BEFORE THE
POSTAL RATE COMMISSION
WASHINGTON, D.C. 20268–0001

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| POSTAL RATE AND FEE CHANGES, 1997 | Docket No. R97–1 |

RESPONSE OF UNITED STATES POSTAL SERVICE
TO NOTICE OF INQUIRY NO. 3 ON COVERAGE-RELATED LOAD TIME
(February 2, 1998)

On January 12, 1998, the Commission issued Notice of Inquiry ("NOI") No. 3. The NOI focusses on the unrebutted direct testimony of Postal Service witness Baron, specifically, on witness Baron's proposed treatment of coverage-related load time costs. After briefly summarizing witness Baron's testimony on this issue, the NOI asserts that "the assumption that preparation time is a fixed time per stop appears to conflict with certain properties of coverage, and with the available data on preparation time." NOI at 2. The NOI concludes with a solicitation of comments from all parties pertaining to three "discussion points," and provides attached hypotheticals to facilitate discussion.

Before responding to the substantive points raised in the NOI, the Postal Service believes that the form and timing of the Commission's inquiry raise important procedural questions that bear examination. First, it is clear that the subject matter of the NOI is such that responding parties must apply considerable substantive and technical expertise and judgement to address the concerns raised. Such issues, by their nature, would not seem to lend themselves to the type of "notice and comment" procedures now being pursued. Ordinarily, one would expect the Commission to solicit responses on such issues in a manner that would permit the responses to be tested on, and incorporated into, the evidentiary record of this proceeding. This approach would, in turn, allow the parties to fully examine and, if necessary, rebut the solicited information.

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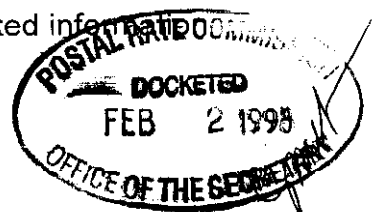
on the record. A number of Presiding Officer's Information Requests have been employed in this and prior proceedings for this purpose.

As it now stands, the effect of NOI No. 3 is to offer to parties opposed to the approach advocated by witness Baron, who heretofore have remained silent, a belated and additional opportunity to oppose aspects of that testimony. The NOI has the secondary effect of identifying for such parties those aspects of the Baron testimony which the Commission, based on an extra-record review, considers to be potentially vulnerable to attack. The NOI thus could have the very real effect of nullifying the procedural fairness inherent in the sequence of events dictated by the schedule, to the disadvantage of the Postal Service and other parties who have timely filed direct testimony, who have responded to appropriate discovery, and who have made witnesses available for cross-examination.

The timing of the NOI, moreover, is such that even if the Commission sought to rely on the information it is now soliciting from the parties, it will be difficult for the Commission to implement the appropriate and necessary procedural mechanisms which would permit such reliance.[1] See *Mail Order Ass'n of America v. United States Postal Service*, 2 F.3d 408, 430 (D.C. Cir. 1993). In a mere two weeks, the Commission will commence evidentiary hearings on the cases-in-chief of intervenors, and rebuttal to such cases is scheduled to be filed on March 9, 1998. If the parties have *substantive or technical questions regarding any information filed in response to NOI No. 3*, it is unclear how such questions would be resolved. Also unclear is whether, at this advanced stage of the proceeding, the parties can be permitted an

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[1]   In this regard, the Postal Service is also particularly concerned that these issues will create additional pressures militating against the Commission's ability to issue a recommended decision within the statutory 10-month limit.

adequate opportunity to examine and rebut any incorrect statements, assumptions, calculations or conclusions contained in submissions made pursuant to NOI No. 3. The NOI thus raises serious due process concerns.

Aside from the procedural questions raised by the NOI, the Postal Service also has comments on its substance. First, the Postal Service affirms that it believes witness Baron's testimony is the most accurate and sound treatment yet developed of coverage-related load time, that it is amply supported on the record of this proceeding, and that the Commission should rely on it. Second, the NOI appears to proceed, at least in part, from a misunderstanding of the substance of witness Baron's direct testimony. For example, the NOI contains a misstatement regarding witness Baron's concept of the fixed "stops effect." The NOI states that witness Baron's testimony defines this effect as "all time spent preparing to load mail," when, in fact, his testimony and interrogatory responses define the stops effect as **solely** that pre-loading time which is fixed in length with respect to the volume loaded at the stop or the number of deliveries accessed at the stop. Third, the conceptualization suggested in the NOI appears to be at odds with prior Commission treatment of the stops effect, and would create substantial confusion regarding the meaning of this effect.

These and other substantive points are explained at greater length in a recently-drafted statement by witness Baron, which is appended to this document. The Postal
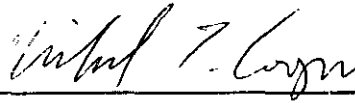
Service hereby incorporates witness Baron's statement as a part of its comments in response to NOI No. 3.

