

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

POSTAL RATE AND FEE CHANGES

Docket No. R2006-1

**RESPONSES OF UNITED STATES POSTAL SERVICE WITNESS BOZZO,
USPS-T-12, TO INTERROGATORIES OF UNITED PARCEL SERVICE: UPS/USPS-
T12-1 through 29
(July 27, 2006)**

The United States Postal Service hereby provides the responses of witness Bozzo (USPS-T-12) to the above-referenced interrogatories, filed on July 13, 2006. Responses to UPS/USPS-T12-17-20 reference similar interrogatories to witness Bozzo and his responses thereto in Docket No. R2000-1. These responses were not designated into the record of that proceeding, and are attached to the appropriate response herein.

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

Respectfully submitted,

UNITED STATES POSTAL SERVICE

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Response of United States Postal Service Witness A. Thomas Bozzo
(USPS-T-12) To Interrogatories of United Parcel Service

UPS/USPS-T12-1. Refer to USPS-T-12, page 26, where you state that the existing operational plan is “*predetermined* from the standpoint of the sorting of any particular piece,” and to pages 25-26, where you state that “the organization of the Postal Service processing network is, naturally, subject to change over time.”

(a) Indicate the frequency over the period covered by the data used in your econometric study with which organizational changes of the nature referred to on pages 25-26 of your testimony occurred in:

- i. the average MODS facility; and
- ii. a MODS facility experiencing above average growth in mail volumes.

(b) List and fully explain the factors that would cause the Postal Service to institute a change in the organization of mail processing at a specific MODS facility.

(c) Confirm that, holding constant “the organization of the Postal Service processing network” and the mix of mail being processed, steady growth in mail volumes will eventually exhaust the processing capacity of the equipment installed at a particular plant for automated mail processing. If not fully confirmed, explain your answer in detail. If confirmed, describe in detail the changes in (1) equipment, (2) staffing, and (3) operating procedures that would be made in response to such capacity constraints.

Response.

a.-b. Changes to the Postal Service processing network occur on various frequencies, though note that the frequency of changes per se does not determine whether the underlying factors are exogenous or predetermined for plant managers’ staffing processes. Changes in delivery points occur more-or-less continuously, but are the result of general economic and demographic factors. Additions or subtractions of post offices, stations, and branches from plants’ territories occur over the time horizon of the mail processing analysis, though the total number of served facilities tends to be relatively stable over time and changes are not determined by plant management. Major equipment deployments or retirements, likewise, occur every few years but result from headquarters-level planning processes that are carried out well in advance of

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plants' staffing decisions. These frequencies will be qualitatively similar for most MODS facilities; see also the response to part c, below. See also witness Kingsley's testimony from Docket No. R2000-1, USPS-T-10 at 32-35 (Section IV).

c. Partly confirmed. Holding the work content of the mail constant, steady volume growth would eventually exhaust equipment processing capacities. However, my understanding is that volumes have tended to shift towards mail categories which, due to worksharing, have relatively low work content. In this situation, volume growth does not necessarily imply workload growth that would exhaust equipment processing capacities. Moreover, the volume changes over the "rate cycle" are, in fact, relatively small; over longer time horizons, it is not clear that volume increases can be taken for granted.

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UPS/USPS-T12-2. Refer to USPS-T-12, pages 106-107, Appendix A, equation (A7).

(a) Confirm that, to the extent that the relationship between volume V_j and cost driver D_i in the equation $D_i = g_i(V_1, \dots, V_N)$ departs in any way from a relationship of strict linear proportionality, that departure will be reflected by the fact that the value term $O(V^2)$ in equation (A7) will differ from zero for some values of V . If not confirmed, explain the rationale for your answer in detail.

(b) Confirm that using equation (A8) as a first approximation to equation (A7) is equivalent to assuming that the relationship between volume V_j and cost driver D_i is one of strict linear proportionality. If not confirmed, explain the rationale for your answer in detail.

Response.

a. Confirmed.

b. Confirmed that a “first” (i.e., linear) approximation to a function ignores nonlinearities. For additional discussion of the proportionality of volumes and piece handlings given the operational plan, please see also USPS-T-12 at 33-39, especially page 39, lines 10-18.

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UPS/USPS-T12-3. Refer to USPS-T-12, page 36, where you state that “there is a small chance that the piece will be rejected at some processing stage and receive subsequent handlings in manual or different automated operations.”

(a) Describe the information you relied upon in arriving at the conclusion that the chance of such rejection occurring is “small.”

(b) Provide a quantitative interpretation of the term “small” as it is used in this statement.

Response.

a. The statement is based on my observations of the relative amounts of rejects and successfully processed pieces in automated mail processing operations.

b. My statement is qualitative and does not depend on any particular quantitative value of “small.” Please see the response to TW/USPS-T11-1(b-c) for an indication of the relative amounts of automation and manual piece handlings.

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UPS/USPS-T12-4. Refer to USPS-T-12, pages 52-54, in which you describe the model specifications you employed to measure the volume variability of automated and manual mail processing operations. You include a time trend in your automated mail processing cost models and a set of year specific dummy variables in your manual mail processing cost models. You note that including a set of year-specific dummy variables allows you “to control for a more general pattern of time-related demand shifts than a linear time trend would allow.” Explain fully why you believe that the inclusion of a time trend is sufficient for automated operations, but that manual operations require the “more general pattern” that inclusion of year-specific dummy variables allows.

Response.

The translog models used for automated operations incorporate a nonlinear (quadratic) time trend. Therefore, the automated and manual operations’ models both control for a “more general pattern of time-related demand shifts than a linear time trend would allow.”

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UPS/USPS-T12-5. Refer to USPS-T-12, page 54. Although you state that the estimated functions for the manual cost pools include a set of year specific dummy variables, the mathematical representation of your model shown in equation (17) includes both a time trend and a set of year specific dummy variables.

