Official Transcript of Proceedings

Before the

UNITED STATES POSTAL RATE COMMISSION

In the Matter of:

POSTAL RATE AND FEE CHANGES

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POSTAL RATE COMMISSION OFFICE OF THE SECRETARY

Docket No.

R97-1

VOLUME 7

DATE: Tuesday, October 14, 1997

PLACE: Washington, D.C.

PAGES: 3125 - 3863

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ocket No.	R97-1	

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2	POSTAL RATE COMMISSION
3	X
4	In the Matter of: :
5	POSTAL RATE AND FEE CHANGES : Docket No. R97-1
6	X
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8	Third Floor Hearing Room
9	Postal Rate Commission
10	1333 H Street, N.W.
11	Washington, D.C. 20268
12	
13	Volume 7
14	Tuesday, October 14, 1997
15	
16	The above-entitled matter came on for hearing,
17	pursuant to notice, at 9:30 a.m.
18	
19	BEFORE:
20	HON. EDWARD J. GLEIMAN, CHAIRMAN
21	HON. GEORGE W. HALEY, VICE CHAIRMAN
22	HON. W. H. "TREY" LEBLANC, III, COMMISSIONER
23	HON. GEORGE A. OMAS, COMMISSIONER
24	HON. H. EDWARD QUICK, JR., COMMISSIONER
25	

BEFORE THE

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1 APPEARANCES:

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1	APPEARANC	ES: [continued]
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1 APPEARANCES: [continued]

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1	EXHIBITS	[continued]	
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1	PROCEEDINGS
2	[9:30 a.m.]
3	Whereupon,
4	JOSEPH MOELLER,
5	the witness on the stand at the time of the recess, having
6	been previously duly sworn, was further examined and
7	testified as follows:
8	CHAIRMAN GLEIMAN: Good morning. Today we
9	continue hearings on Docket R97-1, Postal Service request
10	for changes in rates and fees. This morning, Postal Service
11	Witness Moeller will take the stand to allow followup and
12	redirect cross-examination. He will be followed by Postal
13	Service Witnesses Nieto, Bradley presenting one of his two
14	pieces of testimony, USPS-5-13, and Wade. We have received
15	no request for oral cross-examination of Witness Wade.
16	Mr. Alverno, I know you are not representing
17	Mr. Wade, I understand Mr. Koetting may be. Please let him
18	know that if it is more convenient, his witness will not
19	have to be present today and we can accept the testimony and
20	written cross-examination if they are accompanied by a
21	declaration of accuracy.
22	Does any participant I'm sorry. Did you get
23	me, all what I said okay.
24	Does any participant have a procedural issue they
25	wish to raise today?
	· · · · · ·

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1 [No response.] CHAIRMAN GLEIMAN: If there are no procedural 2 issues at this point, Mr. Moeller, you are already under 3 4 oath. Are you ready to continue? THE WITNESS: Yes. 5 CHAIRMAN GLEIMAN: We were at the point where we 6 were going to start followup to initial cross-examination 7 8 and I believe Mr. McLaughlin had indicated that he had some cross, followup cross-examination. 9 Is there anybody else that has followup 10 11 cross-examination? Perhaps Mr. Baker. All right. Mr. McLaughlin, whenever you are ready. 12 CROSS EXAMINATION 13 BY MR. MCLAUGHLIN: 14 Mr. Moeller, I am Tom McLaughlin for Advo, Inc. 15 0 On Friday, you had discussions with counsel for 16 NAA and OCA concerning the ECR letter flat cost differences 17 and passthroughs. Do you recall that, those discussions? 18 19 Α Yes. I believe in terms of the basic level letter flat 20 0 cost difference, you were talking with counsel for OCA about 21 the cost differential being on the order of 1.88 cents; is 22 that correct? 23 That was what the response to OCA 27, I believe, 24 Α spelled that out and that was the cost difference using 25

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1 certain numbers from Witness Daniel's testimony.

2 Q Okay. Now, that is an average cost difference for 3 ECR letters versus ECR flats; is that -- ECR basic letters 4 versus ECR basic flats?

A That's my understanding, yes.

