

UNITED STATES OF AMERICA
POSTAL REGULATORY COMMISSION
WASHINGTON, DC 20268-0001

Before Commissioners:

Michael Kubayanda, Chairman;
Ashley E. Poling, Vice Chairwoman;
Mark Acton;
Ann C. Fisher; and
Robert G. Taub

Periodic Reporting
(Proposal Seven)

Docket No. RM2021-1

ORDER ON ANALYTICAL PRINCIPLES
USED IN PERIODIC REPORTING (PROPOSAL SEVEN)

(Issued October 6, 2021)

I. INTRODUCTION

On November 9, 2020, the Postal Service filed a petition pursuant to 39 C.F.R. § 3050.11 requesting that the Commission initiate a rulemaking proceeding to consider changes to analytical principles relating to the Postal Service's periodic reports.¹ The Petition identifies the proposed analytical methodology changes filed in this docket as

¹ Petition of the United States Postal Service for the Initiation of a Proceeding to Consider Proposed Changes in Analytical Principles (Proposal Seven), November 9, 2020 (Petition). The Postal Service filed a notice of filing of non-public materials relating to Proposal Seven. Notice of Filing of USPS-RM2021-1-1 and USPS-RM2021-1-NP1 and Application for Nonpublic Treatment, November 9, 2020.

Proposal Seven. Proposal Seven seeks to update the variabilities for certain types of purchased highway transportation contracts to reflect recent operational changes.²

After review, the Commission approves Proposal Seven with a minor modification. As described in this Order, the Commission finds that the updated econometric estimates of variabilities for specific types of purchased highway transportation are an improvement over those estimated variabilities produced by the current methodology and are responsive to the Commission's recommendation to "update [the] variabilities [for purchased highway transportation] the earlier of every 10 to 15 years or following completion of any major structural reorganization."³ The Commission, however, agrees with the Public Representative that it would be appropriate to remove additional anomalous observations from the analysis dataset before estimating peak-season variabilities.⁴

II. PROCEDURAL HISTORY

The Postal Service filed its Petition and accompanying information on November 9, 2020. On November 18, 2020, the Commission issued a notice establishing Docket No. RM2021-1, appointing a Public Representative, and providing interested persons with an opportunity to comment.⁵

² Petition, Proposal Seven at 1. The Postal Service's Petition was accompanied by a study supporting its proposal. See Michael D. Bradley, *Research on Updating Purchased Highway Transportation Variabilities to Account for Structural Changes*, November 9, 2020 (Bradley Study).

³ Docket No. RM2016-12, Order on Analytical Principles Used in Periodic Reporting (Proposal Four), June 22, 2017, at 40 (Order No. 3973).

⁴ These are observations for which annual miles are less than or equal to one. See Public Representative Comments on Proposal Seven, March 5, 2021, at 13-14 (PR Comments).

⁵ Notice of Proposed Rulemaking on Analytical Principles Used in Periodic Reporting (Proposal Seven), November 18, 2020 (Order No. 5756).

United Parcel Service, Inc. (UPS) filed a motion for issuance of an information request.⁶ Additionally, the Public Representative filed two motions for issuance of information requests.⁷ Upon consideration of those motions, related questions were included in Chairman's Information Request (CHIR) Nos. 2, 3, and 4.⁸ Four additional CHIRs were also issued.⁹ The Postal Service filed responses to each of the seven CHIRs.¹⁰

On February 22, 2021, the Commission extended the comment deadline in this docket to March 5, 2021, in response to a motion filed by the Public Representative.¹¹ On February 26, 2021, UPS filed comments.¹² On March 5, 2021, Pitney Bowes, Inc. (Pitney Bowes), the Public Representative, and Amazon.com Services, Inc. (Amazon) filed comments.¹³ On March 8, 2021, the Parcel Shippers Association (PSA) filed

⁶ Motion of United Parcel Service, Inc. for Issuance of Information Request to the United States Postal Service, February 5, 2021.

⁷ See Public Representative Motion for Issuance of Information Request, February 12, 2021; Public Representative Motion for Issuance of Information Request 2, February 18, 2021.

⁸ See Chairman's Information Request No. 2, February 10, 2021; Chairman's Information Request No. 3, February 17, 2021; Chairman's Information Request No. 4, February 22, 2021.

⁹ See Chairman's Information Request No. 1, December 17, 2020; Chairman's Information Request No. 5, March 26, 2021; Chairman's Information Request No. 6, May 3, 2021 (CHIR No. 6); Chairman's Information Request No. 7, June 8, 2021.

¹⁰ See Responses of the United States Postal Service to Questions 1-9 of Chairman's Information Request No. 1, January 7, 2021 (Response to CHIR No. 1); Responses of the United States Postal Service to Questions 1-7 of Chairman's Information Request No. 2, February 17, 2021 (Response to CHIR No. 2); Response of the United States Postal Service to Question 1 of Chairman's Information Request No. 3, February 23, 2021 (Response to CHIR No. 3); Responses of the United States Postal Service to Questions 1-3 of Chairman's Information Request No. 4, February 24, 2021 (Response to CHIR No. 4); Responses of the United States Postal Service to Questions 1-7 of Chairman's Information Request No. 5, April 1, 2021 (Response to CHIR No. 5); Responses of the United States Postal Service to Questions 1-4 of Chairman's Information Request No. 6, May 7, 2021 (Response to CHIR No. 6); Responses of the United States Postal Service to Questions 1-2 of Chairman's Information Request No. 7, June 14, 2021 (Response to CHIR No. 7).

¹¹ Order Granting Motion to Extend Comment Deadline, February 22, 2021 (Order No. 5835); see Motion of Public Representative for Extension of Time to File Comments, February 19, 2021.

¹² Initial Comments of United Parcel Service, Inc. on Notice of Proposed Rulemaking on Analytical Principles Used in Periodic Reporting (Proposal Seven), February 26, 2021 (UPS Comments).

¹³ Comments of Pitney Bowes Inc., March 5, 2021 (Pitney Bowes Comments); PR Comments; Comments of Amazon.com Services, Inc., March 5, 2021 (Amazon Comments).

comments along with a motion for late acceptance.¹⁴ On March 12, 2021, the Postal Service filed reply comments, along with a motion for leave to file.¹⁵

III BACKGROUND

A. Rationale

Proposal Seven relates to updating the variabilities for certain types of purchased highway transportation contracts. Petition at 1. In recent years, the Postal Service has made two major operational changes to its highway transportation network: increased reliance on additional highway transportation during the seasonal volume peak, and introduced Dynamic Route Optimization (DRO) contracts. *Id.* Proposal Seven at 1. The Postal Service characterizes both operational changes as large enough to qualify as major structural reorganizations which, in keeping with Commission guidance, require updating its variabilities. *Id.*

B. Methodology for Estimating Cost-to-Volume Variabilities

In the established methodology, the overall variability of the purchased highway transportation costs for the relevant transportation account(s) is the product of two components: the cost-to-capacity variability (variability of cost with respect to capacity) and capacity-to-volume variability (variability of capacity with respect to volume).¹⁶ In Docket No. RM2014-6, the Postal Service estimated and the Commission approved the cost-to-capacity variabilities for regular highway transportation accounts based on the Transportation Contract Support System (TCSS) data for the fourth quarter of

¹⁴ Comments of the Parcel Shippers Association on Notice of Proposed Rulemaking on Analytical Principles Used in Periodic Reporting (Proposal Seven), March 8, 2021 (PSA Comments); Motion for Late Acceptance of the Parcel Shippers Association, March 8, 2021. That motion is granted.

¹⁵ Reply Comments of the United States Postal Service Regarding Proposal Seven, March 12, 2021 (Postal Service Reply Comments); Motion of the United States Postal Service for Leave to File Reply Comments Regarding Proposal Seven, March 12, 2021. That motion is granted.

¹⁶ Bradley Study at 3; see *a/so* Docket No. RM2014-6, Library Reference USPS-RM2014-6/1, June 20, 2014, Word file "Rpt.Updat.PHT.Cost.Cap.Variab.docx," at 2 (2014 Variability Report).

FY 2013.¹⁷ These variabilities were applied to the corresponding Christmas accounts as well. Bradley Study at 3-4. Measuring capacity-to-volume variabilities was considered “a topic for future research,” so these variabilities were “taken to be 100 percent” at that time. 2014 Variability Report at 3. In Docket No. RM2016-12, the Postal Service estimated the capacity-to-volume variabilities using data for regular transportation accounts, and the Commission approved them for regular accounts only, concluding that further development would be necessary with respect to emergency and Christmas accounts. Bradley Study at 4; see *also* Order No. 3973 at 2. Capacity-to-volume variabilities for emergency and Christmas accounts have been set at 100 percent (or “1”). Bradley Study at 4; Order No. 3973 at 38-40.