(a) Indicate whether equation (17) accurately describes the model specification actually employed for the manual cost pools.

(b) If the answer to (a) is no, supply a corrected representation of the mathematical form of the model.

(c) If the answer to (a) is yes, explain in detail how you are able to avoid perfect multicollinearity despite the simultaneous presence in the model of a time trend and a set of year specific dummy variables.

Response.

a. Equation (17) accurately reflects the model specification.

b. Not applicable.

c. The combination of the year specific dummy variables and the linear time trend permits piecewise (year) shifts in the time trend. Since the time trend has variation within year, the inclusion of both the year dummies and the time trend does not, in itself, lead to perfect multicollinearity.

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UPS/USPS-T12-6. Refer to USPS-T-12, pages 58-59, where, in the course of discussing the wage data used in your analysis, you state that “most of the important differences in compensation at the cost pool level (due to skill levels, pay grades, etc.) are related to the type of technology (manual, mechanized, or automated).”

(a) Your statement suggests that differences in average wages paid to mail processing workers are determined in large part by automation decisions made by the Postal Service. Confirm that a situation in which differences in wage levels depend upon Postal Service automation decisions would be one in which wages were endogenous and your econometric results were subject to simultaneity bias. If you do not fully confirm, explain in detail.

(b) Describe in detail the exogenous factors that would give rise to cross-sectional differences in wage levels or that would cause trends in wage to differ from one site to another.

(c) Confirm that a facility whose workload was growing disproportionately rapidly and that was, as a result, hiring workers more rapidly than other facilities would tend to have a disproportionately larger share of low seniority workers and lower average wage levels, all else equal. If you do not fully confirm, explain in detail.

Response.

a. Not confirmed. First, the question erroneously suggests that “endogenous” factors imply “simultaneity bias.” As the name suggests, only “endogenous” factors that are also “simultaneous” lead to simultaneity bias. In particular, “predetermined” factors do not lead to simultaneity bias. Second, my understanding is that differences in relative wages between LDCs for automated and manual operations depend primarily on predetermined factors such as contractual terms that determine pay levels for various craft employee assignments. Note also that relative wages between manual and automated operations will not depend on the automated/manual operation mix.

b. I do not use wage levels in my analysis, and have not studied factors that affect wage levels in detail.

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c. Not necessarily. It is possible that the positions could be filled with higher-seniority workers, for example transfers from other facilities.

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UPS/USPS-T12-7. Refer USPS-T-12, page 62. You state in your discussion of ODIS that "ZIP Codes are aggregated to facility ID numbers based on the mail processing scheme described above." Identify the specific mail processing scheme to which this statement refers.

Response.

The mail processing scheme is from the Domestic Mail Manual Labeling List

L002, Column B.

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UPS/USPS-T12-8. Refer to USPS-T-12, page 70, Table 10.

(a) Confirm (1) that the “BCS Outgoing” operation processes mail originating within the service territory of the plant in question; and (2) that the “BCS Incoming” operation processes mail originating from other plants destined to addresses within the service territory of the plant in question. If not fully confirmed, explain in detail.

(b) Explain in detail why the “BCS Outgoing” operation shows a large, positive, and statistically significant elasticity with respect to deliveries, while the “BCS Incoming” operation shows essentially a zero elasticity.

Response.

a. Partly confirmed. Mail originating at other plants is a portion, but in general not the entirety, of the mail processed in “BCS Incoming” operations.

b. The difference between the elasticities (assuming independence) has a standard error of 0.2, or 1.75 standard errors, and is only marginally statistically significant—the significance level is approximately 8 percent based on the normal distribution.

To the extent that fixed components of a network effect dominate, network effects would be incorporated into the facility-specific fixed effects. So, variance issues aside, it would be inappropriate to draw conclusions regarding the relative importance of network factors solely from the deliveries elasticities.

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UPS/USPS-T12-9. Refer to USPS-T-12, page 27, Table 2; page 71, Table 11; and page 72, Table 12. Although the FSM 1000 and AFSM 100 cost pools show very similar activity compositions according to the IOCS data summarized in Table 2, they show markedly different volume variabilities in Tables 11 and 12. Describe and explain in detail the operational differences between these two operations that account for these markedly different cost variability results.

Response.

Several significant operational differences may contribute to the differences in the measured volume-variability factors for the FSM 1000 and AFSM 100 cost pools. These include:

- The AFSM 100 is machine-paced; the FSM 1000, in keying mode (which accounts for most of the workhours in the FSM 1000 cost pool), is operator-paced. As a result, it cannot be assumed that FSM 1000 runtime is exactly 100 percent volume-variable.
- Some AFSM 100 rejects flow to the FSM 1000, so the latter must be staffed to absorb variations in the reject flow.
- The FSM 1000 is used for relatively limited volumes of difficult pieces, such as newspapers and large-format flats, also affecting the regularity of the flow of mail to and through the operation.
- FSM 1000 operations include some flat prep work, which has indeterminate but possibly less-than-100 percent variability, whereas AFSM 100 prep work is carried out almost exclusively in the 1FLATPRP cost pool.
- Since the startup period for the AFSM 100 is in the regression sample and not specifically controlled for, the Postal Service's AFSM 100 volume-variability factor may reflect some inframarginal costs and thus be conservatively high.

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It should be noted that while the IOCS data provide information on the relative prevalence of activities that should have relatively high volume-variability (e.g., runtime) and activities that should have very low volume-variability (e.g., setup time, waiting time), the complexities of most Postal Service operations are such that arguments classifying activities into 100% variable and non-volume-variable categories will “not account for all factors that might affect a proper analysis of variability.” USPS-T-12 at 77-79.

