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POSTAL REGULATORY COMMISSION
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Six-Day to Five-Day Street Delivery and Related Service Changes

Docket No. N2010-1

CHAIRMAN'S INFORMATION REQUEST NO. 3

(Issued April 30, 2010)

The Postal Service is requested to respond to the following questions to clarify the record on its request for an advisory opinion under 39 U.S.C. 3661(c) for the elimination of Saturday delivery, filed March 30, 2010. To facilitate inclusion of the required material in the evidentiary record, the Postal Service is to have a witness attest to the accuracy of the answers and be prepared to explain, to the extent necessary, the basis for the answers at hearings. Responses should be provided no later than May 14, 2010.

The following question pertains to the direct testimony of witness Neri (USPS-T-4).

1. The Postal Service states that it examined various outgoing operations and determined what percentage of the workhours would be eliminated with the discontinuance of Saturday outgoing operations. USPS-LR-N2010-1/5 at 2. In some cases, this determination was made "by using postal experience."
   (a) For each category where the percentage of workhours eliminated was determined using postal experience, please explain the basis for the percentage used and the rationale behind the determination.
   (b) The costs that are not eliminated by the discontinuance of Saturday outgoing operations are assumed to be incurred on a different day when the mail that would have been processed on Saturday is processed. These costs appear to be driven by the processing of volume (hence the

inability to eliminate them) and so can be thought of as volume variable. In contrast, the costs that can be eliminated implicitly would not be incurred when the volume is processed on an alternate day. Therefore, the costs that can be eliminated can be thought of as fixed with respect to volume.

For each category of operations, please explain why the assumptions used in this library reference are a better representation of the portion of costs driven by volume than the volume variability percentages.

The following questions pertain to the direct testimony of witness Bradley (USPS-T-6).

2. Witness Bradley states that it is not appropriate to use a volume-variable cost model to estimate costs avoided by moving from 6- to 5-day delivery. USPS-T-6 at 3. He explains that the move from 6-day to 5-day delivery is an operational change, not a volume change. Although it may be an operational change, it results in increased delivery volume on some days. Please explain why volume variability analysis is not appropriate for analyzing cost increases on days when volume is expected to increase due to the shift of Saturday volume.

3. Witness Bradley discusses differences between the concepts of "Fixed Office Time" (FOT) and institutional office time. He states:

> FOT captures the amount of time <u>on an individual route</u> that does not vary with changes in <u>daily</u> volume. Institutional office time captures the amount of time in an <u>entire delivery unit</u> that does not change with sustained <u>changes in volume over a three-year to five-year period.</u> The most important

> way the city carrier delivery network adjusts to changes in volume is through route reconfiguration—changes in the number of routes.

USPS-T-6 at 13. (Emphasis in original.)

Given this statement:

(a) When volumes vary, keeping the number of routes fixed, does total fixed office time for a delivery unit remain constant and total variable office time consist of the sum of the variable office time for each route? If not, please explain.

(b) Should total fixed office time for a delivery unit vary proportionately to changes in the number of routes regardless of the volume level? If not, please explain.

(c) Is institutional office time for a delivery unit invariant to both changes in volume and the number of routes? If not, please explain.

(d) Will total variable office time for a delivery unit depend on both the total delivery volume for the unit and the number of routes served by the unit?

(e) As the number of routes increase due to changes in other workload factors while volume remains constant, is there an impact on total variable office time? Please explain.

(f) Does this impact on total variable office time relate to efficiency changes because each carrier handles fewer pieces? Please explain.

4. Witness Bradley states, "transferring delivery of current Saturday volume to other days of the week will not cause a transfer of much of this time to those days… the reduction of volume has outstripped the reduction in street time capacity and there is available capacity on the street." USPS-T-6 at 16.

(a) In the absence of 5-day delivery, does the Postal Service expect to eliminate excess capacity in the long run?

(b) How does the Postal Service identify excess capacity in delivery operations?

(c) Would it be possible to construct an excess capacity measure and adjust this measure through time in response to both drops in volume and workhours? Please explain.

5. Witness Bradley describes the shift of Saturday variable office time to weekdays, but he does not refer to existing excess capacity for in-office operations. USPS-T-6 at 13-14.

(a) Does the mitigating effect of excess capacity apply to in-office time as well as street time costs?

(b) If so, should a separate absorption factor be applied to variable office time to estimate the amount of this time that should be subtracted prior to shifting such hours to weekdays? If not, please explain.

(c) Is excess capacity a notion that should be applied separately to in-office and street workload or be considered in reference to total in-office and street workload? Please explain.