6 Q Do you know whether ECR basic flats weigh more on 7 average than ECR basic letters?

8 A They are heavier.

5

25

~~~ **.** 

9 Q It is a fairly substantial difference, isn't it? 10 A I am not sure of exact numbers to be able to 11 characterize what would be substantial but there is a 12 difference there, yes.

Q Now, in terms of that unit cost differential, does that unit cost differential represent strictly shape-related cost differences or would it also include weight-related cost differences to the extent -- to the extent that there are weight-related cost differences?

18 A It measures the cost of letters versus flats and 19 flats can be heavier than letters so, to the extent that 20 they are heavier and it does affect costs, that would also 21 be in the differential.

Q So in terms of the passthroughs that you have
given, those passthroughs in terms of shape-related costs
would actually be -- let me rephrase that.

The unit cost differential includes the effects of

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1 both shape and weight; is that correct?

A The cost differential does, yes.

Q And to the extent that weight has some effect and produces higher costs for flats because of their heavier weight, that would mean that pure shape-related differences would be somewhat less than that even at average unit cost differential?

8

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2

A I think that follows, yes.

9 0 So if you were looking at a pure shape-related passthrough, your passthroughs for example for ECR 10 11 saturation letters versus flats would be higher than the 12 figures that you have shown in your page 48 revised? For 13 example, you show an implicit saturation letter flat 14 passthrough of 80 percent. That again is based on numbers, 15 cost differences that include the effects of both weight and 16 shape; is that correct?

17 A Yes. If, again, if you say that weight has an18 effect.

19 Q Okay. But to the extent that weight -- that there
20 is an effective weight in there, that would mean that the
21 actual passthrough of the shape-related differences would be
22 larger than 80 percent; is that correct?

23 A That's correct.

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24 MR. McLAUGHLIN: I have no further questions.
25 CHAIRMAN GLEIMAN: Mr. Baker.

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| 1  | CROSS EXAMINATION                                            |  |  |
|----|--------------------------------------------------------------|--|--|
| 2  | BY MR. BAKER:                                                |  |  |
| 3  | Q Good morning, Mr. Moeller.                                 |  |  |
| 4  | A Good morning.                                              |  |  |
| 5  | Q On Friday afternoon you had some questions from            |  |  |
| 6  | counsel for ValPak about the destination entry discount. Do  |  |  |
| 7  | you recall that conversation at all?                         |  |  |
| 8  | A Yes.                                                       |  |  |
| 9  | Q And counsel for ValPak asked at one point why the          |  |  |
| 10 | passthrough of the cost savings in the destination entry     |  |  |
| 11 | discounts were less than 100 percent; do you recall that     |  |  |
| 12 | conversation?                                                |  |  |
| 13 | A Yes.                                                       |  |  |
| 14 | Q And do you recall I asked you the reasons for              |  |  |
| 15 | that?                                                        |  |  |
| 16 | A Yes.                                                       |  |  |
| 17 | Q In your answers I did not hear you touch on the            |  |  |
| 18 | point which you mention in ValPak 3, your answer to their    |  |  |
| 19 | interrogatory, and in particular I focus your attention to   |  |  |
| 20 | the last sentence of your answer.                            |  |  |
| 21 | A Right.                                                     |  |  |
| 22 | Q And there you state that while this wasn't a               |  |  |
| 23 | consideration in your decision in the first place, the       |  |  |
| 24 | 80-percent passthrough, and this is, I'm going to quote now, |  |  |
| 25 | should allay the concerns of parties who contend that        |  |  |
|    |                                                              |  |  |
|    |                                                              |  |  |

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setting the discount for all minimum or per-piece-rated
 pieces by using a weight of 3.3 ounces overrewards
 destination entry; correct.

4 A Yes.

5 Q Is that -- would it be fair to characterize that 6 as an additional reason that supports the passthrough that 7 you selected even though it wasn't one of the reasons you 8 had in mind at the outset?