C. Peak-Season Variabilities

The purchased highway transportation network must handle the increased volume during the winter holiday season. Bradley Study at 2. The Postal Service prefers to use existing transportation capacity to absorb the higher volume, but in the networks that already have high capacity utilization it becomes necessary to incur additional cost to handle the volume. *Id.* These additional purchased highway transportation costs are incurred in the nine specific peak-season highway accounts that together cover so-called Christmas contracts. *Id.* Although the vast majority (85.4 percent) of Christmas contracts incur costs during the first quarter of each fiscal year (typically from Thanksgiving until the end of the calendar year), they also incur costs during all other quarters (in FY 2019, their share of costs was 9.2 percent, 3.8 percent, and 1.6 percent in the second, third, and fourth quarters, respectively). *Id.* at 2-3. This is due to a number of reasons (peak-season transportation requirements continue for several weeks into the next calendar year and suppliers have 90 days to submit requests for extra trip cost). Response to CHIR No. 1, question 2.b. In addition,

¹⁷ Bradley Study at 4; see *also* Docket No. RM2014-6, Order on Analytical Principles Used in Periodic Reporting (Proposals Three Through Eight), September 10, 2014, at 12-15 (Order No. 2180); 2014 Variability Report at 6.

Christmas contracts occasionally handle short-term unscheduled trips on existing contracts throughout the year. *Id.* Each summer, the Postal Service performs the analysis of its surface transportation network to identify areas that would require additional transportation during the peak season and attempts to procure short-term transportation contracts to address the specific transportation need of each location. Response to CHIR No. 1, question 2.c. Except from providing transportation during a relatively short time period, Christmas contracts function like regular highway contracts with pre-specified routes and compensation amounts. Bradley Study at 2.

In Docket No. RM2014-6, the Postal Service estimated cost-to-capacity variabilities using data for regular transportation accounts only and applied these variabilities to Christmas accounts as well because at that time, there were insufficient data for these accounts supporting a “separate estimation of Christmas cost-to-capacity variabilities.” *Id.* at 3-4; Response to CHIR No. 1, question 1.b. The Postal Service explains that because the costs of Christmas contracts have increased substantially in recent years (from \$83 million in FY 2014 to \$285.6 million in FY 2019), it became “appropriate to investigate whether the current variabilities applied to accrued Christmas account costs should be revised.” Bradley Study at 3.

D. DRO Contracts

In FY 2018, the Postal Service started to replace traditional highway intra-processing and distribution center (P&DC) contracts with the new DRO contracts at a substantial number of sites. *Id.* at 29. The Postal Service maintains that these contracts have important differences from the traditional purchased highway transportation contracts. *Id.* Specifically, they do not have any fixed routes or number of stops, which can change depending on the dynamics of volume flows. *Id.* Also, they do not have fixed annual contract awards and are paid on a per-mile rate, which is the same for all trips within the same contract cost segment. *Id.* DRO contracts are currently only used for local transportation between processing facilities and delivery units, and they are awarded to a supplier who is responsible for covering a designated

geographic region. Response to CHIR No. 1, question 7. The Postal Service is currently in the early stages of investigating the possibility of expansion of the DRO contracts beyond current levels. Response to CHIR No. 2, question 6.

Currently, as an interim solution, the Postal Service applies the overall intra-sectional center facility (SCF) variability to the DRO contracts because these contracts fall into the intra-SCF category. Response to CHIR No. 1, question 8.a. The product of the intra-SCF cost-to-capacity variability of 0.643 and the intra-SCF capacity-to-volume variability of 0.773 produces the combined overall variability for the intra-SCF category of 0.4968, which is applied to DRO contracts.¹⁸ The Postal Service explains that the observed differences between traditional and DRO contracts, as well rapid increase in the DRO accrued costs (from \$140 million in FY 2018 to \$391 million in FY 2019), make it appropriate to investigate whether the DRO variabilities are different from variabilities estimated for traditional regular contracts. Bradley Study at 29-30.

E. Changes in the Intra-SCF Transportation Cost Structure and Updating Intra-P&DC Variabilities

The introduction of DRO contracts that have been replacing regular intra-P&DC contracts affected the cost structure of intra-SCF transportation. *Id.* at 43-44. From FY 2018 to FY 2019, the share of costs for DRO contracts increased from 7.3 percent to 19.5 percent of intra-SCF accrued costs, while the share of intra-P&DC regular contracts decreased from 57 to 47.3 percent during the same fiscal year. Response to CHIR No. 5, question 6. The Postal Service maintains that because “[t]he characteristics of transportation removed from [the] Intra P&DC account may not be the same as the characteristics of transportation that remain[] in the account,” it is reasonable to investigate whether the “removal of the transportation that went into DRO

¹⁸ *Id.*; see also Library Reference USPS-FY19-32, December 27, 2019, folder “B Workpapers,” Excel file “CS14-Public-FY19.xlsx,” tab “WS14.3,” columns I–L, row 102.

contracts has had an impact on the variability for the remaining Intra P&DC transportation.” Bradley Study at 44.

IV. PROPOSAL SEVEN

A. Methodology

Proposal Seven seeks to update cost-to-capacity variability estimates for Christmas routes based on data from TCSS, the same data source that was used to estimate the established cost-to-capacity variabilities for regular transportation in Docket No. RM2014-6. Petition, Proposal Seven at 2. The Postal Service has provided estimates for four variability equations relating to the seasonal peak: Christmas intra-SCF van transportation, Christmas intra-SCF tractor trailer (TT) transportation, Christmas inter-SCF transportation, and Christmas network distribution center (NDC) transportation. *Id.* The Postal Service states that the provided variability estimates follow established methodology, and that in all four instances, the estimated variabilities have increased over the currently established variabilities. *Id.* at 2-3.

In addition, Proposal Seven seeks to estimate variabilities of the relatively new contracts, called DRO contracts. *Id.* at 3. The Postal Service notes that these contracts have important differences from traditional purchased highway transportation: they do not have fixed routes and are paid at a per-mile rate in lieu of annual contract awards. *Id.* Noting a substantial increase in DRO transportation costs from FY 2018 to FY 2019, the Postal Service states that the differences between DRO and traditional purchased highway transportation have become material, making it appropriate to investigate whether DRO contracts have a different variability than traditional contracts. *Id.* at 3-4. The Postal Service provides estimates of three DRO variabilities: van, TT, and both. *Id.* at 4. The Postal Service additionally re-estimates variabilities for traditional intra-P&DC highway contracts that are being replaced by DRO contracts. *Id.* at 3-5. Separate variability equations were estimated for van, TT, and intra-city transportation. *Id.* at 5.

The Postal Service states that all variabilities were estimated using the currently established methodology. *Id.*

B. Impact

The Postal Service notes that the new variability estimates are all higher than the existing estimates. *Id.* at 6. It notes that the absolute dollar increase in Competitive attributable cost is larger than the same increase in Market Dominant attributable cost but that the percentage increases are about the same. *Id.* The Postal Service states that the impact on the attributable costs of each product will vary based on the proportion of the costs of each product that are highway costs. *Id.* at 6-7. The Postal Service provides a table that shows the change in unit transportation cost for different products. *Id.* at 8.

V. COMMENTS

A. Summary

UPS supports Proposal Seven, stating that it presents “a modest improvement over the status quo.” UPS Comments at 4, 18. As detailed below, UPS, however, suggests a few modifications to Proposal Seven. *Id.* at 18. Amazon, Pitney Bowes, and PSA fully support the adoption of Proposal Seven and disagree with UPS regarding the proposed modifications.¹⁹ The Public Representative supports most aspects of Proposal Seven but also proposes a modification and provides some suggestions for the future variability analysis. PR Comments at 1-2, 14-15. In its reply comments, the Postal Service addresses the issues raised by UPS and the Public Representative and maintains that the Commission should approve Proposal Seven and not adopt any modifications. See Postal Service Reply Comments.

¹⁹ Amazon Comments at 4; Pitney Bowes Comments at 4; PSA Comments at 2.

B. UPS Comments

UPS supports implementation of Proposal Seven as a “modest step forward” but objects to the resulting attribution of approximately half of the costs of the Christmas routes and DRO contracts to Market Dominant products. See UPS Comments at 2-3. UPS describes the failure to attribute all or almost all of such costs to Competitive products as “another example of how incremental costs of competitive products of the Postal Service are being systematically understated.”²⁰

As UPS claims, Proposal Seven employs “the unwarranted assumption” that distribution keys derived from regular highway transportation accounts are applicable to “special categories of route transportation costs[,]” such as costs in Christmas and DRO accounts. *Id.* at 4-5, 12. UPS argues that Christmas account costs and peak-season increases in DRO costs result from increased package volume during the holidays. *Id.* at 2, 5, 6-12.

Until a new method for estimating distribution keys for Christmas and DRO transportation costs is developed, UPS proposes, as “an interim measure,” to attribute “all Christmas route costs and the peak season increase in DRO costs” to Competitive products. *Id.* at 5, 11-12, 14, 18. UPS also disagrees with the Postal Service’s choice of proxy variability for DRO contracts that equals 77.3 percent and is borrowed from regular highway transportation routes. *Id.* at 5, 15-17. UPS argues that the Commission should adopt a 100 percent capacity-to-volume variability assumption for DRO contracts as it did for Christmas contracts in Docket No. RM2016-12. *Id.* at 17 (citing Order No. 3973 at 19).

