

BEFORE THE
POSTAL REGULATORY COMMISSION
WASHINGTON, DC 20268-0001

Periodic Reporting
(Proposal One)

Docket No. RM2022-3

PUBLIC REPRESENTATIVE REPLY COMMENTS

(April 22, 2022)

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I. Introduction

In this proceeding, the Postal Service proposes changes to analytical methods used in calculating attributable city carrier, letter route, street time costs by employing an overall top-down model of street time variability (Top-Down Model), labeled as Proposal One, filed January 5, 2022.^{1 2} During the course of this proceeding, the Postal Service provided information in response to five Chairman Information Requests (CHIRs).³ Pursuant to 39 U.S. C. § 505, the Postal Regulatory Commission designated the Public Representative to represent the “interests of the general public” in the instant proceeding. According to 39 C.F.R. § 3050.11(a), the Commission should accept Proposal One if it

¹ Docket No. RM2022-3, Petition of the United States Postal Service for the Initiation of a Proceeding to Consider Proposed Changes in Analytical Principles (Proposal One), January 5, 2022 (Petition). The Petition was accompanied by a study supporting its proposal. See Michael D. Bradley, On the Estimation of a Top-Down Model for City Carrier Street Time, January 5, 2022 (Bradley Study). Supporting documentation was provided in public Library Reference USPS-RM2022-3-1, Public Material Relating to Proposal One, January 5, 2022. Certain files in this library reference were subsequently revised on January 21, 2022, namely “USPS-RM2022-3_1_Rev01212022.zip.” The Postal Service also submitted nonpublic library references with its proposal, which the Public Representative has reviewed. See Library Reference USPS-RM2022-3-NP1, Nonpublic Material Relating to Proposal One, January 5, 2022, and the subsequently revised Library Reference Nonpublic Material Relating to Proposal One (REVISED 1-21-2022), January 21, 2022. Also see “Notice of Minor Revision to USPS-RM2022-3-1 and USPS-RM2022-3-NP1 – Errata,” January 21, 2022.

² Please note that Top-Down Model refers specifically to the model presented in Proposal One. References to top-down (or single or unified) models refer to predecessors of this model or the concept of a top-down model in abstract terms.

³ Docket No. RM2022-3, Responses of the United States Postal Service to Questions 1-3 of Chairman’s Information Request No. 1, January 18, 2022 (Response to CHIR No. 1); Docket No. RM2022-3, Responses of the United States Postal Service to Questions 1-4 of Chairman’s Information Request No. 2, February 15, 2022 (Response to CHIR No. 2); Response to CHIR No. 2 also included an attachment, “ChIR.2.Resp.Attachmnt.SAS Programs.zip” (CHIR No. 2 Attachment); Docket No. RM2022-3, Responses of the United States Postal Service to Questions 1-6 of Chairman’s Information Request No. 3, February 22, 2022 (Response to CHIR No. 3); Response to CHIR No. 3 also included an attachment, “OneDrive_2022-02-22.zip” (CHIR No. 3 Attachment); Docket No. RM2022-3, Responses of the United States Postal Service to Questions 1-19 of Chairman’s Information Request No. 4, March 11, 2022 (Response to CHIR No. 4); Response to CHIR No. 4 also included an attachment, “ChIR4.Q19.Resp.xlsx” (CHIR No. 4 Attachment); Docket No. RM2022-3, Responses of the United States Postal Service to Questions 1-11 of Chairman’s Information Request No. 5, March 14, 2022 (Response to CHIR No. 5); Response to CHIR No. 5 also included an attachment, “ChIR5.Q8.MTs.Var.w.ClustrCoeffcnts.zip” (CHIR No. 5 Attachment) and was filed in association with nonpublic Library Reference USPS-RM2022-3-NP2.

improves the quality, accuracy, or completeness of the data or analysis of data contained in the Postal Service's annual periodic reports to the Commission. The Public Representative reviewed the submitted Petition, Bradley Study, Library References, and Responses to CHIRs and offered Comments suggesting modifications to Proposal One, but ultimately agreed that its approval as submitted would be in compliance with 39 C.F.R. § 3050.11(a).⁴ United Parcel Service Inc. (UPS) also submitted comments which suggest that Proposal One is an improvement over current methodology if it were modified to reflect 2021 delivery volumes, but it also suggested other modifications to Proposal One, including a suggestion to incorporate long-term effects of volume on street time into the Top-Down Model.⁵ UPS Initial Comments at 21. The Public Representative responds to select arguments put forth by UPS below.