9 A Well, I just remember that being an issue in 10 classification reform when we proposed a 100-percent 11 passthrough, and this issue came up.

12 Q Um-hum.

13 A So I thought I would mention it here --

14 Q Um-hum.

a service and the service of the ser

15 A As at least as I say there should allay the16 concerns of parties.

Q Um-hum. And is it your understanding of the concern that you address here is that the destination entry discounts are calculated using an assumption that every piece that pays a minimum per-piece rate weighs exactly the break point.

A I think, as I described in the testimony, we used the 3.3 and everyone -- I mean, that's the way it's always been done -- use the 3.3 or whatever the break point weight is as the weight per piece for a letter for purposes of

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calculation of the per-piece destination entry discount, not
 just letters, but letters and nonletters, all piece-rated
 pieces.

And there are reasons for that. One is the continuity of the rate schedule. You would have a decreasing rate as weight goes up below the break point if you were to base the destination entry discounts on the weight of the piece.

Q Um-hum.

9

10 A So there's a whole history of why it is that way, 11 but you're correct that the rate design uses a weight of 3.3 12 ounces to apply to the pound-rated savings in order to come 13 up with the per-piece destination entry discount.

Q And so the concern that you address here, and I don't suggest that you're endorsing it as a valid one, but the concern that you address here is that since the average weight of the piece-rated mail is obviously less than 3.3 ounces, then the argument has been made by some including my client seven years ago that the discounts awarded exceed the costs avoided. Is that the concern?

A That's the concern I'm speaking of. Again, you've helped me there by saying I'm not necessarily -- because I know that there was a whole bunch of questions in classification reform about this that didn't surface during discovery in this case where we talked about a number of

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1 issues involved there.

| 2  | Q My point is, you have identified a concern,               |
|----|-------------------------------------------------------------|
| 3  | although it's felt by some perhaps but not by you.          |
| 4  | A Yes, that's what I'm saying here.                         |
| 5  | MR. BAKER: No more questions, Mr. Chairman.                 |
| 6  | Thank you.                                                  |
| 7  | CHAIRMAN GLEIMAN: Is there any further followup?            |
| 8  | Questions from the bench?                                   |
| 9  | Commissioner LeBlanc.                                       |
| 10 | COMMISSIONER LEBLANC: Yes, sir.                             |
| 11 | Do you want to go first, Mr. Chairman?                      |
| 12 | CHAIRMAN GLEIMAN: No, I do not.                             |
| 13 | COMMISSIONER LeBLANC: Let me put my Friday cap              |
| 14 | back on here, Mr. Moeller, pardon me.                       |
| 15 | As I understand it the new cost studies show that           |
| 16 | the value of work-sharing has decreased with the exception  |
| 17 | of the basic bar-coded flats pretty much.                   |
| 18 | Now it appears that the decreased work-sharing              |
| 19 | cost differentials are a product of the change in the       |
| 20 | costing methodology, which I take it to be the use of a     |
| 21 | different variability factor for mail processing costs and  |
| 22 | the use of proportional fixed and so forth. It therefore    |
| 23 | appears that the reduced work-share values are not a result |
| 24 | of the change in work-sharing excuse me, in mail            |
| 25 | processing operations, but only the result of how the       |

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a Barris and a start and a start and a start and a start 1 Service now measures the cost.

2 You with me?

3 THE WITNESS: Yes.

4 COMMISSIONER LEBLANC: How is it fair to penalize 5 work-sharing mailers with reduced discounts when there's no 6 operational changes it would reduce in the value of 7 work-sharing?

THE WITNESS: Well, I can't speak for the cost 8 people, but it's my understanding that this is an improved 9 10 cost methodology, and to the extent that in newer measurements show that those work-sharing activities are not 11 resulting in the savings which we had thought, then you 12 would want to reduce those discounts so as to create a 13 situation where the mailer is taking on work only where they 14 15 can do it at a lower cost than the Postal Service can.