²⁰ See *id.* at 2-6. The Commission finds that this discussion is not relevant to the determination of whether Proposal Seven improves the quality, accuracy, or completeness of the Postal Service’s data as required by 39 C.F.R. § 3050.11. As noted by Pitney Bowes, UPS has separately petitioned the Commission on the topic of peak-season incremental costing, which is currently pending with the Commission. See Pitney Bowes Comments at 2; see also Docket No. RM2020-9, Petition of United Parcel Service, Inc. for the Initiation of Proceedings to Make Changes to Postal Service Costing Methodologies, May 29, 2020.

C. Pitney Bowes Comments

Pitney Bowes states that Proposal Seven will improve the accuracy of the variability estimates for purchased highway transportation costs, and that Pitney Bowes therefore supports adoption of Proposal Seven. Pitney Bowes Comments at 2.

Pitney Bowes urges the Commission to reject UPS's recommendation to assume that all costs for Christmas routes and peak-season increases in DRO contracts are caused by Competitive products. *Id.* Pitney Bowes states that UPS is incorrect to assume that Competitive products are the only products with higher volumes during peak season and notes that the Commission has previously rejected similar arguments. *Id.* Pitney Bowes argues that attributing all costs for Christmas routes and peak-season increases in DRO contracts to Competitive products would violate the statutory requirement of 39 U.S.C. § 3631(b) that costs must be attributed through "reliably identified causal relationships." *Id.* at 3 (quoting 39 U.S.C. § 3631(b)).

D. Public Representative Comments

The Public Representative supports the proposed model and the data cleaning procedure the Postal Service applied for estimating cost-to-capacity variabilities in Proposal Seven. PR Comments at 1, 13, 15-16. He recommends that the Commission approve the Postal Service's estimates of cost-to-capacity variabilities for DRO and regular P&DC contracts. *Id.* at 1. For Christmas routes, the Public Representative identifies 14 observations that he considers anomalous because their "annual miles are less than or equal to one." *Id.* at 1, 13. Suggesting that "it would be appropriate to remove" such observations, the Public Representative presents the econometric analysis and the re-estimated variabilities for Christmas inter-SCF and Christmas intra-SCF TT routes. *Id.* at 13-14, Attachment 1, Attachment 2.

The Public Representative agrees with UPS that it is "possible and necessary to develop distribution keys from [Transportation Cost System (TRACS)] data for Christmas Routes." PR Comments at 14. He advocates for developing distribution

keys for Christmas routes “from all quarters in FY 2019 [or, if not possible, from the first quarter of the fiscal year]...since at least 85% of Christmas Contract costs were incurred” in this quarter. *Id.* at 14-15.

The Public Representative opposes the use of regular intra-SCF transportation capacity-to-volume variability as a proxy for DRO capacity-to-volume variability. *Id.* at 15-16. The Public Representative implies that it would be inappropriate to use such a proxy for capacity-to-volume variability now that DRO capacity-to-cost variabilities have been shown to be substantially different from those for regular transportation routes. *See id.* Instead, he recommends applying a 100 percent capacity-to-volume variability to DRO contracts until the Postal Service is able to econometrically estimate capacity-to-volume variability for DRO contracts using TRACS data. *Id.* at 16. He contends that this would be the same approach the Commission adopted in Docket No. RM2016-12. *Id.*

E. Amazon Comments

Amazon supports the adoption of Proposal Seven, observing that it should not be controversial. Amazon Comments at 2. Amazon characterizes UPS’s recommendations as an attempt to “insert into this docket issues that UPS has raised in other dockets” and that are beyond the scope of Proposal Seven. *Id.* at 2-3. Amazon notes that UPS’s recommendation to “conservatively assume that all of the costs for these routes are caused by competitive products” is not conservative and instead would be a “radical departure from the statutory causality requirement” for cost attribution. *Id.* at 3. Amazon disputes that the data provided by UPS support its recommendations and urges the Postal Service to reject those recommendations. *See id.* at 3-4.

F. PSA Comments

PSA also supports Proposal Seven noting “that it is an improvement over current methods.” PSA Comments at 2. PSA specifically acknowledges the “Postal Service’s research efforts related to seasonality of costs.” *Id.* It supports the UPS recommendation “to investigate opportunities to improve the distribution keys and capacity-to-volume variabilities used for Christmas and DRO” contracts and encourages the Postal Service to do so, but “at a later time.” *Id.* PSA asserts that such an investigation “is completely immaterial” and should be done “as part of its ongoing research agenda to continuously improve the costing system in compliance with the law, Commission rules, and economic principles.” *Id.*

PSA “strongly oppose[s] UPS’s interim proposal to attribute *all* Christmas and DRO costs to competitive products” stating that this proposal is wrong and violates the statutory requirement that cost attribution be based upon “reliably identified causal relationships.” *Id.* at 3 (emphasis in original) (quoting 39 U.S.C. § 3622(c)(2)). PSA further notes that not only Competitive mail is being transported on Christmas and DRO contracts, and this is even admitted because UPS states that “Christmas and DRO costs are ‘largely’ (but not entirely)[] attributable to competitive products.” PSA Comments at 3 (quoting UPS Comments at 18).

G. Postal Service Reply Comments

The Postal Service disputes UPS’s claim that season peaks are solely caused by Competitive products, and presents analysis illustrating why the data provided by UPS do not support that claim. Postal Service Reply Comments at 2-4. The Postal Service contends that “UPS either misunderstands or misdescribes Postal Service operations and the way the established models capture their costs,” noting that the Christmas and DRO operations at issue in this docket are not fixed as UPS claims. *Id.* at 5-6. The Postal Service states that its incremental costs for Competitive products in both Christmas and DRO transportation accurately measure the amount by which Christmas

and DRO transportation are expanded due to the presence of Competitive products. *Id.* at 6.

The Postal Service also notes that Proposal Seven “is limited to an analysis of the cost-to-capacity variabilities for Christmas and DRO transportation[,]” and does not include any change to the established cost distribution methodology. *Id.* at 7. The Postal Service describes the UPS recommendation to attribute 100 percent of Christmas and peak DRO transportation costs to Competitive products as an attempt to change the existing distribution keys without submitting a proposal to do so. *Id.* The Postal Service notes that by doing so, UPS would avoid “putting its proposed methodological change through the regular procedure required by 39 C.F.R § 3050.11.” *Id.* Additionally, the Postal Service disputes UPS’s data and analysis in support of that recommendation. *Id.* at 7-12.

The Postal Service opposes UPS’s other recommendation, which is also supported by the Public Representative, to change the cost-to-capacity variability estimate for DRO contracts to 100 percent. *Id.* at 13. The Postal Service claims that UPS’s recommendation is based on a misunderstanding of how DRO contracts work. *Id.* at 13-16. The Postal Service also disputes UPS’s reliance on Docket No. RM2016-12, describing that the issue in the current docket is significantly different. *Id.* at 18.

The Postal Service opposes the Public Representative’s proposal to drop the observations that he identified as anomalous from the analysis dataset. *Id.* at 20-25. The Postal Service describes the identified observations as different from typical observations, but claims that this does not make them outliers in an econometric sense. *Id.* at 24. The Postal Service notes that two of the identified observations that do qualify as outliers have already been removed from the dataset. *Id.* at 25.

VI. COMMISSION ANALYSIS

A. Overview

The Commission evaluates proposed changes to analytical principles to ensure that they “improve the quality, accuracy, or completeness of the data or analysis of data” contained in the Postal Service’s periodic reports. 39 C.F.R. § 3050.11(a). Within the Proposal Seven study, the Postal Service updates variabilities for certain types of purchased highway transportation contracts. For the first time, the Postal Service attempts to econometrically estimate cost-to-capacity variabilities for Christmas contracts and recently introduced DRO contracts. The Commission appreciates the Postal Service’s efforts and concludes that the provided analysis is consistent with the previous Commission’s recommendation to “update [the] variabilities [for purchased highway transportation] the earlier of every 10 to 15 years or following completion of any major structural reorganization.” Order No. 3973 at 40. The Commission also supports the Postal Service’s decision to update cost-to-capacity variabilities for traditional purchased highway intra-P&DC contracts that are being replaced by DRO contracts and therefore might experience structural changes.

As discussed in detail in Sections VI.B. through VI.D., the Commission approves Proposal Seven with a minor modification related to the analysis dataset used for the estimation of Christmas contract variabilities (Modified Proposal Seven). The Commission concludes that Modified Proposal Seven improves the accuracy and the completeness of the Postal Service’s data.

The overall variabilities and the cost impact are presented in Section VI.E. The Commission addresses other issues discussed by commenters in the instant docket and provides its recommendations regarding future studies on the purchased highway variabilities in Section VII.

B. Updating Peak-Season Variabilities

1. Overview

The Commission concludes that updating peak season variabilities is an important and timely task. It approves the data source and the model specification the Postal Service uses in its variability analysis. The Commission also finds that it is appropriate to use Cook's Distance (Cook's D) statistic with a 0.1 threshold to remove outliers from the analysis dataset. The Commission agrees with the Public Representative that observations with the annual miles that are less than or equal to one should be also excluded from the analysis dataset. This modification affects Christmas variabilities derived from intra-SCF TT and inter-SCF equations. The variabilities re-estimated in the Modified Proposal Seven are higher than those estimated by the Postal Service in the original Proposal Seven.