The following questions refer to witness Bradley and the file "Carrier Cost Savings.xlsx", filed as USPS-LR-N2010-1/6 (Spreadsheet).

6. Witness Bradley states that 34 percent of Saturday in-office hours is fixed office time and this portion of time is saved when eliminating Saturday delivery. USPS-T-6 at 18. The Spreadsheet shows that this percentage is applied to total Saturday in-office hours from DOIS for FY 2009, adjusted for FY 2009 ACR control totals. Given that city carrier route adjustments were ongoing during FY 2009, is this the appropriate base to use for in-office savings estimation? Please explain.

7. Witness Bradley states, “Operational analysis has estimated that no more than 10 percent of delivery time will be transferred, so 10 percent of both the Delivery Activities and Delivery Support should be transferred to the Monday through Friday cost.” USPS-T-6 at 18. In the Spreadsheet, this figure is applied to Delivery Activities and Delivery Support workhours derived from FY 2009 DOIS Saturday street hours, adjusted to the same FY 2009 ACR control totals. Given that city carrier route adjustments were ongoing during FY 2009, is this the appropriate base for estimating street savings? Please explain.

8. The Technical Appendix, Initial Comments of the United States Postal Service on the Commission Report, February 17, 2009, provides average cost savings by ZIP Code when moving to 5-day delivery, calculated using quadratic and translog cost functions.
   (a) Can the approach used for the calculation of cost savings be characterized as an incremental costing approach? Please explain.
   (b) Is this approach still a viable method for estimating cost savings from 5-day delivery when updated for FY 2009 data? If not, please explain.
   (c) This analysis indicated absorption rates on variable costs of 19.1 percent using the quadratic model and 26.6 percent using the translog function. Witness Bradley states the pass-through of 10 percent of Saturday variable city carrier street costs. USPS-T-6 at 18. This implies absorption of 90 percent of such costs. Please explain how the new absorption rate can be reconciled with the earlier study.

9. Consider the following aggregate model used to explain a marginal change in city carrier costs with respect to delivery days for your comments.

Let system level carrier costs be explained by $C = c(V/N, Z)N$, where V is aggregate city carrier volume, N is the total number of delivery days, Z is a vector of control variables influencing city carrier costs (such as the number of possible deliveries, density, etc.). The function c() represents daily carrier costs shown as a function of average daily volume $v = V/N$ and the control variables. Note that this formulation explains city carrier costs for the same time period (daily) using the same volume measure (daily volumes) as applied in the econometric models developed from the CCSTS database. The exception is that the model is a system level model rather than a zip level model. The marginal effect of delivery days on carrier costs can then be shown as: $\partial C/\partial N = c(V/N, Z) - (\partial c/\partial v)V/N$.

Multiplying $\partial C/\partial N$ by N/C yields the following elasticity of carrier costs with respect to the number of delivery days:

$$(\partial C/\partial N)N/C = c(V/N, Z)N/C - (\partial c/\partial v)V/C.$$

Substituting $c(V/N, Z)N$ for C gives:

$$(\partial C/\partial N)N/C = 1 - (\partial c/\partial v)v/c.$$

The delivery day elasticity is shown as one less the variability of daily cost with respect to average daily volume $v = V/N$. Note that if volume variability is one, then $(\partial C/\partial N)N/C = 0$ because there are no fixed costs and all variable costs vary in proportion to volume (the constant marginal cost case). At the other extreme, if $(\partial c/\partial v)v/c = 0$, then all costs are fixed costs and these must vary in proportion to delivery days. Hence $(\partial C/\partial N)N/C = 1$ in this case. Further, note that the marginal effect $\partial C/\partial N$ can be used to approximate the effect on costs from eliminating one delivery day. Therefore, multiplying both sides by $c = C/N$

produces the following first order estimate of the cost effect from eliminating one Saturday delivery day.

$$\partial C/\partial N = c(1 - (\partial c/\partial v)v/c).$$

The city carrier cost savings from eliminating a delivery day can be approximated as the product of average daily carrier costs and one less the volume variability measured at average daily volume. Note that for estimation purposes, the result does not depend on any particular quantitative specification. All that is needed to approximate savings is a volume variability estimate derived from any quantitative model or from appropriate secondary sources, and an estimate of average daily costs from accounting data.

Please comment on the basic model structure used to develop this result and any appropriate elaborations or modifications that might prove useful in the future.

10. Please provide the DOIS daily volumes by product type that accompany each observation of the daily hours data provided in USPS-LR-N2010-1/6.

Ruth Y. Goldway
Presiding Officer