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UPS/USPS-T12-10. Refer to USPS-T-12, page 80, Table 18. Although the FSM 1000 cost pool has lower percentages of employee time in what you characterize as “fixed” activities than the AFSM 100 cost pool, you report a substantially lower volume variability for the FSM 1000 cost pool. Explain in detail the operational basis for the lower volume variability that you report for the FSM 1000 cost pool.

Response.

Please see the response to UPS/USPS-T12-9.

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UPS/USPS-T12-11. Refer to USPS-T-12, pages 87-88. You report alternative results for automated operations based upon FE/IV estimation. However, in deriving these results you do not employ the full translog specification shown in equation (16) on page 53, but rather the linear specification shown in equation (17) on page 54. In Table 16 on page 75, you report the results of a series of Wald tests that reject the null hypothesis of the linear specification in favor of the full translog specification.

(a) In view of your rejection of the linear specification for automated operations, explain in detail why you chose to test the effects of FE/IV estimation using the linear [sic] rather than the full translog specification.

(b) In order to facilitate an assessment of what portion of the differences shown in Table 20 on page 88 of your testimony can be attributed to the use of FE/IV estimation and what portion can be attributed to the use of the linear specification, provide variability results comparable to those shown in Table 20 based on either (1) use of FE/IV estimation in combination with the full translog specification shown in equation (16), or (2) use of FE/GLS estimation in combination with the linear specification shown in equation (17).

Response.

a. Identification and estimation of the translog/IV model cannot be implemented as a straightforward generalization of the log-linear IV model, in contrast to the relationship between the log-linear and translog OLS and GLS models. Given the relative inefficiency of IV estimation, I considered the properties of the log-linear model sufficient to provide reliable estimates.

b. The elasticities from FE/GLS estimation of equation (17) are provided in the table below.

Cost Pool	Log-Linear FE/GLS Variability
BCS Outgoing	0.72 (0.64, 0.81)
BCS Incoming	0.50 (0.39, 0.60)
OCR	0.59 (0.54, 0.64)
FSM/1000	0.73 (0.69, 0.76)

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Cost Pool	Log-Linear FE/GLS Variability
AFSM100 Total	0.91* (0.87, 0.95)
-- Incoming	0.72 (0.68, 0.76)
-- Outgoing	0.20 (0.18, 0.22)
SPBS	0.66 (0.61, 0.71)

95% confidence interval in parentheses.

* Difference in total is due to rounding

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UPS/USPS-T12-12. Refer to USPS-T-12, pages 93-95.

(a) Confirm that, in the econometric analyses summarized in Table 23, manual letter piece handlings are being employed as right-hand side variables. If you do not fully confirm, explain in detail.

(b) Confirm that, in the econometric analyses summarized in Table 24, manual flats piece handlings are being employed as right-hand side variables. If you do not fully confirm, explain in detail.

(c) Confirm that both manual letter and manual flats piece handlings are subject to measurement error. If you do not fully confirm, explain in detail.

(d) Confirm that, because of the measurement error in the manual letter and flats piece handling series, the regression results presented in Tables 23 and 24 are potentially subject to bias. If you do not fully confirm, explain in detail.

(e) Explain in detail the basis for your assertion on pages 93-94 that “the small manual cross-elasticities indicate it is very unlikely that correcting for measurement error in the manual sorting volumes would materially affect the results,” given that the results you cite are subject to unknown biases.

Response.

a. Confirmed.

b. Confirmed.

c. Confirmed.

d. Confirmed.

e. The question is incorrect to suggest that the relative magnitudes of the potential biases are unknown. Those are not unboundedly large, but rather depend on the measurement error variance and the amount of “within” variation; comparison of instrumental variables (IV) and non-IV elasticity estimates provides some indication of the relative magnitudes. As a result, the qualitative conclusion that the cross-elasticities are small is robust to reasonable values of the possible measurement error effects. Please see also Prof. Greene’s rebuttal testimony from Docket No. R2000-1, USPS-RT-7, at 21-26 (Tr. 46-E/22056-22061).

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UPS/USPS-T12-13. Refer to USPS-T-12, page 97, where you state that you eliminate observations with one or more "bad" higher frequency components, and refer to the TSP programs located in USPS-LR-L-56 under Section1\Programs\Alternative Runs\Alternative Data Screens. This interrogatory refers to all the programs performing alternative data screens, but please refer in particular to varmp_man_LETFLT_9905_ap.tsp as an example. Line 345 has code that marks for omission records where the number of good TPH AP is less than 3. You indicate on page 4 that there are four accounting periods in the fourth postal quarter.

- (a) Explain in detail why the cut-off for your screen is not 4 for the fourth quarter records.
- (b) Explain in detail why the cut-off for the weekly screening is 12 for all quarters even though the fourth quarter contains more weeks.
- (c) If the cut-offs used were erroneous, provide updated versions that correct the errors for all affected tables.

Response.

a.-b. The fourth quarter values of the screening variables are scaled to account for the additional AP (or weeks). Therefore, it is possible to use the same cutoff value for all four quarters. Please see commands 7 and 37-39 of the program listing in varmp_man_LETFLT_9905_ap.out.

c. Not applicable.

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UPS/USPS-T12-14. Refer to USPS-T-12, page 62, which states that "ODIS is a statistical sampling system designed to measure originating and destinating mail volumes."

(a) Identify all instances in which you have relied on or used in your testimony in any way DLETTERS, DFLATS, and/or DPARCELS variables derived from ODIS.

(b) How are these data gathered for ODIS? Are the data derived from actual counts or is the mail weighed and then the volumes are calculated in some manner from the weights? Provide any manuals that describe the data gathering process.

(c) Provide separately the originating and destinating mail volumes by subclass and shape from ODIS data by quarter and IDNUM in a similar format as the excel file Section1\Data\vv9905.xls of USPS-LR-L-56.

(d) Explain in detail why the ODIS data need to be scaled up to match the RPW volumes.

(e) What is the magnitude of the discrepancy between the ODIS volume totals and the RPW volumes? Explain your answer in detail.