2. Rationale, Data Source, and Modeling Approach

Cost-to-capacity variabilities for Christmas purchased highway transportation accounts are re-estimated in Proposal Seven, but the capacity-to-volume variabilities are kept at the level of 100 percent due to the lack of data required for their re-estimation. Bradley Study at 3-4; Response to CHIR No. 1, question 4. That is why, as previously, the overall (cost-to-volume) variabilities for Christmas accounts are equal to the corresponding cost-to-capacity variabilities. Bradley Study at 4; see *also* Order No. 3973 at 38-40.

The Commission agrees with the Postal Service that the recent cost increase of the Christmas purchased highway transportation accounts justifies an update of the cost-to-capacity variabilities. Petition, Proposal Seven at 1. In Docket No. RM2014-6, the dataset used to estimate cost-to-capacity variabilities did not include any data on Christmas accounts, and variabilities estimated for regular accounts were simply applied to Christmas accounts as well. Bradley Study at 3-4; Response to CHIR No. 1, question 1.b. In FY 2019, nine Christmas accounts captured transportation costs, and

these accounts were the same as in FY 2013. Response to CHIR No. 1, question 1.a. The Commission also agrees with the Postal Service that it is appropriate to estimate cost-to-capacity variabilities for Christmas accounts using data from TCSS, which is the same data source that was used to estimate cost-to-capacity variabilities for regular transportation accounts in Docket No. RM2014-6. Bradley Study at 4. In that docket, a contract cost segment was used as a unit of observation for estimating regular transportation variabilities. *Id.* at 5; see also 2014 Variability Report at 6-7. Since the structure of Christmas transportation accounts generally follows the structure of regular transportation accounts, it also appears appropriate to use a contract cost segment as a unit of observation for analyzing the cost-to-capacity variabilities for Christmas transportation. Bradley Study at 5-11. This would make it possible to limit the variability analysis to Christmas accounts without re-estimating the established cost-to-capacity variabilities. *Id.* at 6.

Each contract cost segment has its own annual costs, truck specification,²¹ and designation of trips (where each trip has its own number of trip miles and operational frequency). *Id.* To estimate cost-to-capacity variabilities for Christmas accounts, the Postal Service uses the established translog variability model previously used in Docket No. RM2014-6 where cubic foot miles (CFM) and route length are used as the main explanatory variables. *Id.* at 12. In the Proposal Seven model, CFM is the cost driver in each variability equation, and it is calculated as the product over all trips in the contract cost segment of the truck capacity (vehicle cube), trip length, and frequency. Response to CHIR No. 3, questions 1.e., 1.f. The Commission agrees with the Public Representative that the Postal Service uses an appropriate model to estimate the variabilities. See PR Comments at 13. The Commission also accepts the Postal Service's approach to estimating econometric equations for the combined Christmas

²¹ A truck with capacity of less than 1800 cubic feet is designated as a van, otherwise as a tractor trailer. See, e.g., 2014 Variability Report at 6-7; Docket No. RM2014-6, Library Reference USPS-RM2014-6/1, Word file "Tech.Append.Hwy.Variab.Updat.docx," at 8.

transportation accounts. See Bradley Study at 9, 15-17. These equations are for four Christmas account categories: (1) intra-SCF van, (2) intra-SCF TT, (3) inter-SCF, and (4) intra- and inter-NDC.²²

3. Cook's D Statistic for Removing Outliers from the Dataset

To identify outliers (observations that are "either erroneous or truly unusual") and remove them from the analysis dataset, the Postal Service relies on Cook's D statistic. *Id.* at 17-19; Response to CHIR No. 1, question 5. This statistic with the threshold of 0.1 was previously used in the similar variability analysis. Bradley Study at 17-18. The Postal Service explains that in Proposal Seven, it uses the same Cook's D threshold because it was approved by the Commission in Docket No. RM2014-6, and the range of numbers of observations used to estimate the econometric equations in the current docket "falls inside of the range from Docket No. RM2014-6 [so that] the Commission's determination in that case is applicable to the current case."²³ The Postal Service concludes that the application of a Cook's D threshold of 0.1 in Proposal Seven "provides a useful result" because it allows to identify "[o]nly a small number of unduly influential observations [that are]...either erroneous or truly unusual." Response to CHIR No. 1, question 5.

The Commission agrees with the Postal Service that application of Cook's D statistic with a 0.1 percent threshold is reasonable. Cook's D statistic calculates "how much the potentially influential observation affects" the value predicted by the regression line because it combines two statistics: Studentized Residual (to determine whether the particular observation is an outlier) and leverage (to assess a potential effect of the observation on the regression results). Bradley Study at 18-19; 2014

²² *Id.* at 17. The intra-SCF van and intra-SCF TT categories include contract cost segments within both intra-CSD and intra-P&DC Christmas transportation for van and TT, respectively. The inter-SCF category includes inter-P&DC, inter-Cluster, and inter-Area Christmas accounts. *Id.* at 9, 16.

²³ *Id.*; Response to CHIR No. 1, question 5; see also Order No. 2180 at 15.

Variability Report at 23-24. In Proposal Seven, by applying Cook's D statistic with a 0.1 threshold value, the Postal Service identifies 14 observations for removal from the analysis dataset used in Christmas transportation equations. Bradley Study at 19. These outliers, spread nearly evenly between four Christmas accounts, constitute less than 1 percent of the observations in the overall Christmas accounts dataset as well as in each dataset for individual regression equations with the exception of the NDC equation.²⁴

4. Removing Observations with the Annual Miles Equal to One

For the reasons detailed below, the Commission agrees with the Public Representative that "it would be appropriate to remove observations where annual miles are less than or equal to one." PR Comments at 13. The Public Representative identified nine such observations in the dataset for Christmas inter-SCF equation and five observations in the dataset for Christmas intra-SCF TT equation that he considered anomalous.²⁵ The variabilities recalculated after removing these observations are higher than those derived in Proposal Seven, and the relevant standard errors are lower. PR Comments at 1, 14; Response to CHIR No. 5, question 4.b. As shown below, the Postal Service was unable to justify operational reasons why certain observations (contract cost segments) include just one trip a year for the distance of one mile, and the Commission identifies a number of issues associated with these observations. Although removing each individual observation with the annual miles equal to one does not have any material effect on the variabilities, the removal of all such observations has a notable effect on the variabilities estimated for Christmas intra-SCF TT and Christmas inter-SCF equations. In the comments, the Postal Service

²⁴ The Commission analysis shows that 3.3 percent of observations (3 out of 91) were removed from the NDC analysis dataset. See Bradley Study at 17, 19.

²⁵ *Id.* at 13-14. Two other observations with zero annual miles were already excluded from the analysis dataset by the Postal Service as outliers based on the Cook's D statistics. See Postal Service Reply Comments at 22.

agrees that the annual miles for the observations identified by the Public Representative “are indeed unusual,” but maintains that they cannot be considered invalid unless they have “unusual values for the costs per cubic foot-mile.” Postal Service Reply Comments at 21. The Postal Service presents an analysis, which shows that cubic foot miles for the observations identified by the Public Representative “are very close to the median contract cost segment value[.]” *Id.* at 21-22. To measure how close each of these observations is to the regression line, the Postal Service also calculates the Studentized Residual and concludes that its values are “well below the cutoff value for potential outliers....” *Id.* at 24-25. In addition, the Postal Service claims that it is operationally plausible to have Christmas contract cost segments for which the value of annual miles is less than or equal to one. Response to CHIR No. 5, questions 3.b.-3.c.; Response to CHIR No. 6, questions 1.a., 2.a. The Commission, however, disagrees, and for the reasons discussed below finds the Postal Service’s claim problematic.

While the Cook’s D statistic or Studentized Residual in combination with leverage are used to identify each influential observation separately, these measures do not assess the joint effect of incorrectly recorded observations. Although the number of observations with the annual miles of less than or equal to one is relatively small, the econometric analysis shows that removing such observations from the analysis dataset notably affects the estimated variabilities, while keeping the strong fit of the regression lines. See Table VI-1 below.

Table VI-1
Christmas Transportation Variability Estimates:
Proposal Seven and Public Representative (PR)

Christmas Transportation Account Category	Cost-to-Capacity Variability		Heteroscedastic-Consistent t-Statistics		R ² Statistics		Heteroscedastic-Consistent Standard Error	
	Proposal Seven	PR	Proposal Seven	PR	Proposal Seven	PR	Proposal Seven	PR
Inter-SCF	0.953	0.963	49.30	56.14	0.979	0.967	0.019	0.017
Intra-SCF TT	0.964	1.003 ²⁶	44.15	51.16	0.935	0.920	0.022	0.020

Source ("Proposal Seven" columns): Bradley Study at 24; Library Reference USPS-RM2021-1-1, November 9, 2020, folder "3. Christmas Transportation Models," SAS output files "XMAS INTER SCF Variability Equations.lst" and "XMAS INTRA SCF Variability Equations.lst."