I would note that a lot of these unconventional passthroughs that I've described here take that concern that you're expressing into account by not just gutting the discounts -- I mean, we do a higher than 100-percent

20 passthrough in a number of cases --

21 COMMISSIONER LeBLANC: But that was done in a lot 22 of cases to hold it to 10 percent.

23 THE WITNESS: That was --

24 COMMISSIONER LeBLANC: So you're talking about 25 apples and oranges there.

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THE WITNESS: Well, not really. It helped keep 1 2 the 10 percent. It helped keep that 10-percent limit met. But it was a separate goal to not just totally let the 3 discounts be -- I used the word "gutted"; I don't know if 4 that's the right word. But we didn't want to on the heels 5 of classification reform when these discounts were put in 6 place and mailers changed their operations, we didn't want 7 to turn right back around and say oh, no, we need to reduce 8 these discounts substantially. And the only way to avoid 9 10 that was to go beyond 100-percent passthrough for some of those work-sharing discounts. 11

12 COMMISSIONER LeBLANC: But you're not saying, 13 though, that even though the work sharing may not save as 14 much as you thought, you're not saying that it's not a 15 savings at all to the Postal Service?

16 THE WITNESS: Oh, no, that's why the cost studies, 17 the new cost studies do measure that there is some savings 18 there.

19 COMMISSIONER LEBLANC: Okay. Now, since you 20 proposed to set the letter/flat differential at zero for 21 basic ECR, the letter and flat rates at the basic level 22 would be equal under your proposal, if I got it right? 23 THE WITNESS: That's correct.

24 COMMISSIONER LeBLANC: No matter how high the cost
25 coverage, the rate differential does not equal the cost

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differential between the letters and flats. Therefore, how can there be no cross-subsidy between the letters and the flats?

4 THE WITNESS: When I speak of the term in my 5 testimony there about cross-subsidy, I am thinking of one 6 type of piece actually not covering its cost. That's how I 7 think of cross-subsidy.

8 There is averaging there that applies to the same 9 rate that applies to pieces of different costs so that there 10 is averaging in that they are paying the same rate but 11 they're different costs. But that does not necessarily mean 12 that each of those pieces is not covering its cost. They 13 can both be well above their cost; they are just not 14 recognizing the cost difference --

15 COMMISSIONER LeBLANC: But that's on a per-piece 16 basis, though?

17 THE WITNESS: Correct.

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18 COMMISSIONER LeBLANC: Not on a class or subclass19 or individual basis?

20 THE WITNESS: Right. The subclass ECR covers its21 costs very handsomely.

22 COMMISSIONER LeBLANC: Under your proposal, the 23 incentive for drop shipping at an SCF is lessened because 24 the proposed differential between the SCF destination entry 25 discount and the DMC destination entry discount decreases

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1 from the current point. I think it's .5 to .3. How did you
2 factor into your proposal the change incentive?

3 THE WITNESS: Well, there was a whole series of 4 questions about that and at the time we didn't think of it 5 in terms of decreasing the SCF discount. And, like you 6 explained, the differential between BMC and SCF gets smaller 7 but that's by virtue of the BMC discount becoming larger.

8 We didn't account for any kind of volume shifts 9 there and I have answered some interrogatories to that 10 point.

11 COMMISSIONER LeBLANC: I realize that. But I 12 guess what I'm really getting at is, and excuse me for 13 interrupting you, but is the change incentive good or bad 14 for the current SCF drop ship mailer?

15 THE WITNESS: There may be some mailers that think 16 the differential between BMC and SCF is now not large enough 17 for them to warrant going to the SCF and will instead take 18 it to the BMC and we are aware of that and I think in one of 19 the responses I mapped out how the rate design spreadsheets 20 could be used to avoid that situation if it were deemed to 21 be an important concern.

22 COMMISSIONER LeBLANC: So you obviously feel this 23 is good for the Service?

24THE WITNESS: What's good for the Service?25COMMISSIONER LeBLANC: Well, in your own words,

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you basically just justified what you did there. So is that
 good for the Service? I mean, I'm not trying to put words
 in your mouth but that's as I understood it.