Response.

a. The destinating volume variables are used as instrumental variables in the LIML models for manual operations.

b. Please see USPS-LR-L-14 for ODIS-RPW statistical documentation, and Docket No. R2005-1, USPS-LR-K-22 for the data collection manual.

c. Please see file ups-14c-odisrpw.xls, which will be provided in USPS-LR-L-164, for the requested data. It is my understanding that at this level of geographical disaggregation (plant service territories), ODIS-RPW is designed to achieve certain levels of statistical accuracy for a much more limited number of mail categories than were requested in this interrogatory. The volume estimates provided may be subject to high levels of sampling variation, depending on how small the mail category is. Please see also the testimony of witness Pafford (USPS-T-3).

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- d. For my purposes, it is not strictly necessary to scale the ODIS data to match RPW volumes. The discrepancy arises because the ODIS data are sampling-based estimates, whereas significant portions of total RPW volume are obtained from mailing statements and thus not subject to sampling variation.
- e. Please see the response to PSA/USPS-T13-3.

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UPS/USPS-T12-15. Refer to USPS-LR-L-56, section II.E. "Preparation of the Management Operating Data System (MODS) Data," starting at page 21. State whether you do or do not replace TPF with TPH where TPH is greater than TPF as is done in yr_scrub.tsp (page 39). If not, explain in detail the discrepancy between your two methods for treating TPF.

Response.

The models for automated operations replace TPF with TPH when TPH is greater than TPF. The substitution is done within the estimation programs.

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UPS/USPS-T12-16. Refer to USPS-T-12, section V.C.4, at page 60.

(a) Explain in detail how the capital index variables are created. How do you define "capital"? Specifically, which expense items are included in the capital index?

(b) Provide disaggregate components of the capital index for each IDNUM and quarter and explain in detail how they are combined to create the capital index.

(c) Describe your indexing method in detail and provide a reference.

(d) Compare your method for computing a capital index with the method used by Professor Roberts. Are there differences in the expense categories that you consider to be "capital"? Explain in detail.

Response.

a.-c. The capital variables in USPS-LR-L-56 represent quarterly flows of capital services. They disaggregate servicewide capital services indexes produced for the Postal Service's TFP model. The 'distribution key' is the relative capital stock. Please see Docket No. R2000-1, Tr. 15/6267. Please see also USPS-LR-L-56, pages 42-44, and file "Capital Index.xls" for additional information. For additional reference, please see Dianne Christensen, Laurits Christensen, Carl Degen and Philip Schoech, "Capital in the U.S. Postal Service," in Dale Jorgenson and Ralph Landau (eds.), *Technology and Capital Formation* (MIT Press, 1989), pp. 409-450.

d. I assume you are referring to Prof. Roberts's 2006 paper. My understanding is that Prof. Roberts used the equipment-specific capital variables from Docket No. R2005-1, USPS-LR-K-56, so his results incorporate the same expense categories, though at a different level of equipment disaggregation.

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UPS/USPS-T12-17. Refer to USPS-LR-L-56, pages 13 and 21, regarding the Postal Service Corporate Database MODS File.

- (a) List the full set of variables contained in the file, along with their definitions.
- (b) Indicate the time period covered by the file.
- (c) Describe in detail the unit of observation, that is, the entity to which individual records in the file correspond.
- (d) Provide any manuals or other documentation available for the file.
- (e) Provide a current version of the MODS manual and any other documents that describe how the MODS data are collected.

Response.

a.-c. Please see the response in Docket No. R2000-1 to UPS/USPS-T15-3, attached, and Docket No. R2000-1, USPS-LR-I-201.

d.-e. Please see USPS-LR-L-150.

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UPS/USPS–T15–3. For the Management Operating Data System initially referred to at page 1 of your testimony:

- (a) List the full set of variables contained in the file, along with their definitions;
- (b) Indicate the time period covered by the file;
- (c) Describe the unit of observation, that is, the entity to which individual records in the file correspond;
- (d) Describe the universe of installations contained in the file; and
- (e) Provide any manuals or other documentation available for the file.

UPS/USPS–T15–3 Response.

- a. A FOCUS data dictionary report for the MODS file will be provided in LR-I-201.
- b. MODS data from FY1991 to the present are currently available on the Postal Service's Corporate Data Base. The data frequency is accounting period. Some earlier data also exist, including the data from Dr. Bradley's MODS data set (see Docket No. R97-1, USPS-LR-H-148).
- c. Since the MODS file is a FOCUS database, the record levels are user-defined. It is my understanding that the finest level of "units of observation" in the MODS file is the combination of Finance number and 3-digit MODS operation number.
- d. The "universe of installations" is the set of Finance numbers reporting data to MODS. These include most "Function 1" mail processing facilities (except BMCs) and some stations, branches, and associate offices.
- e. See Docket No. R97-1, LR-H-147.

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UPS/USPS-T12-18. Refer to USPS-LR-L-56, page 15, regarding the Address Information System (AIS) Data.

- (a) List the full set of variables contained in the file, along with their definitions.
- (b) Indicate the time period covered by the file.
- (c) Describe in detail the unit of observation, that is, the entity to which individual records in the file correspond.
- (d) Provide any manuals or other documentation available for the file.

Response.

a.-d. A data dictionary is available at

<http://www.ribbs.usps.gov/files/addressing/pubs/ais.pdf>. The Delivery Statistics

Product was used. Please see also the response in Docket No. R2000-1 to

UPS/USPS-T15-4, attached, and Docket No. R2000-1, USPS-LR-I-201.

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UPS/USPS-T15-4. For the Address Information System referred to at pages 89-90 of your testimony:

- (a) List the full set of variables contained in the file, along with their definitions;
- (b) Indicate the time period covered by the file;
- (c) Describe the unit of observation, that is, the entity to which individual records in the file correspond;
- (d) Describe the universe of installations contained in the file; and
- (e) Provide any manuals or other documentation available for the file.