Source ("PR" columns): PR Comments, Attachment 1 at 37, Attachment 2 at 50.

The Commission's analysis reveals, and the Postal Service confirms, that for the observations in Christmas accounts identified by the Public Representative, the actual number of annual miles is exactly equal to one and not rounded. Response to CHIR No. 5, question 3.a. This strengthens a concern that the identified observations could be erroneous. For all other observations in Christmas accounts (besides those 14 identified by the Public Representative and additional 2 removed by the Postal Service based on the Cook's D statistic), the number of annual miles is at least equal to 40. *Id.* question 3.d. The Postal Service does not provide any explanation regarding these findings and just states that the value of annual miles for Christmas contract cost segments "depend[s] upon the various needs of the Postal Service in covering its transportation network [and so that depends on]...the distance between relevant Postal

²⁶ For intra-SCF TT, the cost-to-capacity variability estimated after removing observations with zero annual miles is 1.003, which is slightly higher than one. PR Comments, Attachment 1 at 37. Another cost-to-capacity variability that is higher than one (and equal to 1.003 as well) was derived by the Postal Service in Proposal Seven from the combined van and TT DRO equation. Bradley Study at 41 (Table 19). In each case, the overall purchased highway transportation variability will be still less than one because it is the product of two variabilities (cost-to-capacity and capacity-to-volume variabilities). The Commission previously approved the purchased highway cost-to-capacity variability that was slightly higher than one for plant load, for which the estimated variability was 1.013. See 2014 Variability Report at 26. Discussing the variabilities that are slightly higher than one, the Postal Service notes that their likely values are 1. *Id.* at 26-27; see also Bradley Study at 41.

Service facilities and the required frequency of trips among those facilities.” *Id.* In addition, it is unclear how the operational reasons, and specifically, the needs of the Postal Service’s transportation network, justify one trip per year for the distance of one mile. For TT transportation, which has a capacity of at least 1800 cubic foot miles, such trips (if they were indeed initiated) raise an additional concern because they provide a sign of operational inefficiency and most likely should not be considered for costing purposes.

The Commission observes that the 16 contract cost segments with the number of annual miles equal to 1 are the only Christmas contract cost segments in the Proposal Seven dataset for which the trip distance and the trip operational frequency are both equal exactly to 1.²⁷ There are other Christmas contract cost segments in the Proposal Seven TCCS dataset with the trip operational frequency equal to 1, but there is either more than 1 trip in a contract cost segment or the trip distance is at least 500 miles. *Id.*

The Postal Service states that it is aware of “instances of regular purchased [inter-SCF or intra-SCF] highway transportation between two facilities” that are one mile apart or less than one mile apart, respectively, and provides a few maps to illustrate these types of contracts. Response to CHIR No. 5, questions 3.b., 3.c. Although the Postal Service suggests that a Christmas “contract could specify a cost segment that provided for extra trips between these facilities during the peak season[,]” it is unable “to identify regular contract cost segments that provide transportation on the same trips that those identified” by the Public Representative. Response to CHIR No. 5, questions 3.b., 3.c.; Response to CHIR No. 6, questions 1.b., 2.b. The Postal Service explains that this is not possible because Christmas contracts are not “servicing the same routes as regular contract cost segments.” Response to CHIR No. 6, questions 1.b., 2.b. The Commission does not find this explanation sufficient. Many contracts in the FY 2019 TCSS dataset have contract cost segments in both regular and Christmas accounts,

²⁷ See Library Reference USPS-RM2021-1-1, folder “1.Analysis Data Set,” SAS data file “tcss_fy19.sas7bdat” (FY 2019 TCCS Dataset).

and it is possible to identify that by the contract identifier (route variable).²⁸ A review of the FY 2019 TCCS Dataset shows that none of the contracts that include specific cost segments identified by the Public Representative have cost segments in regular accounts.

The Commission therefore approves Modified Proposal Seven with the cost-to-capacity variability estimates for Christmas intra-SCF TT and inter-SCF accounts derived from the equations that are run on the datasets after removing the observations with annual miles equal to one.²⁹

5. Results

Table VI-2 provides a comparison (by different transportation categories) between the variabilities originally estimated by the Postal Service in Proposal Seven and the variabilities estimated after applying the proposed modification. The approved variabilities are higher for intra-SCF and inter-SCF transportation.

Table VI-2
Originally Estimated and Modified Cost-to-Capacity Variabilities for Christmas Purchased Highway Intra-SCF TT and Inter-SCF Transportation

Christmas Account Category	Type	Cost-to-Capacity Variability		Difference
		Proposal Seven	Modified Proposal Seven	
Intra-SCF	TT	0.964	1.003	0.039
Inter-SCF	Both	0.953	0.963	0.010

Source (Proposal Seven): Bradley Study at 24.

Source (Modified Proposal): PR Comments, Attachment 1 at 37, Attachment 2 at 50.

²⁸ For example, for inter-SCF contract 010EJ, cost segment A is in the regular inter-Area account, while cost segments B and C are in the Christmas inter-Area account. See FY 2019 TCCS Dataset.

²⁹ For SAS program output and log files see Library Reference PRC-RM2021-1-1, folder "Modification."

Table VI-3 presents the calculation of the Christmas intra-SCF cost-to-capacity variability, which is done the same way as in Table 11 of the Bradley Study but applying a different intra-SCF TT variability. See Bradley Study at 27. The resulting Christmas intra-SCF cost-to-capacity variability is 99.7 percent, and is more than 3 percent higher than the variability of 96.3 percent originally estimated by the Postal Service. See *id.* at 27.

Table VI-3
Calculating the Cost-to-Capacity Variability for Christmas Intra-SCF

Christmas Account Category	Type	Cost	Proportion	Cost-to-Capacity Variability
Intra-SCF	Van	\$4,302,856	11.94%	0.953
	TT	\$31,739,207	88.06%	1.003
	Overall	\$36,042,063	100%	0.997

Source: Bradley Study at 27-28; PR Comments, Attachment 1 at 37.

Within Proposal Seven, the Postal Service does not update Christmas capacity-to-volume variabilities (which are currently equal to 100 percent), and therefore the overall variabilities are equal to the estimated cost-to-capacity variabilities. Bradley Study at 27. The overall cost-to-volume variabilities for three groups of the purchased highway Christmas transportation are presented in Table VI-4.

Table VI-4
Overall Variabilities for Christmas Accounts

Christmas Transportation Account Category	Cost-to-Capacity Variability	Capacity-to-Volume Variability	Overall Variability
Christmas Intra-SCF	99.7%	100%	99.7%
Christmas Inter-SCF	96.3%	100%	96.3%
Christmas NDC	95.2%	100%	95.2%

Source: Bradley Study at 27-28; PR Comments, Attachment 1 at 37, Attachment 2 at 50.

C. Estimating Variabilities for Dynamic Route Optimization Contracts

1. Characteristics of the DRO Contracts

The Commission concludes that the estimation of variabilities for DRO contracts is timely. The Postal Service's data show that DRO contracts were introduced in FY 2018 and incurred \$140 million in transportation costs that year. Bradley Study at 29-30. The amount of costs the DRO contracts incurred in FY 2019 increased to \$391 million (or by almost three times) and further increased to \$530 million in FY 2020.³⁰ The Postal Service provides a clear explanation that DRO contracts have "important" differences from traditional regular intra-P&DC contracts that they have been replacing. Bradley Study at 29. In contrast to the regular purchased highway transportation contracts, for DRO contracts, routes, departure times, and number of stops may change depending upon dynamics of the transported mail volumes. *Id.* In addition, DRO contracts do not have any fixed annual contract awards, and the supplier, who "is responsible for covering a designated geographic region," is compensated "on a per-mile rate."³¹ The DRO contracts are also flexible in other respects: they allow for on-demand extra transportation services at any point during the contract term and the manifests may change on a weekly basis. Response to CHIR No. 2, questions 2.b., 2.c. Decisions to change DRO routing are managed by an optimization process, and, to increase efficiency of the transportation network in the region, new contracts might be introduced. *Id.* questions 2.d., 2.f., 2.h.; see *also* Response to CHIR No. 1, question 7.

The Commission concludes that the observed differences between DRO and traditional purchased highway transportation contracts warrant the estimation of variabilities for DRO contracts.

³⁰ *Id.*; Docket No. ACR2020, Library Reference USPS-FY20-32, December 29, 2020, folder "B Workpapers," Excel file "CS14-Public-FY20.xlsx," tab "WS14.3."

³¹ Response to CHIR No. 1, question 7; Bradley Study at 29; see *also* Response to CHIR No. 2, question 3.

2. Cost-to-Capacity Variabilities

The Postal Service emphasizes that DRO contracts have neither fixed routes or fixed route lengths, and the TCCS database does “not record meaningful data for the route length variable” at the contract cost segment level. Bradley Study at 33-34. While the model used to estimate cost-to-capacity variabilities for regular and Christmas highway contracts includes route length as an explanatory variable, the econometric model for DRO contracts is simpler and “includes only cubic foot-miles as a cost driver[.]” *Id.* at 34.

