

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

POSTAL RATE AND FEE CHANGES
PURSUANT TO PUBLIC LAW 108-18

Docket No. R2005-1

RESPONSE OF POSTAL SERVICE WITNESS BRADLEY
TO INTERROGATORIES OF THE OCA (OCA/USPS-T14-12, 13.b, d, l, 14 - 24)
(May 17, 2005)

The United States Postal Service hereby provides the response of witness Bradley to the following interrogatories of the OCA, filed on May 3, 2005: OCA/USPS-T14-12, 13.b, d, l, 14 - 24. Parts a, c, e-k, and m of question 13 have been redirected to the Postal Service, and avenues to obtain and provide that information are still being explored.

Each interrogatory is stated verbatim and is followed by the response.

Respectfully submitted,

UNITED STATES POSTAL SERVICE

By its attorneys:

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May 17, 2005

Response of Postal Service Witness Michael D. Bradley
To OCA Interrogatories

OCA/USPS-T14-12. Please refer to your testimony, page 16, line 15 to page 17, line 11. You indicate that a typical mail route may have two to four sections, each of which has a dominant delivery technology. You further state in your testimony, page 20, lines 7-11, "Note that it was not feasible to measure volumes by individual route section but only by route. As a result, separate econometric models cannot be estimated for each of the different delivery technologies and only a single delivery time variability can be derived." In responding to OCA/USPS-T14-1(b)iii, you indicate that "only a single delivery mode [is] defined for each route in a Zip Code and this does not change."

- a. For every route, consisting of possibly two to four sections, is it correct that each section will have the same dominant delivery technology? If your answer is negative, please discuss in detail.
- b. Your testimony and interrogatory response appear contradictory. Could you please explain the matter further.

OCA/USPS-T14-12 Response:

- a. No. For example, the first section on a route may be a curblin section which is then followed by an NDCBU section.
- b. I don't think that there is a contradiction. Perhaps you thought there was a contradiction because you were unaware that the Postal Service will classify a route with a single "mode" even though the route may contain different delivery technologies. It is my understanding that this happens routinely. It is also my understanding that "mode" is only a guide to the nature of delivery on the route and not a guarantee that the route technology is completely homogenous.

Response of Postal Service Witness Michael D. Bradley
To OCA Interrogatories

OCA/USPS-T14-13. You have presented Census data by ZIP Code for the square miles of territory covered. The ZIP Codes you have used are encoded. Independent research on the data and subsequent matching of data are accordingly impossible. Please provide the following data by encoded ZIP Code for the same year as your square-mile data:

- a. Number of households.
- b. Population
- c. Income per household (please state whether median, average, or whatever basis)
- d. Housing units
- e. Housing units in multiunit structures
- f. Pct of population with bachelor's degree
- g. Persons under 18
- h. Annual non farm payroll
- i. Number of employers
- j. Number of establishments
- k. Retail sales per capita
- l. Persons per square mile.
- m. FHP and TPF for the mail processing plant servicing the ZIP Code.

OCA/USPS-T14-13 Response:

- a. Redirected to the Postal Service.
- b. These data are contained in the file entitled DENSITY.PRN in Library Reference USPS-LR-K-81 in the variable entitled "POP."
- c. Redirected to the Postal Service.
- d. These data are contained in the file entitled DENSITY.PRN in Library Reference USPS-LR-K-81 in the variable entitled "UNITS."
- e.-k. Redirected to the Postal Service.
- l. These data can be calculated by using the variable "POP" from file entitled DENSITY.PRN in Library Reference USPS-LR-K-81 and dividing it by the variable "LAND" from file entitled DENSITY.PRN in Library Reference USPS-LR-K-81.
- m. Redirected to the Postal Service.

Response of Postal Service Witness Michael D. Bradley
To OCA Interrogatories

OCA/USPS-T14-14. Please refer to your testimony, page 22, lines 6-10:

This time pool contains the time required to sweep general and Express Mail mailboxes. . . . Its variability is the one developed by the Commission in Docket No. R2000-1 and thus is the same as in the established methodology.