Respectfully submitted,

UNITED STATES POSTAL SERVICE

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STATEMENT OF DONALD M. BARON IN RESPONSE TO
NOTICE OF INQUIRY NO. 3

Introduction

My comments in response to Postal Rate Commission Notice of Inquiry (NOI)
No. 3 (January 12, 1998) are presented in three parts. Part 1 corrects some
inaccuracies in the NOI's summary of my testimony. Part 2 presents my understanding
of the issues defined at pages 2-3 of the NOI, and in the two NOI hypotheticals. Part 3
presents my conclusions on these issues.

Part 1 Correcting Inaccuracies in the NOI's Summary of Testimony

Page 1 through the top of page 2 of the NOI present an overview of my
testimony. It begins with the following statement:

> "witness Baron contends that the residue of cost that remains after deducting
> elemental load time costs from accrued load time costs cannot be associated
> exclusively with coverage. For that reason, he argues that this residue should
> not be used to analyze the variability of load time."[1]

This particular summary is ambiguous. To clarify, I will reiterate what my testimony and
interrogatory responses say about the "residue" or residual cost. First, I defined
residual cost as accrued load time cost minus the product of the aggregate elasticity of
load time with respect to volume and this accrued cost. Further, I regarded this residual
cost as a function of volume at a stop. I noted, for example, that residual cost falls to
zero as volume falls to zero. I therefore concluded that the residual is an improper
measure of fixed time at a stop, a time interval that by definition is the same at each
accessed stop, regardless of how much volume is loaded at that stop.[2] Finally, note

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[1] Docket No. R97-1, Postal Rate Commission Notice of Inquiry No. 3 On Coverage-Related Load Time
(hereinafter referred to as NOI No. 3), page 1.
[2] See Direct Testimony of Donald M. Baron, Docket No. R97-1, USPS-T-17, pages 34-36. See also my
responses to NAA/USPS-T17-13, UPS/USPS-T17-8, and UPS/USPS-T17-14.

that even if the residual were a valid measure of fixed time at stop, I would not then use it to "analyze the variability of load time." Instead, I would add it to the pool of accrued access cost, and use it to analyze the variability of access time.

The NOI also appears to have misunderstood my own measure of the fixed "stops effect." It states that my testimony defines this effect as "**all** time spent preparing to load mail."[3] (Emphasis added). My testimony and interrogatory responses define the stops effect as **solely** that pre-loading time which is fixed in length with respect to the volume loaded at the stop or the number of deliveries accessed at the stop. It is preparation time that is not a function of volume at a stop.[4]

The NOI also erroneously summarizes my analysis of the load-time regressions. It claims that after I defined true load time as the excess of initial accrued load time over my measure of fixed-time at stop, I regressed this load time on volume and deliveries.[5] In fact, I did not estimate any regressions at all. I simply used the regressions that the Commission adopted in its Docket No. R90-1 Decision, and has used since. I chose to **interpret** those regressions as equations defining true load time as a function of volumes and deliveries. My reasons are presented in responses to UPS/USPS-T17-10, UPS/USPS-T17-11. These responses argue that if, instead, one views the dependent variable in the regressions as non-fixed time (i.e., pure load time) **plus** fixed-time at stop, then one must view the sum of the products of the slope coefficient estimates and corresponding right-hand-side variables as a valid measure of the non-fixed time. This would, in turn, necessarily imply that the sum of the intercept plus relevant container and receptacle dummy variable coefficients equals a valid measure of the fixed time only. The problem, of course, is that for many combinations of container and receptacle types, this sum is negative. To prevent being forced to adopt such a negative estimate of fixed time at stop, one must view the dependent variable in the load-time regressions as strictly the pure load-time - the time that **does** vary as volume loaded changes.

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[3] NOI No. 3, page 1.
[4] See Docket No. R97-1, USPS-T-17 at page 9, lines 10-17, and page 13, lines 3-6. Also see my responses to NAA/USPS-T17-2(a), NAA/USPS-T17-4(a), and NAA/USPS-T17-8.
[5] NOI No. 3, pages 1-2.

Part 2. Issues Raised in the NOI

Pages 2-3 of the NOI appear to restate the established view that load-time analyses must explicitly model a stops effect. In a nutshell, this assessment can be illustrated through a simple but realistic two-stops example.[6]

In this example, an SDR stop - call it stop A - gets 3 letters and 2 flats. Then volume increases by 3 letters and 2 flats. Allow me to focus on two possible outcomes. In case 1, this additional block of pieces all goes to stop A. In case 2, the additional block of pieces all goes to a new SDR stop, call it B. In both case 1 and case 2, a total of 6 letters and 4 flats are delivered. In case 1, all are delivered to one stop. In case 2, half is delivered to each of two different SDR stops. The question posed by the NOI is: should total load time be the same in case 2 as in case 1, or different?