However, to “ensure that the annual miles variable on the contract cost segment is equal to the sum of the products of trip length (Tripmiles) and operating frequency (Opfreq) for the trips on the segment[.]” the Postal Service uses “[t]he trip length variable [of 99,999.9 miles as] a placeholder value.” Response to CHIR No. 7, question 2.a. The Postal Service further explains that this is done for consistency with the approach to measuring cost segment annual miles for regular and Christmas contracts, and the use of the placeholder value “has no effect on the variability estimates...[as] long as the sum of the trip level annual miles on a [contract] cost segment[’s] [calculated annual miles] equals the annual miles for the whole [contract cost] segment [annual miles recorded in TCCS].” *Id.* question 2.b. The Postal Service states, and the Commission’s analysis confirms, that there is only one contract cost segment in the final analysis dataset for which there is a notable discrepancy “between the two measures” of annual miles.³²

After removing outliers based on the Cook’s D threshold, the Postal Service estimates three variability equations: two individual equations (for van and TT

³² Response to CHIR No. 7, question 2.a. The Commission observes that removal of this observation (contract 054L5, cost segment A) from the analysis dataset does not have any impact on the estimated variabilities. One additional observation (contract 250Q8, cost segment A) that also had a notable discrepancy between two measures of annual miles was removed by the Postal Service at the stage of the data cleaning using Cook’s D statistic. See *id.* at 37 (Table 17).

separately) and the combined equation (for both). Bradley Study at 36-39. The Postal Service explains that due to the relatively low number of van observations, it was unsure “that separate [variability equations for van and TT] contracts can be successfully estimated,” and also estimated a combined equation.³³ The cost-to-capacity variability estimated from the combined equation is 100.3 percent,³⁴ while the variability derived from two equations is 99.5 percent. Bradley Study at 41.

The Commission finds that the estimation of the two-equation variability is consistent with the established methodology that the Postal Service also applied in Proposal Seven when calculating the overall Christmas intra-SCF and regular intra-P&DC variabilities. Bradley Study at 27 (Table 11), 52 (Table 28). The overall variabilities are calculated “using the relative costs from TCSS to form the proportions” of costs for each transportation type within the transportation account. *Id.* at 27. Based on the econometric results, the Postal Service does not seem to have any strong preference towards either “the two-equation variability or the combined-equation variability.” *Id.* at 41. As illustrated in Table VI-5, all three regression equations have high t-statistics and R² (R-squared) statistics.

To make a decision “which variability to apply to accrued DRO costs,” the Postal Service discusses economic reasons and concludes: “Given that the structure of DRO contracts is such that one would expect them to have 100 percent variability, and given the empirical evidence supports that presumption, a cost-to-capacity variability of 100

³³ The combined equation includes “a categorical variable for van contract cost segments, to account for any non-CFM-related variations in cost across the two types of contract cost segments.” Bradley Study at 35. The combined equation and the equation for van transportation also include a dummy variable to account for “different cost structure” in the subset of van contract cost segments “with a vehicle cube [of] less than 1000 cubic feet...” *Id.* at 39-40.

³⁴ Although the combined equation variability is approximately 100.3 percent (or, more precisely, 100.272 percent), the Postal Service states that it is equal to 100 percent. See Bradley Study at 41; Library Reference USPS-RM2021-1-1, folder “4.DRO Transportation Models,” SAS Output file “DRO Variability Equations.DSMAL.lst.”

percent will be applied to DRO transportation.” Bradley Study at 41. The Commission agrees with this approach and approves the cost-to-capacity variability of 100 percent.

Table VI-5
Alternative Cost-to-Capacity Variability Estimates for DRO Contracts

Type of Equation(s)	Type of Transportation	Cost-to-Capacity Variability	Heteroscedastic-Consistent t-Statistics	R ² Statistics
Individual equations	Van	0.980	30.22	0.985
	TT	0.999	140.49	0.998
	Overall	0.995		
Combined equation	Both Van and TT	1.003	141.92	0.998

Source: Bradley Study at 38 (describing “TT” variability estimates), 41 (describing “Van” and “Both” variability estimates).

3. Capacity-to-Volume Variability

The Postal Service has not attempted to econometrically estimate the capacity-to-volume variability for DRO contracts due to an insufficient amount of data, stating that “DRO contracts are relatively new, and the Postal Service has just started the process of collecting TRACS data on their volumes....” Bradley Study at 41-42; Response to CHIR No. 5, question 5.b. The Postal Service further explains that because the data collection process began only in FY 2019, “data about the specific sampled DRO contract vehicles, which are required to provide a complete and accurate TRACS estimation using the current methodology, could not be obtained reliably.” Response to CHIR No. 5, question 5. As a proxy capacity-to-volume variability for DRO contracts, the Postal Service uses the intra-SCF capacity-to-volume variability of 0.773 approved in Docket No. RM2016-12. Bradley Study at 42, 51. This capacity-to-volume variability was estimated and applied to all regular intra-SCF transportation including intra-P&DC and intra-District. *Id.* at 42 n.25; Order No. 3973 at 38 (Table VIII-1). The Postal Service claims that since DRO contracts replace standard intra-P&DC contracts and “serve the same type of facilities that are served by regular P&DC contracts[,]” the

capacity-to-volume variability for these contracts serves as the best proxy variability for DRO contracts. Bradley Study at 42.

UPS opposes the Postal Service's choice of proxy for DRO capacity-to-volume variability arguing that "[u]nlike P&DC contracts, vehicle capacity on DRO routes is more responsive and flexible to volume changes." UPS Comments at 16. UPS refers to the Postal Service's statement that terms of DRO contracts are responsive to changes in demand for transportation. *Id.* at 17; see *also* Response to CHIR No. 2, questions 2, 5. UPS argues that "for DRO contracts, the Commission should order the Postal Service to use a capacity-to-volume variability of 100%[,]" similar to how it was done in Docket No. RM2016-12 in regard to Christmas contracts. UPS Comments at 17. The Public Representative supports UPS in its opposition and provides similar arguments.³⁵

The Postal Service defends its choice of proxy and provides a number of arguments that the Commission finds reasonable. First, the Postal Service notes that UPS does not "present any empirical or operational evidence to support" the proposed assumption of the high flexibility of DRO contracts and does not describe "what that flexibility entails." Postal Service Reply Comments 13. The Postal Service clarifies that under a 100 percent capacity-to-volume variability assumption, "capacity utilization does not change with volume changes." *Id.* at 14. Both DRO and regular P&DC transportation are based on "the contracting process [that provides] one reason why capacity might not respond proportionately to volume." *Id.*

Second, the Postal Service discusses a number of additional constraints preventing a proportional increase of capacity in response to volume increase (*e.g.*, obligations to run transportation to meet service standards, limited options related to alternative truck cubic capacities, physical distribution of facilities in the existing Postal

³⁵ PR Comments at 2. UPS filed its comments 10 days earlier than other commenters, and the Public Representative had a chance to review them.

Service's transportation network). *Id.* In addition, DRO contracts are established on a weekly basis, not a daily basis, and that "makes them less than perfectly flexible with volume." *Id.* at 17. The DRO contracts are optimized over a number of factors, not only volume, and such optimization is limited by some of the constraints noted above. *Id.*; see also Response to CHIR No. 2, question 2.

Third, while UPS attempts to apply the Commission decision in Docket No. RM2016-12 regarding the variabilities for Christmas contracts to the DRO contracts, the Postal Service makes it clear that "[t]his is a very different circumstance than Docket No. RM2016-12...." Postal Service Reply Comments at 17-19 (citing Order No. 3973 at 19). While Christmas contracts do not have a direct relationship to the regular contract, DRO contracts have been replacing the existing intra-P&DC contracts and "share the same transportation function...[and] also share similar products, similar product volumes, similar service standards, and similar network configurations." Postal Service Reply Comments at 18-19.

In addition, the Postal Service previously estimated, and the Commission approved in Order No. 3973, the capacity-to-volume variability of 77.3 percent for all intra-SCF contracts, including intra-P&DC contracts. Response to CHIR No. 5, questions 7.a.-7.b.; Order No. 3973 at 38. Since FY 2018, the DRO contracts have been replacing regular intra-P&DC contracts, and DRO contract costs have accrued as part of intra-SCF costs. Bradley Study at 28. Therefore, the 77.3 percent variability estimate for all intra-SCF contracts has been used as a proxy for DRO contracts since their introduction in FY 2018. Response to CHIR No. 5, questions 7.a.-7.b.

The Commission therefore approves the capacity-to-volume DRO variabilities as proposed by the Postal Service.