Collection volumes are one of the independent variables used in the regular delivery time study. Presumably some of the delivery time includes collection time. Please explain the differences in times, volume variabilities, and the intent of your statements.

OCA/USPS-T14-14 Response:

Please note that carriers do two types of collection on their routes, in two separate physical actions. The first type of collection is collection from customer mail receptacles. This is done in the regular delivery function within delivery sections. The second type of collection is sweeping of street letter boxes. This is done, typically, outside of delivery sections and is a separate route activity. In your question, the quotation refers to the second type of delivery, sweeping of street letter boxes and the balance of your question refers to collection of mail at customers' mail receptacles. They are two separate street time actions, and each has its own cost pool and variability.

Response of Postal Service Witness Michael D. Bradley
To OCA Interrogatories

OCA/USPS-T14-15. Please refer to your testimony, page 29, lines 2- 6. You discuss the Box-Cox transformation. Did you develop any SAS programs and/or perform any analysis using the Box-Cox transformation? If your answer is yes, please provide all SAS or other programs, including both the output as well as the actual SAS or other computer code.

OCA/USPS-T14-15 Response:

No.

Response of Postal Service Witness Michael D. Bradley
To OCA Interrogatories

OCA/USPS-T14-16. Please refer to your testimony, page 31, lines 2-3, identifying the time period over which data were collected. How do you know that the data collected over the two week time period were representative of carrier data on a yearly basis?

OCA/USPS-T14-16 Response:

The end of May/beginning of June time period was selected because it is characterized by neither seasonal volume peaks nor seasonal volume troughs. In that sense it is thought to be representative. For my econometric analysis, the key issue is the *matching* of the delivery time data with the delivered volume. This was accomplished by simultaneously collecting the times and volumes across of cross section of Zip Codes.

Response of Postal Service Witness Michael D. Bradley
To OCA Interrogatories

OCA/USPS-T14-17. Please refer to Table 3, page 35 of your testimony. Please provide the calculations for the HC Standard Error and HC t-statistic.

OCA/USPS-T14-17:

The HC standard error is calculated by taking the square route of the variances along the main diagonal of the consistent variance/covariance matrix from the regression.

This variance/covariance matrix is provided in Library Reference USPS-LR-K-81. The

HC t-statistic is calculated by the ratio of the estimated coefficient to the HC standard error.

Response of Postal Service Witness Michael D. Bradley
To OCA Interrogatories

OCA/USPS-T14-18. Please refer to your testimony, page 9, lines 2-5, where you indicate that the Postal Service's primary mechanism for adjusting street time to sustained increase or decreases in volume is through adjusting the route structure.

- a. How often does this type of adjustment typically happen for a route?
- b. Were any of the routes adjusted during the data collection effort? If so, please identify the routes adjusted.

OCA/USPS-T14-18 Response:

- a. Postal Service policy is that delivery managers are required to keep city delivery assignments as near to eight hours as possible. Generally, changes in workload drive local managers' decisions regarding how often routes need evaluated and potentially adjusted because those changes affect the number of hours a carrier will work on a route. It is my understanding that historically, the number of evaluations is about one-fifth of the total number of city routes. This suggests that routes get re-evaluated about once every five years. However, routes in areas where carrier workload changes more frequently will likely get evaluated more often than routes in more stable areas.
- b. No.

Response of Postal Service Witness Michael D. Bradley
To OCA Interrogatories

OCA/USPS-T14-19. Please refer to your testimony, page 20, lines 14-16, where you state:

There is some fixed route time involved in traversing the route sections and this is included in the time pool. Its fixity will work into the estimated variability.

- a. Please further clarify the meaning of each sentence.
- b. Does the first sentence mean that transit time between two separate sections of a route was not scanned out?
- c. As a result of the activity associated with the second sentence, will volume variability be lower than would otherwise be the case?