UPS/USPS-T15-4 Response.

- a. A file format description will be provided in LR-I-201 for the AIS Delivery Statistics File, the specific Postal Service address information system product referenced.
- b. The time period covered by the Delivery Statistics File data to which I have access is FY1988-present. See USPS-T-15 at page 90, lines 1-2 and footnote 48 for the data frequency. I do not have ready access to the Delivery Statistics File data for some accounting periods prior to FY1993. It is also my understanding that earlier data may exist, possibly in a different format.
- c. The "unit of observation" in the AIS Delivery Statistics File is the delivery route, post office box section, or set of highway contract deliveries.
- d. My understanding is that the AIS Delivery Statistics File encompasses all Finance numbers with city, rural, post office box, or highway contract deliveries.
- e. A delivery statistics technical guide and AIS product and services guide will be provided in LR-I-201.

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UPS/USPS-T12-19. Refer to USPS-LR-L-56, page 16, regarding the Address List Management System (ALMS) Data.

- (a) List the full set of variables contained in the file, along with their definitions.
- (b) Indicate the time period covered by the file.
- (c) Describe in detail the unit of observation, that is, the entity to which individual records in the file correspond.
- (d) Provide any manuals or other documentation available for the file.

Response.

a.-d. Please see the response in Docket No. R2000-1 to UPS/USPS-T15-5, attached, and Docket No. R2000-1, USPS-LR-I-201.

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UPS/USPS-T15-5. For the Address List Management System referred to at pages 89 and 90 of your testimony:

- (a) List the full set of variables contained in the file, along with their definitions;
- (b) Indicate the time period covered by the file;
- (c) Describe the unit of observation, that is, the entity to which individual records in the file correspond;
- (d) Describe the universe of installations contained in the file; and
- (e) Provide any manuals or other documentation available for the file.

UPS/USPS-T15-5 Response.

- a. A file format description will be provided in LR-I-201.
- b. The time period covered by the ALMS data to which I have ready access is March 1993-present. The ALMS data frequency is monthly; see LR-I-107 at page 18. It is my understanding that earlier data may exist, possibly in a different format.
- c. The "unit of observation" in ALMS is the post office, station, or branch. It is my understanding that ALMS also includes records for contract stations, unique ZIP Codes, and the like.
- d. My understanding is that ALMS encompasses all post offices, stations, branches, and other units listed in the response to part (c) of this interrogatory.
- e. An ALMS guide will be provided in LR-I-201.

Response of United States Postal Service Witness A. Thomas Bozzo
(USPS-T-12) To Interrogatories of United Parcel Service

UPS/USPS-T12-20. Refer to USPS-LR-L-56, page 16, regarding the Facility Master System (FMS) Data.

- (a) List the full set of variables contained in the file, along with their definitions.
- (b) Indicate the time period covered by the file.
- (c) Describe in detail the unit of observation, that is, the entity to which individual records in the file correspond.
- (d) Provide any manuals or other documentation available for the file.

Response.

a.-d. Please see the response in Docket No. R2000-1 to UPS/USPS-T15-8, attached, and Docket No. R2000-1, USPS-LR-I-201.

Response of United States Postal Service Witness Bozzo
To Interrogatories of United Parcel Service

UPS/USPS-T15-8. For the Facility Master System referred to at pages 89 and 93 of your testimony:

- (a) List the full set of variables contained in the file, along with their definitions;
- (b) Indicate the time period covered by the file;
- (c) Describe the unit of observation, that is, the entity to which individual records in the file correspond;
- (d) Describe the universe of installations contained in the file; and
- (e) Provide any manuals or other documentation available for the file.

UPS/USPS-T15-8 Response.

Please note that the reference at page 93, line 6, of USPS-T-15 should read "Facility Management System" instead of "Facility Master System." The system's name appears correctly at page 89, lines 11-12, of USPS-T-15.

- a. A file format description will be provided in LR-I-201. See also the response to part (e) of this interrogatory.
- b. The time period covered by the FMS data to which I have ready access is FY 1983-present. The data frequency is quarterly from FY1992-present. Prior to FY1992, the FMS data frequency is annual.
- c. The "unit of observation" in FMS is the Postal Service facility, owned or rented. That is, each plant, post office, station, branch, or other type of Postal Service facility appears as a separate record in the file.
- d. My understanding is that FMS encompasses all real estate occupied by the Postal Service.

**Response of United States Postal Service Witness Bozzo
To Interrogatories of United Parcel Service**

- e. See Docket No. R94-1, USPS-LR-G-120, part c, for Handbook RE-3 ("Facilities Management System").

Response of United States Postal Service Witness A. Thomas Bozzo
(USPS-T-12) To Interrogatories of United Parcel Service

UPS/USPS-T12-21. Refer to USPS-T-12, section V.C.3 “Accounting Data–NCTB” at pages 59-60, and USPS-LR-L-56, page 28, regarding the National Consolidated Trial Balance (NCTB) Data.

- (a) List the full set of variables contained in the file, along with their definitions.
- (b) Indicate the time period covered by the file.
- (c) Describe in detail the unit of observation, that is, the entity to which individual records in the file correspond.
- (d) Provide any manuals or other documentation available for the file.
- (e) Identify all instances in which you have relied on or used in your testimony in any way the output of nctb.f (revenue account data from NCTB).
- (f) What types of expenses are classified as “aggregate materials”?
- (g) Identify all instances in which you have relied on or used in your testimony in any way the aggregate materials expense data contained in NCTB.
- (h) Identify all instances in which you have relied on or used in your testimony in any way the building expense data contained in NCTB.
- (i) Identify all instances in which you have relied on or used in your testimony in any way the equipment rental expense data contained in NCTB.
- (j) Identify all instances in which you have relied on or used in your testimony in any way the transportation expense data contained in NCTB.