THE WITNESS: I don't think we take a big issue 4 5 with this one way or another as far as what those discounts, the actual level in between the discounts. We -- I proposed 6 an 80 percent passthrough of the cost savings of each tier 7 which is sort of traditionally the way it has been done. In 8 order to avoid a situation where you have the BMC and SCF 9 10 discounts becoming closer, you have to choose different passthroughs for the different destinations. And that's 11 doable in the rate design worksheet. Just that I didn't do 12 it that way. 13

COMMISSIONER LeBLANC: Last question. Let me 14 shift gears on you to the pound rated mail just a minute. 15 16 In your testimony at page 24, you imply that the Commission, or I read it as an implication that our MC95-1 recommended 17 18 piece rate of zero cents for pound rated saturation mail is illogical. And I know you're aware, because we've had some 19 conversation about it, in Docket R-90, the Service proposed 20 a zero cent piece rate for saturation mail. As a matter of 21 fact, I think the man is working for us now who did it. 22

23 So how come the zero piece rate wasn't illogical 24 then?

25

THE WITNESS: Well, I think all this, the use of

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the formula and the pound rate and all of this is an evolving kind of situation and as more information becomes available, you modify what you've done. For instance, the rate design formula which the Commission used in MC95 was what had also been done by that same person in the room and -- but it had to be modified to take into account that there are two different subclasses.

8 In moving forward to this case, I recognize the 9 value of the formula. It's, like I described on Friday, 10 it's a great tool for checking rate relationships and 11 putting in different inputs. But we just thought that 12 solving for the pound rate is something that could be changed just by a slight modification in the formula to 13 actually put in a pound rate with the information that you 14 have available and this is one of the pieces of information 15 where I state that it just -- I'm not really talking about 16 the rate being illogical but just the effect of that kind of 17 18 rate arrangement where you have the rate doubling with weight for saturation pound rated pieces. 19

20 COMMISSIONER LeBLANC: So you are not talking21 about the rate itself, though, in that case?

THE WITNESS: It's the -- it's the effect of the rate, I guess, the zero per piece rate ends up with the rate for an individual piece doubling with its weight when it goes from, say, four ounces to eight ounces.

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COMMISSIONER LeBLANC: Okay, thank you,

2 Mr. Chairman.

1

3 CHAIRMAN GLEIMAN: Mr. Moeller, a moment ago in 4 response to Commissioner LeBlanc, you commented that you 5 thought ECR covers cost handsomely. I think that's the 6 phrase you used.

7 Let me ask you a question. When you are setting 8 your prices, your markups, do you consider the portion of 9 the system that is used by a particular type of mail and the 10 percentage of the cost in that portion of the system versus 11 the percentage of costs that are institutional in the system 12 overall?

For example, forgetting the volume variable 13 14 approach for a moment and going back to the old methodology for attributing costs, roughly 35 percent to 40 percent of 15 the overall system costs for the Postal Service are 16 institutional costs. But when you look at the delivery 17 function, you find that more likely somewhere in the 18 vicinity of 60 to 65 percent of the cost in the delivery 19 function are institutional costs. So when -- what I am 20 asking you is when you look at pricing a type of mail and 21 coming to the conclusion that something handscmely covers 22 its costs, do you pay any attention to the relative portion 23 24 of total costs that are institutional in a particular part of the system or do you just look at it on a systemwide 25

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1 basis and draw those conclusions?

THE WITNESS: I haven't looked at it segment by segment as far as how particularly attributable volume variable the costs are for the function.

5 When I spoke of "handsomely" I was looking at the 6 Dr. O'Hara figures of cost coverages.

7 CHAIRMAN GLEIMAN: So if you had a type of a mail 8 that just used the delivery portion of the system, you might 9 not conclude that the markup was quite as handsome if you 10 knew that in that portion of the system the portions of 11 volume variable to nonvolume variable or institutional to 12 attributable were reversed from that of the entire system?

13 THE WITNESS: I confess that I haven't thought 14 about that as deeply as you apparently have. I don't know 15 if I can speak to it more clearly than I have.

16 CHAIRMAN GLEIMAN: I just want to understand 17 better how you came up with your markups. You had overall 18 limit of 10 percent on the rate increase generally.

19 THE WITNESS: Yes.

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20CHAIRMAN GLEIMAN: And you weren't going to pass21through less than 80 percent on any work-sharing avoidance?