OCA/USPS-T14-19 Response:

- a. The sentence is intended to suggest that as the carrier works the delivery section, there will be some time that is spent traversing the *section* that is not related to volume. If you are familiar with the established approach to city carrier street time, this time is called "route time" in that approach.
- b. No. This sentence is intended to discuss time within delivery sections and does not refer to the time spent traveling between sections. The time traveling between route sections was scanned and is included in the Network Travel Time pool.
- c. Whether this time is included in the regular delivery time cost pool, as is done in the proposed new methodology, or treated as its own cost pool (with near zero variability) as in the established methodology, should not affect the variability of city carrier street time. I believe that it is difficult to accurately measure the

Response of Postal Service Witness Michael D. Bradley
To OCA Interrogatories

amount of this “route time” to form its own time pool, so the proposed new approach should improve the accuracy of the Postal Service’s street time analysis. For a comparison of the variabilities under the two methods please see Table 19 of my testimony. It is reproduced below for convenience:

Table 19
Estimating the Effects of the Proposed Methodology
Established Methodology

	Percentage of Cost	Variability
Load Time	25.3%	69.5%
Access Time	27.7%	21.0%
Route Time	29.8%	4.7%
Total	82.8%	29.9%

Proposed Methodology

	Percentage of Cost	Variability
Regular Delivery	72.3%	41.1%
P/A Delivery	5.6%	53.5%
Network Travel	11.4%	0.0%
Total	89.3%	36.6%

Response of Postal Service Witness Michael D. Bradley
To OCA Interrogatories

OCA/USPS-T14-20. Please define and/or explain the following variables, mentioned as being in TIMEPOOL DATA.PRN in your Library Reference USPS-LR-K-81:

- a. MODE: please explain the meaning for various values.
- b. NTT, Network Travel Time: Please explain in view of your testimony, page 20, lines 14-16.
- c. NST, Non Street Time: To where does this aggregate?
- d. Prep, Preparation Time: To where does this aggregate?
- e. TTFT, Travel to and from time: Does this aggregate into Travel To/From route?
- f. TRVLT, Miscellaneous travel time.

OCA/USPS-T14-20 Response:

- a. C is "Curblin"; F is "Foot"; P is "Park and Loop"; D is "Dismount"; O is "Other" and "X" signifies that no route mode is available.
- b. The time discussed on page 20, lines 14-16 of my testimony refers to time spent within the regular delivery activity that is required to move from delivery point to delivery point. This time is included in regular delivery time. Network Travel Time is different; it is the time spent driving from delivery sections and route activities to other delivery sections and route activities.
- c. Non Street Time is the time carrier deals with emergencies and while on lunch. The carrier is not "clocked in" during these times and this time not included in any street time pool because it is not time spent on street activities.
- d. Prep time is office time and thus it is not included in any street time pool.
- e. Yes.
- f. Miscellaneous travel time could not be otherwise classified and is split between the "Preparation" and "Travel to and From" time pools in the time pool formation.

Response of Postal Service Witness Michael D. Bradley
To OCA Interrogatories

- g. OCA/USPS-T14-21. Please refer to your program “Estimating the Delivery Equations.” For the following computer code,

```
if rt = 'XX' then nrt=99.9;  
if rt = '0A' or rt = '0B' or rt = '0D' or rt = '0E' or rt = '0W'  
or rt = '1A' or rt = '4A' or rt = '4B' or rt = 'A7' or rt = 'C2' or rt = 'C3' or rt  
= 'CA' or rt = 'CK' or rt = 'CT' or rt = 'CV' or rt = 'ES' or rt = 'EV' or rt =  
'F1' or rt = 'G5' or rt = 'HK' or rt = 'IT' or rt = 'L1' or rt = 'L3' or rt = 'L7'  
or rt = 'MD' or rt = 'MF' or rt = 'O1' or rt = 'O2' or rt = 'O5' or rt = 'O7' or rt  
= 'OL' or rt = 'P1' or rt = 'P2' or rt = 'RE' or rt = 'UX' or rt = 'VY' or rt =  
'W8' then nrt=11.1; else nrt=rt;
```

please explain the meaning of the various symbols 'XX', '0A', '0B', '0D', '0E', '0W', '1A', '4A', '4B', 'A7', 'C2', 'C3', 'CA', 'CK', 'CT', 'CV', 'ES', 'EV', 'F1', 'G5', 'HK', 'IT', 'L1', 'L3', 'L7', 'MD', 'MF', 'O1', 'O2', 'O5', 'O7', 'OL', 'P1', 'P2', 'RE', 'UX', 'VY', 'W8'.

