretical limitations identified by the Commission concerning Witness Baron's stops effect model, the Docket No. R97-1 decision cites the empirical inadequacies of his proposal:

> Clearly, neither the STS nor the LTV surveys of load time contemplated that there was a "fixed observable activity" taking up an "independently measurable, separable block of time" at every stop that is unrelated to the

[3] For that matter, while elemental and coverage-related load time may represent the two "measured components" of load time, they are not single, discrete actions in the functional sense, but rather likely comprise a number of actions a carrier engages in when loading mail.

> need to load mail at that stop or they would have made some effort to identify it.... It does not correspond to any engineering concept, operational reality, or empirical data that witness Baron can identify.

PRC Op. R97-1, ¶ 3279. Furthermore, Witness Baron acknowledges that to his knowledge, the new ES Study, which the Postal Service is using for the first time to allocate carrier street time to its functional activities, did not collect any stops effect data. OCA/USPS-T12-4.

It is not surprising that these studies did not attempt to measure this theoretical fixed-time component, as Witness Baron cannot explicitly define what carrier activities might take place during this block of time. He refers generally to this moment of carrier activity as that of "...preparing to handle mail pieces, mail bundles, or mail-related equipment," and suggests that this work occurs, "immediately after the carrier reaches the stop, and just prior to the initiation of the piece, bundle, or equipment handling." OCA/USPS-T12-1. This general characterization, however, fails to identify any set of "separable, explicitly defined" activities related to fixed time at stop. We are left to identify on our own what these preparation activities might entail.

I cannot identify any explicit activity or set of activities that a carrier is likely to engage in at each and every stop for an equal period of time. The strictures of Witness Baron's definition of the stops effect, and the brief moment in which it might occur, necessarily preclude most everything a carrier does while loading mail. For example, it cannot involve a carrier identifying whether mail exists for a stop; this task is completed before access begins, suggesting carriers should be prepared to immediately begin loading activities once they have reached a stop. Furthermore, Witness Baron points

out that the Postal Service's "ES Study" accurately draws clear distinctions between carrier activities and precisely measures the proportions of time spent on each specific function. USPS-T-12, p. 37. Presumably, this assertion applies to the proportion of total route time spent loading mail. If so, it is curious that Witness Baron effectively changes the proportional allocation of total carrier time to load-time through the implementation of the stops effect. In sum, these factors confirm that the stops effect concept lacks a physical hypothesis that is grounded in operational data.

C. Statistical Evidence for the Stops Effect

If Witness Baron were to proffer a clear hypothesis about the physical rationale for the stops effect, one would logically look to statistical means for testing for its existence and magnitude. For example, the results of the load-time regressions relied upon by Witness Baron could yield further insight into the possible presence of a stops effect.[4] Witness Baron indicates that fixed time at stop is equivalent to the time spent at "zero volumes loaded." Docket No. R97-1, USPS-T-17, p. 9. The intercept of the load-time regression for each stop type, α, represents a prediction of carrier load-time at zero volumes and deliveries. However, because the Postal Service regression analyses use dummy variables for different receptacle and container types, each receptacle/container effectively has its own intercept term. For example, for certain quick-loading receptacle types, the coefficient on the receptacle dummy is negative, indicating that the fixed time

[4] Witness Baron confirms that he considered using the regressions to develop a measure of the stops effect concept; however, he further concedes that he rejected this option for the same reasons we discuss here -- the results of the LTV regressions provide no indication that a stops effect exists. Tr. 18/7302-03.

component of load costs for this receptacle is lower than the intercept term alone. At this type of stop, if one were to view the intercept alone as a measure of the stops effect, it would overstate the stops effect.

Because Witness Baron defines the stops effect as a fixed component that applies to each and every stop, regardless of the type of container or receptacle,[5] the stops effect from the load-time equations should be the fixed component for the lowest coefficient for the receptacle and container type dummy variables. This approach yields an indication of any carrier time at a stop with zero volumes, while controlling for the influence of receptacle type on the intercept coefficient's value.

Table 3 illustrates the implicit fixed components for the least cost delivery receptacle from the Postal Service's regression analysis. As the table shows, the intercept coefficients alone are negative for MDR and BAM stops. In addition, after adjusting these coefficients for potential receptacle type influences, the inferred fixed-time at stop measure for all three stop types are negative. As a result, the adjusted intercept values from these regressions provide no indication that a true stops effect component is embedded in the load-time measurement data from the 1985 field test.