To highlight the point made in the NOI, assume for the moment that the volume variability of load time at any one stop is 100% with respect to volume loaded just at that stop. Then one view would be that total load time in the two cases should be the same. The logic would be simple. In both cases, 6 letters and 4 flats are loaded, so time to load should be equal as well.

An alternative view is derived from the record of Docket Nos. R87-1 and R90-1. These cases establish the existence of a unique coverage-related load time interval. This is an increase in load-time that occurs simply because a new stop is accessed. It is called the stops or coverage effect, and is an interval of time that measures a fixed observable activity the carrier has to perform at each stop regardless of how much volume is loaded at the stop.[7]

This finding of a coverage-related time interval implies that total load-time is greater in case 2 than in case 1. In case 2, the stops effect occurs at two stops. In

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[6] I believe this example demonstrates the coverage problem as well as do the more complex hypotheticals presented in the NOI attachment. It illustrates how the time associated with loading could be affected by the way volume is allocated across stops, as well as by the total amount of volume.

[7] See Postal Rate Commission, Docket No. R90-1, Opinion and Recommended Decision, III-58; Docket No. R87-1, Opinion and Recommended Decision, pages 230-250; and Rebuttal Testimony of Peter D. Hume, Docket No. R87-1, USPS-RT-10, pages 60-61.

case 1, it occurs at only one stop. It is the additional stops effect in case 2 that makes its total load time higher.

The NOI implicitly criticizes the Commission's Docket No. R90-1 SDR load-time regression for failing to explicitly account for this stops effect. The SDR regression defines load time at just one stop as a function of volume loaded just at that one stop. So the coverage effect of an increase in SDR stops is left unaccounted for. The NOI contrasts this with my interpretation of the MDR and BAM regressions, which explicitly accounts for the increase in MDR and BAM load time that will occur at one MDR or BAM stop as a result of an additional delivery at that one stop.[8]

The NOI then appears to ask the parties to apply a similar approach to SDR stops.[9] To satisfy this request, the SDR model would define aggregate load time over a group of SDR stops (presumably all on the same route) as a function of total volumes by shape over all such stops, and total numbers of such stops. The partial derivative of this total load time with respect to the total number of stops would provide an econometric measure of the stops effect comparable to the deliveries effect in my interpretation of the MDR and BAM regressions.

However, the NOI, read as a whole, complicates this proposal. Whereas the record of prior cases clearly establishes the stops effect as a time interval that is fixed with respect to volume delivered at a stop,[10] the NOI now proceeds from the unsupported assumption that the stops effect really does vary with volume loaded. Specifically, the NOI first indicates that the stops-effect time interval must be time spent preparing to load mail. It then rejects, again without any basis in precedent or record

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[8] NOI No. 3, pages 2-3.
[9] I interpret the following statement at page 3 of the NOI as a request for such a model:

> The parties are asked to discuss: 2) whether for SDR stops, the stop coverage model advocated by witness Baron should be used to regress total accrued load time (not adjusted for any 'stops' effect) simultaneously on delivered volume and on actual stops (the equivalent of actual deliveries) in the same general way that witness Baron applies his delivery coverage models to MDR and BAM stops.

[10] Docket No. R90-1, Opinion and Recommended Decision, III-58; Docket No.R87-1, Opinion and Recommended Decision, pages 230-250; and Rebuttal Testimony of Peter D. Hume, Docket No. R87-1, USPS-TR-10, pages 60-61.

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evidence, the view "that preparation time is a fixed time per stop." It argues that such a view "appears to conflict with certain properties of coverage, and with the available data on preparation time."[11] The NOI does not further explain the exact nature of the conflict that concerns the Commission.

This assessment places a new demand on the proposed aggregate SDR regression. Not only must this regression isolate and measure the distinct coverage effect of an additional SDR stop, but it must do so in a manner that allows for this increase in load time – this coverage effect – to vary with the volume and mix of mail going to the new SDR stop.

The problem with this suggestion is that once it becomes necessary to measure a coverage effect whose magnitude depends on the amount and mix of mail going to the new SDR stop, the entire concept of a coverage effect, as developed on the record in prior proceedings, becomes incoherent. Under the view suggested by the NOI, it is no longer clear whether the increase in time that occurs when volume is loaded at a new stop is really a coverage effect, a volume effect, or some unallocatable combination of both.