II. Reply Comments

a. Conceptual Concerns

UPS argues that the Top-Down Model's use of 2019 delivery data causes Proposal One variabilities to be outdated, institutional costs to be overstated, and parcel costs to be understated because it fails to account for significant mail mix changes, including a rapid increase in parcel volumes since 2019. *Id.* at 17. UPS provides an illustrative analysis that demonstrates that increasing parcel volumes and decreasing market dominant mail volumes in a manner consistent with changes between calendar year 2019 and FY 2021 could lead to substantially different variabilities than estimated in Proposal

⁴ Docket No. RM2022-3, Public Representative Comments, March 28, 2022 (PR Comments).

⁵ Docket No. RM2022-3, Initial Comments of United Parcel Service, Inc. Regarding Proposal One, March 28, 2022 (UPS Initial Comments). UPS also filed an associated Library Reference with its supporting documents. See UPS-LR-RM2022-3/NP1 – Supporting Nonpublic Materials for UPS Comments.

One. *Id.* at 14. The Public Representative agrees that network shifts can impact variabilities, and the Postal Service discussed network shifts between FY2015 and FY 2020 as a rationale for submitting Proposal One in the first place. Petition at 3; also see PR Comments at 11-12. The Public Representative also agrees that large shifts in mail mix occurred during FY 2020 through FY 2022, but it is not clear to what extent those shifts will be reflective of ongoing Postal Service volumes or whether the trend in increased parcel volumes may reverse after society moves past the effects of the COVID-19 pandemic. The Public Representative maintains that despite being somewhat outdated, Proposal One is still an improvement over the current methodology and should be accepted as submitted. However, the Public Representative echoes the UPS Initial Comments, which state that Proposal One should be updated when more recent data, which is reflective of ongoing Postal Service operations, is available, and yearly thereafter. UPS Initial Comments at 16. At the same time, the Public Representative takes issue with the methodology of this variability recalculation as described by UPS. *Id.*

UPS suggests that the Postal Service update the Delivery Data Set, which uses operational data, yearly. Bradley Study at 9; PR Comments at 13; UPS Initial Comments at 16. Because this data comes from operational sources, it should not be difficult to update yearly. UPS also suggests that variables associated with ZIP Code mean variables and date fixed effects should not be updated yearly. UPS Initial Comments at 16. UPS notes that “As such, the update to the model could be viewed as recalculation of the variabilities as if higher volumes had been observed in CY2019.” The Public Representative disagrees that these ZIP Code mean variables and date fixed effects should not be updated in subsequent variability updates. It does not seem appropriate to

assume a counterfactual as if higher volumes have been observed in CY2019 indefinitely going forward when more recent data is available. The Public Representative agrees that Proposal One characterizes ZIP Code mean variables as those that should be correlated with time-invariant unobserved ZIP Code differences in street hours, but do not have causal effects on street time. *Id.* However, while this assumption may be generally accurate, there may be changes in ZIP Codes that could cause these correlations to change. For example, ZIP Code boundaries occasionally change, and such changes would require changes to the magnitude of the measured time-invariant effects in Proposal One.⁶ To account for this possibility as well as to serve as a check of the robustness of the Postal Service's assumption that such effects are time-invariant, these effects should be re-estimated in subsequent street time variability updates.

For the date fixed-effect estimates, it is possible that severe weather events on delivery days in future variability updates could influence delivery volumes on said day in a way not captured by the date fixed-effects measured in Proposal One. The Postal Service noted that extreme weather events can lead to substantial changes to delivery operations. Bradley Study at 30. For example, if a particular delivery date in a future variability study experienced a significant weather event which impacted volumes and street time in one or several ZIP Codes, the date fixed-effect estimates in Proposal One would no longer be relevant and vice-versa. To account for these possibilities, it would be better for the date fixed-effect coefficient estimates to be updated in subsequent street time variability studies. Updating the date fixed-effect estimates (and mean ZIP Code

⁶ The Postal Service notes that, "Due to an increase in population or to the improve postal operations, the US Postal Service® will occasionally add a new ZIP Code or change ZIP Code boundaries." USPS.com, "ZIP-Code-The-Basics," accessed at <https://faq.usps.com/s/article/ZIP-Code-The-Basics>.

estimates) will also provide an additional sensitivity check in subsequent variability studies for the Commission and public to ensure that the assumptions of the Top-Down Model are founded and robust.