[5] Docket No. R97-1, NAA/USPS-T17-3. Confusingly, Witness Baron offers conflicting testimony in this proceeding. He suggests that fixed time at stop may vary for certain reasons, like due to stop or delivery type, the way in which the stop is accessed, or receptacle type, while remaining fixed with respect to volume. He further suggests that he is forced to assume that the stops effect is some fixed amount of time (about one second), due to the fact that no data exist that directly measure fixed time at stop. Tr.18/7296-7297. If so, the derivation of the stops effect seems unnecessary, since the load-time regressions explicitly capture and measure these influences, including that of stop and receptacle type.

Table 3

INFERRED STOPS EFFECT FROM LOAD TIME REGRESSION EQUATIONS (seconds)

Stop Type	Intercept Coefficient*	Lowest Coefficient for Receptacle Dummy*		Inferred Stops Effect
		Type	Coefficient	
SDR	1.1	MR5	-3.4	-2.3
MDR	-2.9	MR7	-24.8	-27.7
BAM	-2.8	MR8	-7.2	-10.0

* USPS-LR-H-137.

V. WITNESS BARON'S MEASURE OF THE STOPS EFFECT

Witness Baron indicates that no data are available to directly measure "zero volume" load time (the most direct measure of the stops effect). As a result, any measure must be inferred from available load-time data sets. To draw this inference, Witness Baron uses load time estimates for single-piece deliveries as an upper-bound proxy of the stops effect. In Tables 1 and 2 of his testimony in Docket No. R97-1, Witness Baron calculates the fixed-time costs attributable to the stops effect for SDR, MDR and BAM stop types using this method. Witness Baron's critical assumption, however, is that the "stops effect" should be based on the average time for the lowest quintile of recorded single-delivery times.

Witness Baron states that, by definition, the lowest recorded load time observed across all single-piece deliveries from the load time field test **must** represent an upper-bound quantification of the stops effect. Docket No. R97-1, USPS-T-17, p. 10. Thus, by his own definition, Witness Baron overestimates the stops effect by instead using the average of the lowest quintile. In effect, Witness Baron implicitly assumes that roughly 10 percent of all single letter stops will have a load time, which very likely includes a

volume variable cost component associated with the loading of the single letter, that is less than his measure of the "stops effect."

Witness Baron's testimony fails to justify his use of the average of the lowest 20 percent of recorded load times. Changes in the segment of the sample used to represent the "lowest single-delivery load time" can have significant effects on the calculation of fixed-time costs due to the stops effect. For example, Table 4 illustrates the relationship between the portion of the sample used and the resulting calculations of fixed-time costs for SDR stops.

Table 4

SAMPLE SELECTION AND CALCULATION OF FIXED TIME COSTS

Segment of SDR Sample	Percent Fixed Time (a)	Fixed-Time Costs, SDR Stops ($000) (b)
Average of All One-Piece Deliveries	49.057 %	$ 771,061
Average of Lowest 20% of Sample (Witness Baron's Calculation)	13.999 %	$ 220,028
Average of Lowest 10% of Sample	11.714 %	$ 184,117
Average of Lowest 5% of Sample	9.681 %	$ 152,166
Lowest Value of Sample	5.323 %	$ 83,661

(a) Values derived from USPS LR-H-140.
(b) equals (a)*$1,571,780 (total accrued load-time costs for SDR stops).

The results shown in the above table demonstrate how the percent fixed time, and thus fixed time costs, can vary significantly depending upon what segment of the total sample of observed load times is used. For example, the lowest recorded load time across the sample of 1373 single-piece SDR deliveries is 0.4 seconds.[6] The ratio

[6] Note that Witness Baron's testimony in Docket No. R97-1 states that the highest recorded single-piece delivery time is 6.34 seconds for SDR stops. Baron observes that, "clearly, 6.34 is too high as an approximation of the amount of time spent prior to loading a single letter." USPS-T-17, p. 10. However, I believe that this value is stated in error; the highest recorded single-piece delivery time is 634 tenths of a second, or 63.4 seconds.

of this fixed time to total time yields the percent fixed time, which is applied to total base year 1998 SDR accrued load time costs to determine fixed SDR costs. Rather than use 0.4 seconds as the basis for his calculations of fixed-time costs due to the stops effect, however, Witness Baron uses significantly higher values based on the average times across the lowest quintiles of SDR, MDR and BAM samples.