OCA/USPS-T14-21 Response:

The various symbols are alphanumeric (as opposed to purely numeric) route numbers.

Response of Postal Service Witness Michael D. Bradley
To OCA Interrogatories

OCA/USPS-T14-22. Please refer to Library Reference USPS-LR-K-81, page 5. The variable "ACT" is omitted from your definitions in PAVOLUME DATA.PRN but is referenced in your SAS program "Estimating the Delivery Equations". It appears that the variable "ACT" would fit between the variables SPRS and BLK in the database, based on the relevant data command in "Estimating the Delivery Equations". Please define the variable "ACT".

OCA/USPS-T14-22 Response:

Thank you for identifying this typo. I inadvertently left the variable "ACT" out of the list of variables as I was typing the documentation included in Library Reference USPS-LR-K-81, at page 5. The variable "ACT" refers to the number of accountable pieces.

Response of Postal Service Witness Michael D. Bradley
To OCA Interrogatories

OCA/USPS-T14-23. Please refer to Library Reference USPS-LR-K-81, page 5. Please confirm that in the listing of variables for PAVOLUME DATA.PRN the variables DATE and RTENO are reversed from their positions in the database. If you do not confirm, please explain.

OCA/USPS-T14-23 Response:

Confirmed.

Response of Postal Service Witness Michael D. Bradley
To OCA Interrogatories

OCA/USPS-T14-24. Please refer to your response to OCA/USPS-T14-5. Please review the computer code for the calculations for the full quadratic model. Please also note the computer code below, which is identical to the computer code you presented except for one change, the addition of a "+" sign, which has been highlighted in 18 point type. Please confirm that this modification is correct.

```
data mta1; merge coef1 regmean (drop=_TYPE_);
```

```
mtl=(let*mlet +2*let2*mlet*mlet +  
lf*mlet*mcf+lse*mlet*mseq+lcu*mlet*mcv+lspr*mlet*mspr  
+ldp*mlet*mdp+ldns*mlet*mdens)/mlet;  
mtf=(cf*mcf +2*cf2*mcf*mcf  
+lf*mlet*mcf+fse*mcf*mseq+fcv*mcf*mcv+fspr*mcf*mspr  
+fdp*mcf*mdp+fdns*mcf*mdens)/mcf;  
mts=(seq*mseq +2*seq2*mseq*mseq  
+lse*mlet*mseq+fse*mcf*mseq+scv*mseq*mcv+sspr*mseq*mspr  
+sdp*mseq*mdp+sdns*mseq*mdens)/mseq;  
mtc=(cv*mcv +2*cv2*mcv*mcv +lcu*mlet*mcv+fcv*mcf*mcv+scv*mseq*mcv+cspr*mcv*mspr  
+cdp*mcv*mdp+cdns*mcv*mdens)/mcv;  
mtp=(spr*mspr +2*spr2*mspr*mspr  
+lspr*mlet*mspr+fspr*mcf*mspr+sspr*mseq*mspr+cspr*mcv*mspr  
+spd*mspr*mdp+spdns*mspr*mdens)/mspr;
```

```
proc print data=mta1;  
var mtl mtf mts mtc mtp ;
```

OCA/USPS-T14-24 Response:

Confirmed. Please note in calculating the estimated marginal times presented in my response to OCA/USPS-T15-5, the "+" sign was included where you indicate it should be. It was inadvertently dropped from the code in preparing the interrogatory response.

CERTIFICATE OF SERVICE

I hereby certify that I have this date served the foregoing document in accordance with Section 12 of the Rules of Practice and Procedure.

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