Response.

a. The variables in the file are provided in the table below:

Variable	Description
WS-FIN-OUT	Finance Number
WS-ACCT-OUT	Account Number
WS-SUB-ACCT	Sub-account Number
WS-YTD-DATA	Year-To-Date Account Balance

b. I am not aware of the earliest available data. My understanding is that at least some historical data may be available covering the start of the period for my analysis for Docket No. R2000-1, USPS-T-15.

c. The unit of observation is the finance number, account, and sub-account.

Response of United States Postal Service Witness A. Thomas Bozzo
(USPS-T-12) To Interrogatories of United Parcel Service

- d. Please see USPS-LR-L-50, file CostSeg05.rtf, for a list of accounts and descriptions.
- e. Building and PSE rental expenses are inputs to the QICAP1 facility capital input index.
- f. Please see the file "Material Accounts.xls," which will be provided in USPS-LR-L-164, for a list of accounts for materials expenses.
- g. I do not use materials expenses in my analysis.
- h. Building (rental) expenses are a component of the QICAP1 facility capital input index.
- i. Equipment rental expenses are a component of the QICAP1 facility capital input index.
- j. I do not use NCTB transportation expense data.

Response of United States Postal Service Witness A. Thomas Bozzo
(USPS-T-12) To Interrogatories of United Parcel Service

UPS/USPS-T12-22. Refer to USPS-LR-L-56, page 29, regarding the National Workhours Reporting System (NWRS) Data.

- (a) List the full set of variables contained in the file, along with their definitions.
- (b) Indicate the time period covered by the file.
- (c) Describe in detail the unit of observation, that is, the entity to which individual records in the file correspond.
- (d) Provide any manuals or other documentation available for the file.

Response.

a.-d. Please see the response in Docket No. R2000-1 to UPS/USPS-T15-6, attached. Please see also USPS-LR-L-55, Section I, for definitions of the NWRS Labor Distribution Codes (LDCs).

Response of United States Postal Service Witness A. Thomas Bozzo
(USPS-T-12) To Interrogatories of United Parcel Service

UPS/USPS-T12-23. Refer to USPS-LR-L-56, page 30, regarding the Origin Destination Information System (ODIS) Data.

- (a) List the full set of variables contained in the file, along with their definitions.
- (b) Indicate the time period covered by the file.
- (c) Describe in detail the unit of observation, that is, the entity to which individual records in the file correspond.
- (d) Provide any manuals or other documentation available for the file.

Response.

a.-d. Please see the response to UPS/USPS-T12-14b.

Response of United States Postal Service Witness A. Thomas Bozzo
(USPS-T-12) To Interrogatories of United Parcel Service

UPS/USPS-T12-24. Refer to USPS-LR-L-56, page 31, regarding the Property Equipment Accounting System (PEAS).

- (a) List the full set of variables contained in the file, along with their definitions.
- (b) Indicate the time period covered by the file.
- (c) Describe in detail the unit of observation, that is, the entity to which individual records in the file correspond.
- (d) Provide any manuals or other documentation available for the file.
- (e) Provide an excel file(s) that contain(s) the counts of each type of equipment for each year available by IDNUM. Include a key that describes the equipment, its purpose, and whether is categorized as Customer Service Equipment (CSE), Postal Support Equipment (PSE), Automated Handling Equipment (AHE), or Mechanized Handling Equipment (MHE).
- (f) Identify all instances in which you have relied on or used in your testimony in any way the CSE stocks created from PEAS.
- (g) Identify all instances in which you have relied on or used in your testimony in any way the PSE stocks created from PEAS.

Response.

- a. Please see the file "PEAS format.xls," which will be provided in USPS-LR-L-164.
- b. PEAS data are available for FY 2004 and FY 2005 at monthly frequency.
PEAS replaced the PPAM system.
- c. The unit of observation in PEAS is the piece of Postal Service property, identified by finance number, PCN, and contract number.
- d. I am not aware of responsive material, but if such material is located, it will be provided in USPS-LR-L-164.
- e. My understanding is that it is not possible to obtain a count of equipment from PEAS, since machines and retrofits/upgrades are represented with separate records. Also, each contract number associated with a given piece of equipment has a separate record. Please see USPS-LR-L-56, files "Equipment [year].xls" for the MPE data. (Prior to FY 2004, these data are from PPAM.) "PCN-

Response of United States Postal Service Witness A. Thomas Bozzo
(USPS-T-12) To Interrogatories of United Parcel Service

MPE.xls" provides a key to the PCN codes. Please see also the response to
USPS/USPS-T12-25.

f. I do not use CSE stocks in my analysis.

g. PSE stocks are a component of the QICAP1 facility capital index.

Response of United States Postal Service Witness A. Thomas Bozzo
(USPS-T-12) To Interrogatories of United Parcel Service

UPS/USPS-T12-25. Refer to USPS-LR-L-56, page 31, regarding the Personal Property Asset Master (PPAM) data.

- (a) List the full set of variables contained in the file, along with their definitions.
- (b) Indicate the time period covered by the file.
- (c) Describe in detail the unit of observation, that is, the entity to which individual records in the file correspond.
- (d) Provide any manuals or other documentation available for the file.
- (e) Provide an excel file(s) that contain(s) the counts of each type of equipment for each year that is available by IDNUM. Include a key that describes the equipment, its purpose, and whether is categorized as Customer Service Equipment (CSE), Postal Support Equipment (PSE), Automated Handling Equipment (AHE), or Mechanized Handling Equipment (MHE).
- (f) Identify all instances in which you have relied on or used in your testimony in any way the CSE stocks created from PPAM.
- (g) Identify all instances in which you have relied on or used in your testimony in any way the PSE stocks created from PPAM.