The idea of a coverage effect that depends on volume loaded is therefore, in my view, incompatible with the functional analysis approach to load-time cost measurement. I believe the time to complete the coverage-related activity must, instead, be fixed with respect to volume loaded at the stop, because, to conceptualize that such a time interval depends on volume loaded eliminates the operational distinctiveness of the coverage-related activity. If the coverage load-time interval is not **independent of volume**, then the activity this time interval is supposed to measure also cannot be regarded as an **independent observable action** of the carrier. It cannot be identified. It makes no sense to think of the coverage load activity as a separable independent activity that a functional analysis can observe a carrier perform, if the time taken to conduct that activity is not also an independently measurable,

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[11] NOI No. 3, page 2.

separable block of time.[12] To be a unique, observable, event, the coverage load activity must be independent of volume.

3. Conclusions

My response to the NOI's suggestion to derive an aggregate SDR load-time model (and, by implication, a comparable aggregate MDR and an aggregate BAM model) is based on my conviction that the Commission should maintain its long-standing precedent of applying a functional analysis of load time. Functional analysis not only provides the foundation for the entire city carrier street-time costing system, it is the only method that has any basis in precedent or record evidence. Moreover, this approach defines the concept of coverage-related load time as a separable, independent interval of time measuring a separable, independent, observable action of the carrier. The measurement of this time interval must therefore continue to ensure that the time estimate is independent of volume loaded, deliveries accessed, or any other separate non-coverage-load time action the carrier takes at the stop.

The measurement I propose in my direct testimony already satisfies this requirement. It recognizes that if coverage-related load time is to measure an action the carrier takes at every actual stop, the time interval must be no greater than the minimum load times observed during the 1985 LTV study at one letter stops.[13] The resulting measures of fixed-time at stop (which equal about 1 second) may appear too low to satisfy some observers. However, those who believe the stops effect must be a much larger time interval will have great difficulty reconciling this belief with the very low and even negative intercept coefficients produced by all three of the Commission's load-time regressions. Clearly, if the stops effect did equal a relatively long time

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[12] In my interpretation of the delivery terms in the MDR and BAM regressions, the increase in load time resulting from a new actual delivery **is** independent of the volume going to that new delivery. Admittedly, the delivery variables in the MDR and BAM regressions are both squared and interacted with some of the volume variables. However, this feature only ensures that the effect of the new actual delivery on load time depends on how much volume is currently loaded and how many deliveries are currently accessed at the MDR or BAM stop. It does not make the time spent going to the new delivery dependent on the amount and mix of mail going to that delivery. Moreover, analysts who believe the effect of the new delivery **should** be made independent of the current actual deliveries and current volumes loaded are free to reestimate the Commission's MDR and BAM regressions after eliminating the squared delivery terms and all interactions between deliveries and volumes.

[13] Docket No. R97-1, USPS-T-17 at pages 9-11.

interval, say 5 seconds or more, one would expect the intercept estimates to equal large, positive, and statistically significant values for all combinations of container and receptacle types. The fact that the intercepts in the Commission's load-time regressions are negative for most observed combinations of container and receptacle types contradicts the hypothesis that the fixed-time interval is substantially greater than one second.

The two hypotheticals attached to the NOI further illustrate why the load-time analysis needs to account for the number of stops that get mail as well as the total volume and mix of mail being loaded. The second hypothetical also highlights a new dimension to this problem - the possible separation by carriers of saturation flats and DPS mail into separate bundles. It seems clear that the implications of these relatively new mail types for load-time volume variability cannot be determined through further analysis of the 1985 LTV data. These data contain no observations on the loading of DPS mail, and relatively few observations on saturation flats. Moreover, according to the 1985 data, over 90% of all mail loaded at SDR and MDR stops was held strictly as loose mail (container type 1), with only about 2% held in bundles (container type 2), another 2% held in trays (container type 3), and 3% held in sacks or pouches (container type 4).[14] So there is little information in the 1985 data set on which to base inferences about the effects of handling bundles rather than other container types.

However, it should also be noted that some of the specific assumptions made in NOI hypothetical number two in order to illustrate a carrier handling mail that includes saturation and DPS bundles are unrealistic. First, the hypothetical assumes that the carrier would always bring together mail of a similar shape from separate bundles prior to inserting the mail into a receptacle. There is no basis for this assumption. Thus, whether the carrier in the first scenario would really perform this action of bringing together pieces of similar shape eight separate times over the four actual stops is highly dubious. Second, scenario number two is highly improbable because it assumes a coverage ratio of only 25% for possible stops and 40% for possible deliveries. Any deficiency of the current load-time variability analysis resulting from its failure to account

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for the change in load time that would occur in moving from scenario 1 to scenario 2 is therefore of little consequence. Scenario 2 represents only a tiny portion of observed coverages found on actual city carrier routes.

[14] Docket No. R97-1, USPS LR-H-137, pages 48 and 50.

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon all

participants of record in this proceeding in accordance with section 12 of the Rules of

Practice.

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