UPS also suggests that by opting out of a pooled regression model, Proposal One cannot estimate the effects of “variation in street time that results from secular, longer-term volume trends.” UPS Initial Comments at 18. It further suggests that “[such] variation could be measured if the model worked across ZIP codes as well as within them, by measuring the difference between small-volume ZIP codes and large-volume ZIP codes.” *Id.* UPS notes that network shifts such as route changes which affect street time are made based on long-term volume trends observed by the Postal Service, and the effects of such long-term volume effects cannot be captured within the one-year analysis period of Proposal One. *Id.* at 20. The Public Representative agrees that it would improve Proposal One to consider long-term effects of volume on variability if they exist, but the Public Representative maintains that panel methods are necessary to control for unobserved heterogeneity in street time costs.

The Public Representative emphasizes that the Postal Service tested for the presence of unobserved heterogeneity in street time costs during its investigation into pooled model specifications, and that it found evidence that such heterogeneity exists. PR Comments at 33. It is not likely that all such unobserved heterogeneity cross-sectional correlations between costs and volumes reflect causal effects. UPS Initial Comments at 18. The Commission does not appear to stick solely to a precedent that all such correlations are causal, as suggested by the UPS Comments. *Id.* at 19. In its recent Order in Docket No. RM2020-13 denying a mail processing variability study conducted

by the Postal Service, the Commission explicitly recognized that even the fixed-effect methods proposed by the Postal Service were unable to satisfactorily control for unobserved heterogeneity of facility-specific effects on mail processing variabilities. Order No. 6096 at 35-41. In that case, manager effectiveness was pointed out as an unobserved variable, which would significantly affect mail processing variabilities. *Id.* at 35. In this case, similar variables, such as average carrier effectiveness, are unobservable but significantly determine street time costs. Because of this, panel methods such as the CRE model in Proposal One are necessary in estimating unbiased street time variabilities.

The Public Representative acknowledges to the extent that long-term effects of volume on street hours are economically and statistically significant, they would be improving additions to the Top-Down Model. However, for example, in Docket No. RM2020-13, the conceptually founded long-term effects of volume on costs (as measured by one-month and 12-month lags of volume) were not found to be statistically significant in estimating mail processing variabilities for DBCS and AFSM-100 operations. Long-term effects of volume may be insignificant in this docket, too. *Id.* at 29, 31. If the Commission believes that the long-term effects of volumes on street time cost could be economically material, the Public Representative suggests that the Commission request the Postal Service to investigate this issue in another docket. In its investigation, it would be helpful for the public and the Commission to weigh different methods that could estimate such effects, like a multi-year analysis approach as advocated by UPS or a lagged approach. See UPS Initial Comments at 20.

b. Technical Concerns

The Public Representative also raises some technical points of concern with UPS Initial Comments. First, UPS' Top-Down Model's results do not exactly replicate that of the Bradley Study. This may be due to UPS using STATA and the Bradley Study using SAS, as different software systems develop models using differing conditioning factors. The most notable differences in the results include the statistically insignificant coefficient for the "Ratio of Business Delivery Points" variable varying greatly, the statistical significance of the coefficient for the "Cased Mail Squared" variable changing from insignificant to significant, and the standard errors being smaller overall.⁷ Response to CHIR No. 1, question 3.a. The latter two are of great importance. This puts into question which model more effectively reflects the derived theoretical model. The Public Representative invites UPS to explain why its proposed model deviates from Proposal One in the manner described above.

Additionally, in order to run the STATA program provided in UPS's representative ZIP Code analysis, supplemental code must be provided. Specifically, this code needs to create the ZIP Code mean predicted street hours in addition to the ZIP Code mean variabilities for both DPS and Deviation Parcels / Accountables.⁸ Doing so leads to the same conclusion as UPS relating to the identified representative ZIP Code.

⁷ Please refer to Library Reference USPS-RM2022-3-1, January 21, 2022, Revised Folder, folder "Directory 2 Construct the Analysis Data Set," SAS output file "CRE Model Combined Restricted Quad With Time Effects.lst." Please refer to Library Reference UPS-LR-RM2022-3-NP1 – Supporting Nonpublic Materials for UPS Comments, March 28, 2022, folder "3 – Variabilities Analysis," STATA program file "Static Variabilities Analysis.do."

⁸ Please refer to Library Reference UPS-LR-RM2022-3-NP1 – Supporting Nonpublic Materials for UPS Comments, March 28, 2022, folder "5 – Representative ZIP Code," STATA program file "Representative ZIP.do." The additional code the Public Representative added after line 145 is "egen zpsh = mean(psh), by(zip)" and after line 147 in the foreach loop is "gen zvariability`var' = (_b[`var'] + 2*_b[`var'2]*z`var)*z`var'/zpsh." The Public Representative seeks clarification from UPS on how it constructed the ZIP Code-level variabilities and predicted street hours.

The Public Representative respectfully submits the foregoing comments for the Commission's consideration.

Respectfully submitted,

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