Response.

a.-d. Please see the response in Docket No. R2000-1 to UPS/USPS-T15-7, attached, and Docket No. R2000-1, USPS-LR-I-201. The PEAS system replaced PPAM in FY 2004.

e. My understanding is that it is not possible to get an accurate machine count from PEAS. Retrofits and other adjustments are made as separate records.

Also, each contract number associated with a given piece of equipment has a separate record. Please see also the response to UPS/USPS-T12-2e.

f. Please see the response to UPS/USPS-T12-24f.

g. Please see the response to UPS/USPS-T12-24g.

Response of United States Postal Service Witness A. Thomas Bozzo
(USPS-T-12) To Interrogatories of United Parcel Service

UPS/USPS-T12-26. Refer to USPS-LR-L-56, page 33, regarding the Remote Encoding Center (REC) Data.

- (a) List the full set of variables contained in the file, along with their definitions.
- (b) Indicate the time period covered by the file.
- (c) Describe in detail the unit of observation, that is, the entity to which individual records in the file correspond.
- (d) Provide any manuals or other documentation available for the file.
- (e) Identify all instances in which you have relied on or used in your testimony in any way the REC data.

Response.

a. Please see the file REC format.xls, which will be provided in USPS-LR-L-164.

b.-c. Records correspond to plants and the corresponding REC sites. The REC data are monthly from FY 2003-FY 2005. Prior to FY 2003, the files were weekly.

d. I am not aware of any responsive material specific to the REC data. However, note that the data on image processing volumes are inputs to the MODS system.

e. The REC data are used to distribute REC inputs to the plants served by the RECs. This processing is carried out to enable a future update to the REC variability analysis.

Response of United States Postal Service Witness A. Thomas Bozzo
(USPS-T-12) To Interrogatories of United Parcel Service

UPS/USPS-T12-27. Refer to USPS-T-12, page 60, section V.C.4, "Captial (sic) Data–FMS, PPAM/PEAS," where you state that "[t]he beginning-of-the-year owned square footage is rolled up to facility ID number, which is then used to split out the quarterly national building occupancy expenses from NCTB."

(a) Identify all instances in which you have relied on or used in your testimony in any way the resulting split-out national building occupancy expenses.

(b) Do the national building occupancy expenses include rental expenses? Explain in detail.

(c) If your answer to (b) is yes, is it therefore implicitly assumed that each facility ID owns square footage in the same proportion as it rents square footage? If so, what is the support for this assumption?

(d) Do the building occupancy expenses enter the capital index? If so, does each operation at the same facility in the same quarter receive the same value for this component of capital costs?

(e) What is your evidence that changes in square footage of a facility change the productivity of labor of any operation groups?

Response.

a. Building occupancy expenses are an input to the QICAP1 facility capital variable.

b. No. Observations of QICAP1 for a site include real site-specific rental expenses from NCTB.

c. Not applicable.

d. Building occupancy costs do not enter the equipment capital indexes. They are included in the QICAP1 index as indicated in the response to part a.

e. Facility size may affect productivities in certain cost pools, particularly allied labor operations (e.g., platform, mail transport, and dispatching operations) by determining the distances over which mail must be moved from operation to operation and between operations and staging areas. Presently, allied labor operations are beyond the scope of my analysis.

Response of United States Postal Service Witness A. Thomas Bozzo
(USPS-T-12) To Interrogatories of United Parcel Service

UPS/USPS-T12-28. Refer to USPS-LR-L-56, pages 37-39, section III,
"Development of MODS Productivity Data for Cost Studies."

- (a) Identify all instances in which you have relied on or used in your testimony in any way the PFY 2005 productivities (TPH/hour) found in yr_scrub05.txt incorporated in YRscrub2005.xls.
- (b) Why are the data in yr_scrub05.txt only produced for FY 2005?
- (c) Provide more detailed definitions of the 52 operational groups listed on page 38, including definitions for each acronym used in this table.
- (d) Indicate the value cutoffs for top and bottom non-zero 1% of productivities by IDNUMS and AP that are used in yr_scrub.tsp.
- (e) Provide any information from the manufacturer on expected productivities for each operational group.
- (f) Explain in detail why you set TPF equal to TPH in cases where TPH is greater than TPF as is done in yr_scrub.tsp (see page 39).

Response.

- a. I do not use the productivities in the YRscrub2005.xls file, but rather provide those for use as inputs to the Postal Service's mailflow models; see USPS-T-12 at 1-2.
- b. My understanding is that the mailflow models are populated with the most recent available productivities.
- c. Please see the table provided as Attachment 1 to this response for an expansion of the acronyms and abbreviations of the operation groups. A file detailing the MODS operations assigned to each group will be provided in USPS-LR-L-164.
- d. As is evident from the yr_scrub.tsp program code, the program does not employ value cutoffs. Assuming the question regards the implicit cutoffs resulting from the productivity distributions, a file showing the distribution of the observations pre- and post-screening will be provided in USPS-LR-L-164.

Response of United States Postal Service Witness A. Thomas Bozzo
(USPS-T-12) To Interrogatories of United Parcel Service

e. Witness McCrery provides additional descriptions of mail processing equipment, including nominal throughput rates, in USPS-T-42. Realized productivities will depend on various other factors, including actual staffing levels, and fractions of clocked-in time spent in “overhead” and “quasi-allied labor” activities.

f. Please see Docket No. R2000-1, USPS-T-15 at 107-108 (Section VI.E.2).