D. Updating Regular Intra-P&DC Variabilities

The Commission agrees that, considering that the DRO contracts have been recently replacing regular intra-P&DC contracts, it appears reasonable to investigate whether these changes affected the cost-to-capacity variabilities for the remaining intra-P&DC contracts. Bradley Study at 44. For intra-P&DC account group, the Postal Service estimates three variability equations for the intra-City, van, and TT subgroups. *Id.* at 45. These are the same subgroups for which the Postal Service estimated variability equations in Docket No. RM2014-6 with the exception of the Box Route subgroup. *Id.* at 44; 2014 Variability Report at 11. The Postal Service does not re-estimate variabilities for intra-P&DC Box Route contracts because “DRO contracts do not provide box route service,” so “[t]his type of service was not affected by the introduction of DRO contracts....” Bradley Study at 44 n.26; Response to CHIR No. 4, question 2 a. The Postal Service re-estimates intra-P&DC variabilities for intra-City, van, and TT subgroups using the set of established econometric models, with the same model specification as in Docket No. RM2014-6. Bradley Study at 45; Response to CHIR No. 4, question 1.

After removing “anomalous and unduly influential observations” from the dataset based on the Cook’s D statistic (as was done in Docket No. RM2014-6), the Postal Service estimates the final set of intra-P&DC cost-to-capacity highway transportation variabilities. As shown in Table VI-6 below, they are all higher than the currently established relevant variabilities. Bradley Study at 46-50; 2014 Variability Report at 23-26.

Table VI-6
Regular Intra-P&DC Highway Transportation Variabilities

Account Category	Type	New Variability (Docket No. RM2021-1)	Old Variability (Docket No. RM2014-6)	Difference
Intra-P&DC	City	0.693	0.667	0.026
	Van	0.781	0.709	0.072
	TT	0.915	0.890	0.025

Source: Bradley Study at 51 (Table 27); 2014 Variability Report at 26 (Table 5).

The new overall intra-P&DC cost-to-capacity variability is 0.816 and is calculated as the weighted average of the cost-to-capacity variabilities for four types of the intra-P&DC accounts (where the proportions of accrued costs in each of the four types of intra-P&DC accounts were used as weights). See Bradley Study at 52 (Table 28). The capacity-to-volume variability of 0.773 approved in Docket No. RM2016-12 is multiplied by the newly estimated intra-P&DC cost-to-capacity variability to calculate the overall intra-P&DC variability. Bradley Study at 51; Order No. 3793 at 38. The result of 0.630 is approximately 4.5 percentage points higher than the currently established variability, which increases volume-variable costs by approximately \$44.1 million. Bradley Study at 52-53.

E. Impact Analysis

Table VI-7 presents the impact of the new variabilities on volume-variable costs. Overall, this direct impact is approximately \$190.2 million. The Modified Proposal Seven Christmas account variabilities increase direct volume-variable transportation costs by an additional \$4.2 million compared to the variabilities estimated in Proposal Seven. See Table VI-8. The cost impact of the new purchased highway variabilities on groups of products is presented in Table VI-9.³⁶ The overall cost impact is \$195.9

³⁶ The detailed impact of the new variabilities on attributable highway costs by product is provided in Library Reference PRC-LR-RM2021-1-1, folder "Analysis and Impact," Excel file "Impacts of New Variabilities.Public_PRC.xlsx" and Library Reference PRC-LR-RM2021-1-NP1, Excel file "Impacts of New Variabilities NP_PRC.xlsx."

million, and it includes indirect cost impacts of the new variabilities.³⁷ Cost impacts of the Modified Proposal Seven on unit transportation costs are shown in Table VI-10.

Table VI-7
Direct Impact of the New Variabilities on Volume-Variable (VV) Costs
(Millions of Dollars)

Transportation Group	FY 2019 Accrued Cost	Current Variabilities	Current VV Cost	New Variabilities	New VV Cost	Change in VV Cost
Christmas Intra-SCF	\$66.131	65.5%	\$43.347	99.7%	\$65.927	\$22.580
Christmas Inter-SCF	\$203.837	88.9%	\$181.192	96.3%	\$196.248	\$15.056
Christmas NDC	\$15.649	83.7%	\$13.094	95.2%	\$14.904	\$1.810
DRO	\$391.401	49.7%	\$194.460	77.3%	\$302.436	\$107.976
Regular Intra-P&DC	\$951.652	58.5%	\$556.850	63.0%	\$599,636	\$42.786
Total:						\$190.209

Source: Library Reference PRC-LR-RM2021-1-1, folder "Analysis and Impact," Excel file "Tables.xlsx," tab "VI.7."

Table VI-8
Proposal Seven and Modified Proposal Seven Direct Cost Impacts of Christmas Variabilities (Millions of Dollars)

Christmas Transportation Account Category	Proposal Seven Direct Cost Impact	Modified Proposal Seven Direct Cost Impact	Change
Christmas Intra-SCF	\$20.331	\$22.580	\$2.249
Christmas Inter-SCF	\$13.065	\$15.056	\$1.991
Christmas NDC	\$1.810	\$1.810	\$0
Christmas Total	\$35.206	\$39.446	\$4.240

Source: Library Reference PRC-LR-RM2021-1-1, folder "Analysis and Impact," Excel file "Tables.xlsx," tab "VI.8."

³⁷ See Table VI-9. The difference between the Modified Proposal Seven impact (\$195.9 million) and the Proposal Seven impact (\$191.5 million) is approximately 4.4 million. Compare "Total" in Table VI.9, with "Combined" in Petition at 6 (Table 4); see also Library Reference PRC-LR-RM2021-1-1, folder "Analysis and Impact," Excel file "Impacts of New Variabilities.Public_PRC.xlsx," tab "Unit Costs All 3," cell N66. This difference is slightly higher than the \$4.24 million direct increase in volume-variable transportation costs shown in Table VI-8 because the overall impact also includes the impact on indirect costs associated with the higher Christmas variabilities. The Bradley Study describes the impact on indirect costs, stating that "the higher Christmas variabilities [also] increase the variabilities applied to indirect costs such as transporting empty equipment and Alaska non-pref air transportation." Bradley Study at 28.

Table VI-9
Total Cost Impact of the New Variabilities on Market Dominant, Competitive, and International Transportation Costs (Millions of Dollars)

Product Group	Cost Impact of the New Variabilities
Domestic Market Dominant	\$89.6
Domestic Competitive	\$100.9
International	\$5.4
Total	\$195.9

Source: Library Reference PRC-LR-RM2021-1-1, folder "Analysis and Impact," file "Impacts of New Variabilities.Public_PRC.xlsx," tab "Unit Costs All 3."

**Table VI-10
Impacts of the New Variabilities on Unit Transportation Costs**

PRODUCT	Current Unit Cost	New Unit Cost	Change in Unit Cost
Single-Piece Letters	\$0.0146	\$0.0157	\$0.0011
Single-Piece Cards	\$0.0124	\$0.0133	\$0.0009
Presort Letters	\$0.0068	\$0.0072	\$0.0004
Presort Cards	\$0.0047	\$0.0049	\$0.0003
Single-Piece Flats	\$0.1357	\$0.1461	\$0.0105
Presort Flats	\$0.0677	\$0.0708	\$0.0031
Total First-Class Mail	\$0.0113	\$0.0120	\$0.0008
High Density and Saturation Letters	\$0.0009	\$0.0011	\$0.0001
High Density and Saturation Flats/Parcels	\$0.0010	\$0.0012	\$0.0001
Every Door Direct Mail-Retail			
Carrier Route	\$0.0084	\$0.0093	\$0.0008
Letters	\$0.0040	\$0.0042	\$0.0002
Flats	\$0.0366	\$0.0391	\$0.0025
Parcels	\$0.1591	\$0.1687	\$0.0096
Total USPS Marketing Mail	\$0.0053	\$0.0057	\$0.0004
In County	\$0.0002	\$0.0002	\$0.0000
Outside County	\$0.0405	\$0.0431	\$0.0027
Total Periodicals	\$0.0361	\$0.0385	\$0.0024
Bound Printed Matter Flats	\$0.0402	\$0.0432	\$0.0030
Bound Printed Matter Parcels	\$0.0571	\$0.0609	\$0.0038
Media/Library Mail	\$1.1006	\$1.1376	\$0.0371
Total Package Services	\$0.1845	\$0.1923	\$0.0078
U.S. Postal Service	\$0.0790	\$0.0830	\$0.0040
Free Mail	\$0.0770	\$0.0801	\$0.0031
Total Domestic Market Dominant Mail	\$0.0098	\$0.0104	\$0.0007
Total Domestic Competitive Mail and Services	\$0.2658	\$0.2841	\$0.0183
Total International Mail And Services	\$0.7921	\$0.8248	\$0.0327

Source: Library Reference PRC-LR-RM2021-1-1, folder "Analysis and Impact," Excel file "Impacts of New Variabilities.Public_PRC.xlsx," tab "Unit Costs All 3."

VII. OTHER ISSUES AND RECOMMENDATIONS FOR FUTURE VARIABILITY STUDIES

A. Summary

As discussed in Sections VI.A. through VI. D., the Commission concludes that Modified Proposal Seven is a step in the right direction and also encourages the Postal Service to expedite the econometric estimation of peak-season capacity-to-volume variabilities. See Section VII.B. The Commission does not accept the UPS proposed modification to attribute costs for Christmas accounts and peak-season increases in DRO costs exclusively to Competitive products but finds it important to conduct research on the appropriate distribution keys for Christmas contracts. See Section VII.C. In addition, the Commission provides some recommendations regarding data analysis that might be beneficial in future variability studies. See Section VII.D.