Witness Baron offers insufficient justification for the use of the average of the lowest quintile of recorded times rather than the average of the lowest five percent, or ten percent of recorded times. Furthermore, because Witness Baron argues that the lowest recorded single-delivery load time of 0.4 seconds must, by definition, represent an upper-bound measurement of the stops effect, his measure of the stops effect is incorrect.[7]

It is unclear why Witness Baron does not employ this value of 0.4 seconds to derive an estimate *for the upper bound* of fixed-time costs, under his definition thereof. Witness Baron dismisses this option by questioning the accuracy of the 0.4 second value and citing its relative infrequency in the sample as a whole. Docket No. R97-1, USPS-T-17, p. 11. If one looks at the frequency distribution of the sample, however, it is apparent that 0.4 seconds is not a statistical outlier but is in fact consistent with the overall distribution of the timed events. USPS LR-H-140. For example, the sample of 1373 load-times for single-delivery SDR stops yields 151 unique time measurements. Of these unique time measurements:

[7] Witness Baron confirms the difficulty he faced in determining the segment of the sample to employ, suggesting the selection process was not very "scientific" and represented his "best guess as to where we should draw the line." Tr.18/7310.

- 94 have five or fewer observations throughout the sample. The measurement of 0.4 seconds is observed five times in the SDR sample. This means that approximately 62 percent of time measurements are observed less frequently, or with equal frequency, as compared to the lowest observed measurement of 0.4 seconds.[8]
- The average number of observations per unique time measurement is 9 observations, and the median number of observations is three. The five observations of .4 seconds fall between these two measures of central tendency.[9]

The sample provides additional indications that Witness Baron's approach likely overstates fixed-time at stop, to the extent it exists at all. Out of the total sample of 1373 single-delivery SDR stops, 113 observations produced load-times ***less than*** the average load-time across the lowest quintile of observations (*i.e.*, Witness Baron's proxy for calculating fixed time costs due to the stops effect). As a result, the Postal Service's measure of fixed time at stop exceeds ***total*** load times for over eight percent of the observations in this sample. Similar arguments to those above can be made for the sample of one-letter deliveries at MDR and BAM stops as well.

[8] The related percentages for MDR and BAM stops are approximately 67 percent and 87 percent, respectively.

[9] For MDR stops, the lowest recorded value of 0.5 seconds appears once in the sample. The average number of observations per unique time measurement in the sample of one-letter deliveries at MDR stops is 1.3, and the median is 1. For BAM stops, the lowest recorded value of 0.5 seconds appears twice in the sample. The average number of observations per unique time measurement in the sample of one-letter deliveries at BAM stops is 1.5, and the median is 1.

As demonstrated above, equally plausible alternative sample subsets yield varying measures of the stops effect as defined by Witness Baron. In fact, the evidence suggests that this time increment, if it indeed exists, is likely too short to be measured. Even Witness Baron concedes this possibility:

> Given that the 1985 measurements indicate that even loading one letter takes as little as one second, it is conceivable that fixed time at a stop - the time spent prior to any handling of mail or mail-related equipment - is less than one second, and therefore so low as to be virtually unmeasurable. In this case, a data collector could validly conclude that fixed time at a stop is virtually zero, or alternatively, that zero is the best possible point estimate of this fixed time. OCA/USPS-T12-9.

In summary, the Postal Service's method for measuring the stops effect is arbitrary. No data exist to support direct measurement of the stops effect, and the Postal Service's selection of a subset of single-piece delivery load times as a proxy for the stops effect is unsubstantiated.

VI. CONCLUSION

In this proceeding, the Postal Service has again proposed significant changes to the established treatment of volume-variable load-time costs. It proposes to abandon the notion of coverage-related load-time and seeks to replace it with a concept referred to as the stops effect. As a result of this approach, the amount of attributable load-time decreases significantly.

Based upon my review of the relevant testimony and supporting data, I conclude that the Postal Service's proposed stops effect approach is not justified. It is a fictional construct founded upon an incorrect interpretation of prior Commission opinions. Additional justification for the approach is based on a strained and unnecessary

extension of the activity-based functional approach for allocating total street-time among the major carrier activities into the assessment of load-time volume variability. No data exist that directly measure the effect, nor do the results of the load-time regression equations provide a hint that carriers might spend some fixed amount of time at each stop where zero mail volumes are loaded. Furthermore, even if such an effect exists, it cannot be accurately imputed using available data. As a result, the Postal Service's analysis of the stops effect is neither theoretically nor empirically supported. For these reasons, I recommend that the Commission maintain its established treatment of load-time costs, as outlined in the Docket No. R97-1 Recommended Decision and summarized here in Section III.