Response of United States Postal Service Witness A. Thomas Bozzo
(USPS-T-12) To Interrogatories of United Parcel Service

Attachment 1, Response to UPS/USPS-T12-28

<u>Group</u>	<u>Description</u>	<u>Expanded Description</u>
1	Out ISS Primary and Secondary	Outgoing Input Sub System Primary and Secondary
2	In ISS Primary and Secondary	Incoming Input Sub System Primary and Secondary
3	REC Mixed-Shape Keying	Remote Encoding Center Mixed-Shape Keying
4	LMLM	Letter Mail Labeling Machine
5	Out OSS Primary and Secondary	Outgoing Output Sub System Primary and Secondary
6	In OSS Primary and Secondary	Incoming Output Sub System Primary and Secondary
7	Out BCS Primary	Outgoing Barcode Sorter Primary
8	Out BCS Secondary	Outgoing Barcode Sorter Secondary
9	In BCS MMP	Incoming Barcode Sorter Managed Mail Program
10	In BCS SCF/Primary	Incoming Barcode Sorter Sectional Center Facility/Primary
11	In BCS Secondary (1 Pass)	Incoming Barcode Sorter Secondary (1 Pass)
12	In BCS Secondary (2 Pass)	Incoming Barcode Sorter Secondary (2 Pass)
13	In BCS Secondary (3 Pass)	Incoming Barcode Sorter Secondary (3 Pass)
14	Manual Out Primary	Manual Outgoing Primary (Letters)
15	Manual Out Secondary	Manual Outgoing Secondary (Letters)
16	Manual In MMP	Manual Incoming Managed Mail Program (Letters)
17	Manual In SCF/Primary	Manual Incoming Sectional Center Facility/Primary (Letters)
18	Manual In Secondary	Manual Incoming Secondary (Letters)
19	Riffle Letters	n/a
21	AFSM100 Out Primary	Automated Flats Sorting Machine 100 Outgoing Primary
22	AFSM100 Out Secondary	Automated Flats Sorting Machine 100 Outgoing Secondary
23	AFSM100 In MMP	Automated Flats Sorting Machine 100 Incoming Managed Mail Program
24	AFSM100 In SCF	Automated Flats Sorting Machine 100 Incoming Sectional Center Facility
25	AFSM100 In Primary	Automated Flats Sorting Machine 100 Incoming Primary
26	AFSM100 In Secondary	Automated Flats Sorting Machine 100 Incoming Secondary
27	UFSM1000 HSF Out Primary	Upgraded Multi-Position Flats Sorting Machine 1000 High Speed Feeder Outgoing Primary
28	UFSM1000 HSF Out Secondary	Upgraded Multi-Position Flats Sorting Machine 1000 High Speed Feeder Outgoing Secondary
<u>Group</u>	<u>Description</u>	<u>Expanded Description</u>
29	UFSM1000 HSF In MMP	Upgraded Multi-Position Flats Sorting Machine 1000 High Speed Feeder

Response of United States Postal Service Witness A. Thomas Bozzo
(USPS-T-12) To Interrogatories of United Parcel Service

		Incoming Managed Mail Program
30	UFSM1000 HSF In SCF	Upgraded Multi-Position Flats Sorting Machine 1000 High Speed Feeder Incoming Sectional Center Facility
31	UFSM1000 HSF In Primary	Upgraded Multi-Position Flats Sorting Machine 1000 High Speed Feeder Incoming Primary
32	UFSM1000 HSF In Secondary	Upgraded Multi-Position Flats Sorting Machine 1000 High Speed Feeder Incoming Secondary
33	UFSM1000 Key Out Primary	Upgraded Multi-Position Flats Sorting Machine 1000 Keying Outgoing Primary
34	UFSM1000 Key Out Secondary	Upgraded Multi-Position Flats Sorting Machine 1000 Keying Outgoing Secondary
35	UFSM1000 Key In MMP	Upgraded Multi-Position Flats Sorting Machine 1000 Keying Incoming Managed Mail Program
36	UFSM1000 Key In SCF	Upgraded Multi-Position Flats Sorting Machine 1000 Keying Incoming Sectional Center Facility
37	UFSM1000 Key In Primary	Upgraded Multi-Position Flats Sorting Machine 1000 Keying Incoming Primary
38	UFSM1000 Key In Secondary	Upgraded Multi-Position Flats Sorting Machine 1000 Keying Incoming Secondary
39	Manual Out Primary	Manual Outgoing Primary (Flats)
40	Manual Out Secondary	Manual Outgoing Secondary (Flats)
41	Manual In MMP	Manual Incoming Managed Mail Program (Flats)
42	Manual In SCF	Manual Incoming Sectional Center Facility (Flats)
43	Manual In Primary	Manual Incoming Primary (Flats)
44	Manual In Secondary	Manual Incoming Secondary (Flats)
45	Manual In	Manual Incoming (Flats)
46	SPBS Outgoing	Small Parcel and Bundle Sorter Outgoing
47	SPBS Incoming	Small Parcel and Bundle Sorter Incoming
48	LIPS Outgoing	Linear Integrated Parcel Sorter Outgoing
49	LIPS Incoming	Linear Integrated Parcel Sorter Incoming

Response of United States Postal Service Witness A. Thomas Bozzo
(USPS-T-12) To Interrogatories of United Parcel Service

<u>Group</u>	<u>Description</u>	<u>Expanded Description</u>
50	APPS Outgoing	Automated Package Processing System (APPS) Outgoing
51	APPS Incoming	Automated Package Processing System (APPS) Incoming
52	Manual Outgoing	Manual Outgoing (Parcels)

Response of United States Postal Service Witness A. Thomas Bozzo
(USPS-T-12) To Interrogatories of United Parcel Service

UPS/USPS-T12-29. Refer to USPS-LR-L-56, dataset Section1\Data\vv9905.xls.
Provide a mapping of the IDNUM used in your analysis to the facility identifier
used in the IOCS for FY1999 to FY2005.

Response.

Please see the response to MPA-ANM/USPS-T12-1(g).

Respectfully submitted,

UNITED STATES POSTAL SERVICE

By its attorneys:

Daniel J. Foucheaux, Jr.
Chief Counsel, Ratemaking

Frank R. Heselton

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.

Frank R. Heselton

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