DOCKET SECTION

BEFORE THE
POSTAL RATE COMMISSION

POSTAL RATE AND FEE CHANGES, 1997	DOCKET NO. R97-1

ANSWERS OF UNITED PARCEL SERVICE WITNESS KEVIN NEELS TO INTERROGATORIES OF THE UNITED STATES POSTAL SERVICE (USPS/UPS-T1-49 THROUGH 51)

(March 24, 1998)

Pursuant to the Commission's Rules of Practice, United Parcel Service ("UPS") hereby serves and files the responses of UPS witness Kevin Neels to interrogatories USPS/UPS-T1-49 through 51 of the United States Postal Service.

Respectfully submitted,

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ANSWER OF UNITED PARCEL SERVICE
WITNESS NEELS TO INTERROGATORY OF
THE UNITED STATES POSTAL SERVICE

USPS/UPS-T1-49. Please refer to your article, "Reducing Energy Consumption in Housing: An Assessment of Alternatives" (*International Regional Science Review*, May 1982), cited in your response number 1 to questions posed at hearing, filed March 9, 1998.

(a) Please confirm that the Housing Assistance Supply Experiment (HASE) data set you employed was a panel data set.

(b) Please confirm that you described this panel data set as "a rich set of data describing both cross-sectional and longitudinal differences in behavior" (p. 70).

(c) Please confirm that your analysis measured the energy use of residential properties as a function of the physical characteristics of the property, the behavioral characteristics of the property's occupants, and the weather.

(d) Please confirm that you specified twenty regressors to capture the characteristics described in part (c).

(e) Please confirm that you stated that "unobserved housing attributes and/or household habits that cause a property to display unusually high or low energy use [your dependent variable] are likely to have effects that persist over time . . . leading to a correlation between the error terms for successive observations on the same property. Such correlation violates the assumptions of the classical linear model. . ." (p. 72-73).

(f) Please confirm that you solved the "problem" described in part (e) by employing a "variance components estimator" described in a 1966 paper by Balestra and Nerlove (p. 73).

(g) Please confirm that the Balestra and Nerlove "variance components estimator" may also be called a "random effects" model. If you do not confirm, please

explain the basis for your disagreement with Hsiao (Analysis of Panel Data, p. 93-95. Cambridge University Press, 1996).

(h) Please confirm that your model of energy use by residential properties is a version of equation 1.3.1 in Hsiao's monograph (p. 9):

$$y_{it} = \alpha_i^{\cdot} + \sum_{k=1}^{K} \beta_k x_{it,k} + u_{it} .$$

Response to USPS/UPS-T1-49.

(a) Confirmed.

(b) Confirmed.

(c) Confirmed.

(d) Confirmed.

(e) Confirmed.

(f) Confirmed.

(g) Confirmed.

(h) Confirmed.

ANSWER OF UNITED PARCEL SERVICE
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USPS/UPS-T1-50. Please refer to your article, "Direct Effects of Undermaintenance and Deterioration" (in *The Rent Control Debate*, Paul L. Niebanck, ed. Chapel Hill: University of North Carolina Press, 1985), cited in your response number 1 to questions posed at hearing, filed on March 9, 1998.

(a) Please confirm that you used the HASE panel data set to estimate the "maintenance model" described in the article.

(b) Did you use an estimation procedure, such as a fixed effects or random effects model, to control for unobserved attributes of properties in the specification of the "maintenance model"? If so, please explain fully.

Response to USPS/UPS-T1-50.

(a) Confirmed.

(b) No.

ANSWER OF UNITED PARCEL SERVICE
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USPS/UPS-T1-51. Please refer to your article, "The Effects of Urban Development Patterns on Transportation Energy Use" (with Melvin D. Cheslow, *Transportation Research Record*, No. 764), pages 72-75, cited in your response number 1 to questions posed at hearing, filed March 9, 1998.

(a) Please confirm that as part of this article, you estimated a number of regression models relating urban travel patterns to urban characteristics. Please also confirm that these were models of neighborhood transit availability, automobile driver trip speed, automobile driver trip length, mass transit use for all trips, and mass transit and carpool use for work trips.

(b) Please confirm that all of the models listed in part (a) could be written in the form $y_{ij} = \alpha_i^* + \sum_{k=1}^{K} \beta_k x_{ijk} + u_{ij}$, where i indicates the metropolitan area, j indicates neighborhoods within the metropolitan area, and u is a random disturbance term with classical properties. If you do not confirm, please explain fully, reconciling your response with the text of your article as needed.

(c) Please confirm that you estimated the parameters α_i from the equation in part (b) of this interrogatory by including dummy variables for each metropolitan area in the regression models.

(d) Please confirm that the estimates of the models listed in part (a) of this interrogatory are, therefore, fixed effects estimates, where the fixed effects pertain to metropolitan area characteristics. If you do not confirm, please explain fully.

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Response to USPS/UPS-T1-51.

(a) Not confirmed. The models were: neighborhood transit availability; Auto driver trip speed; Auto ownership; Transit share of all home-based trips; Transit share of all home-based work trips; Auto occupancy; Auto trip length; and Home-based vehicle trips per household.

(b) Confirmed.

(c) Confirmed.

(d) Confirmed.

DECLARATION

I, Kevin Neels, hereby declare under penalty of perjury that the foregoing answers are true and correct to the best of my knowledge, information, and belief.

Kevin Neels

Dated: March 24, 1998

CERTIFICATE OF SERVICE

I hereby certify that I have this date served the foregoing document in accordance with section 12 of the Commission's Rules of Practice.

John E. McKeever

Dated: March 24, 1998
Philadelphia, PA