B. The Commission urges the Postal Service to econometrically estimate peak-season capacity-to-volume variabilities.

The Postal Service has not yet updated capacity-to-volume variabilities for Christmas accounts because the TRACS database, which was previously used as the data source for estimating capacity-to-volume variabilities, still does not include Christmas contracts in the sampling frame. Bradley Study at 26. The Postal Service notes that it “is currently investigating the feasibility of separately testing Christmas routes in TRACS.” Response to CHIR No. 1, question 4. The Commission previously suggested the Postal Service “perform further research (*e.g.*, in the form of a special study) that would allow updating variabilities for [Christmas] routes, if feasible.” Order No. 3973 at 40. The Postal Service, however, has neither econometrically estimated capacity-to-volume variabilities nor performed any relevant special study. Considering that it has been more than 4 years since Order No. 3973 was issued, the Commission strongly encourages the Postal Service to expedite its efforts to include data on Christmas routes into the TRACS sampling frame and perform the capacity-to-volume variability study.

- C. The Postal Service should conduct research on distribution keys for peak-season costs.

Proposal Seven relies on the established cost distribution methodology, and the Commission agrees with the Postal Service that any changes to the distribution methodology suggested by UPS are not in the scope of Proposal Seven. Postal Service Reply Comments at 7. Such a proposal should be reviewed separately after being put “through the regular procedure required by 39 C.F.R. § 3050.11.” *Id.* The Commission also rejects the interim measure proposed by UPS to attribute the “Christmas route costs and the peak season increase in DRO costs...to competitive products.” UPS Comments at 14, 18. The Commission agrees with multiple commenters that the proposed interim measure is economically unjustified and violates statutory requirements.³⁸ As the Postal Service correctly points out, there is no “substantive empirical or operational evidence to support” the UPS claim that “peak highway transportation costs are solely caused by competitive products.” See Postal Service Reply Comments at 2. Pitney Bowes and PSA characterize UPS’s proposed interim solution as economically unsound and unlawful. Pitney Bowes Comments at 2; PSA Comments at 4. Amazon notes that the proposed interim solution neither presents sufficient “evidence [that] the costs are exclusively caused by competitive products” nor provides any “legitimate approach to cost attribution.” Amazon Comments at 4. Stating that the “proposal is wrong,” PSA argues that the UPS interim proposal “falls far short of the statutory requirement that cost attribution be based upon ‘reliably identified causal relationships.’” PSA Comments at 3 (quoting 39 U.S.C. § 3622(c)(2)). PSA further asserts that the UPS “proposal would be justified only if all volume being transported on Christmas and DRO routes were competitive, an implausibility.” PSA Comments at 3.

The Commission also agrees with multiple commenters that the Postal Service should perform additional research regarding appropriate distribution keys for Christmas

³⁸ See Postal Service Reply Comments at 2; Pitney Bowes Comments at 2-4; Amazon Comments at 4-5; PSA Comments at 3-4.

routes.³⁹ Distribution keys are used to distribute volume-variable costs to products and are “based on characteristics of the mail that reflect the cost drivers of the variable costs, such as time spent handling the mailpiece or space taken up on a truck.”⁴⁰ Currently, the distribution keys “for both Christmas and DRO contracts are based upon [TRACS] data for regular contracts calculated by quarter.” Postal Service Reply Comments at 7. The Postal Service asserts that “[t]o the extent that [costs for these contracts] arise predominantly in the first quarter, the applicable distribution key is also taken from the first quarter.” *Id.* However, considering that TRACS still “does not sample Christmas routes,” and mail mix transported on Christmas routes are likely different than mail mix on regular routes, the Commission shares UPS’s and the Public Representative’s concerns that distribution keys developed from TRACS data for regular contracts might not be identical to those for Christmas contracts. See UPS Comments at 12-13; PR Comments at 14. The Commission, however, does not find sufficient support for the UPS argument that the distribution keys for DRO contracts are likely to be materially different from distribution keys developed for regular routes. First, DRO contracts “have replaced [regular] Intra P&DC contracts[,]...[taking] over the responsibility of providing the transportation that meets the Intra P&DC requirements in terms of product volumes, *product mix*, service standards, and network configurations.” Response to CHIR No. 5, question 6 (emphasis added). Second, TRACS already samples data on DRO contracts.

The Commission concludes that the Postal Service should conduct research regarding distribution keys for Christmas contracts. As discussed in Section VII.A., the Commission finds it important to include data on Christmas contracts in the TRACS sampling frame, which may also allow for a new variability study related to peak-season costs.

³⁹ PR Comments at 14-15; Pitney Bowes Comments at 2; PSA Comments at 2.

⁴⁰ United States Postal Service, Office of Inspector General, A Primer on Postal Costing Issues, Report No. RARC-WP-12-008, March 20, 2012, at 17.

D. Additional Recommendations on the Initial TCCS Data Analysis

The Commission has certain recommendations regarding the initial data analysis and additional data cleaning process that might be beneficial in the future variability studies. The Commission generally agrees with the Postal Service that “a small number of discrepancies can arise in any operational database,” including TCCS. Response to CHIR No. 7, question 2.a. As illustrated by the Postal Service, if the number of the annual miles for each contract cost segment is correctly recorded in the TCCS database, it is equal to the sum of the products of trip length and operating frequency for the trips in the contract cost segment. *Id.* questions 1.b., 2.a. Taking an example of the Christmas intra-SCF contracts, the Postal Service explains that for the vast majority of cost segments, there is no “material difference⁴¹ between the recorded annual miles and annual miles calculated as the products of trip miles and frequency.” *Id.* question 1.b. In addition, the Postal Service notes that “the recorded values [of the annual miles] are not used in [the variability] analysis.” *Id.*

The Commission finds that although the recorded values of the annual miles are not directly used in the variability analysis, the Postal Service still relies on them when it identifies influential observations.⁴² The Postal Service also considers the recorded values of annual miles when it removes the specific observations from the FY 2019 TCCS Dataset for which the recorded miles are equal to zero. For Christmas intra-SCF contract 601L4, cost segment B, the Commission observes the discrepancy between the recorded annual miles (that are equal to zero) and the annual miles calculated “as the products of trip miles and frequency” (that are notably higher than zero). Response

⁴¹ The Postal Service defines “material difference” as the value greater “than one-half of one percent.” *Id.* question 1.b.

⁴² See Bradley Study at 20-23. For example, for Christmas intra-SCF contract 980RH, cost segment A (which was removed from the analysis dataset as an anomalous observation based on the Cook’s D statistic), the Commission observes a mismatch between the recorded annual miles and calculated annual miles. See Bradley Study at 21. The annual and calculated annual miles are equal to 314 and 120, respectively. See Library Reference PRC-LR-RM2021-1-1, folder “Analysis and Impact,” Excel file “Annual_miles_discrepancies.xlsx,” tab “Christmas.”

to CHIR No. 7, questions 1.b., 1.c. Based on this finding, the Commission concludes that this contract cost segment was mistakenly deleted from the dataset. Although the inclusion of this observation in the dataset has almost no effect on the intra-SCF van variability estimated in Proposal Seven,⁴³ it might be useful to note such observations in future variability studies and perform sensitivity checks if applicable.

In addition, there are unknown reasons for discrepancies that occur between the recorded values of the annual miles and the annual miles calculated as the sum of the products of trip length and operating frequency for the trips in the contract cost segment. These discrepancies may be the result of errors in the value of the recorded annual miles at the cost segment level or in the values of operational frequency and/or trip lengths for some trips. For the Christmas accounts datasets that the Postal Service used to estimate the final variabilities, the Commission identified 11 observations with non-zero recorded annual miles that were materially different from the calculated annual miles.⁴⁴ For all of these observations, the number of recorded annual miles is higher than the number of calculated annual miles, which suggests that some trips may have been omitted from the operational database in error. While the Cook's D statistic identifies each influential observation separately, it does not evaluate the joint effect of observations with incorrectly recorded values. The Commission recommends that the Postal Service assess such types of mismatch in future variability studies and perform sensitivity checks if applicable.

⁴³ The Postal Service claims that the provided change does not affect variability estimates. *Id.* question 1.c. The Commission observes that estimated variabilities for intra-SCF are slightly different but would be the same if rounded to 95.3 percent.

⁴⁴ See Library Reference PRC-LR-RM2021-1-1, folder "Analysis and Impact," Excel file "Annual_mile_discrepancies.xlsx," tab "Christmas." There was one additional observation (for contract 980RH, cost segment A), but it was identified as anomalous using the Cook's D statistic and was removed from the analysis dataset. See Bradley Study at 21.

VIII. ORDERING PARAGRAPH

It is ordered:

For purposes of periodic reporting to the Commission, the Postal Service's Proposal Seven is approved, with modifications as discussed in the body of this Order.

By the Commission.

Erica A. Barker
Secretary