THE WITNESS: I didn't -- I think that specific guideline was to not have the discounts go down by more than what would be 20 percent - or down, so where it wasn't a pass-through it was maintaining of at least 80 percent of

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1 the current discount if possible.

2 CHAIRMAN GLEIMAN: And by the same token, because 3 of the 10 percent constraint and the shock value of limiting 4 to 100 percent pass-through, you did decide that you could 5 go over 100 percent pass-through in a number of cases?

6 THE WITNESS: I think that was what I was 7 discussing with Commissioner LeBlanc, that those greater 8 than 100 percent pass-throughs were to maintain that 80 9 percent of the current discount.

10 Is that what you are asking?

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11 CHAIRMAN GLEIMAN: Yes. As a matter of principle, 12 do you see a problem with passing through in excess of 100 13 percent of costs avoided as a consequence of work done by 14 mailers?

THE WITNESS: Well, I think we balance a number of 15 things, and one, we want to recognize the work sharing for 16 its value, which would say don't go over 100 percent, but on 17 the other hand, we need to be aware of changes in rates and 18 incentives we have given to mailers to take on a lot of 19 maybe capital investment or capital expenditures that they 20 21 might need to do the work that we have said we highly reward, and I just need to balance the need to recognize the 22 appropriate level of work sharing with this knowledge of 23 mailers having taken on work in order to get those discounts 24 and then come back two years later and wipe the discounts 25

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We didn't think that was the right thing to do.
CHAIRMAN GLEIMAN: This also is related to
something that Commissioner LeBlanc asked you about this -you know, this standard or guideline of preserving 80
percent of previously existing discounts.

Is that only something that we should consider in
Standard A or do you think that is something that should be
a good benchmark for -- is it new? Is this a new concept?
Let me ask you that first.

11 THE WITNESS: I am not aware of it being new. I 12 think we had special circumstances in this case in that 13 there was, as Commissioner LeBlanc mentioned, a change in 14 the methodology that caused some swings in these measured 15 values of work sharing, so it might be new because this 16 might be a new circumstance, and maybe this has never come 17 up before.

As far as other classes, I am not familiar enough with the discounts in those other classes to know whether it would make sense there or if the rate swings would have been so severe --

CHAIRMAN GLEIMAN: I don't mean to cut you off but severe rate swings and consideration of B(4) are what caused you to come to the conclusion that 80 percent was a reasonable number -- reasonable level in terms of

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1 preserving --

2 THE WITNESS: So you think that should be 3 consistent across classes?

4 CHAIRMAN GLEIMAN: Well, no, I am asking you 5 whether, you know, both whether it's new and whether it is 6 something that ought to be applied across the board, because 7 since I have been here there have been several -- there is 8 one instance that comes to mind where there was a severe cut 9 in a discount.

THE WITNESS: Well, obviously I think it was
reasonable. I did it in my testimony.

I guess I would think that certainly might have application in other classes but again, you know, who knows what issues are there that need to be weighed.

15 CHAIRMAN GLEIMAN: Is there any follow-up as a16 consequence of questions from the bench.

17 MR. McLAUGHLIN: Mr. Chairman --

18 CHAIRMAN GLEIMAN: I'm sorry, Mr. McLaughlin?

19 SENATOR WARNER: Just one very brief follow-up.

20 CROSS EXAMINATION

21 BY MR. McLAUGHLIN:

22 Q The Chairman was asking you about relative 23 mark-ups, subclasses, in relation to their use of the 24 system.

25

Do you know in terms of a per piece mark-up, not a

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1 cost coverage mark-up but a per piece mark-up, does ECR have
2 a larger per piece mark-up than the regular class for
3 Standard A?

I quess that should be per piece contribution. 4 А I was hoping that my workpaper would have that on 5 there on a per piece basis, but it doesn't appear to be. 6 That sounds reasonable. 7 MR. McLAUGHLIN: I have no further questions. 8 CHAIRMAN GLEIMAN: Do you have any sense of 9 whether ECR saturation mail uses a lesser portion of the 10 entire Postal Service system -- that is, from processing to 11 delivery -- than does a piece of regular Standard A mail? 12 THE WITNESS: I think its costs are lower because 13 it does avoid all that operation. 14 CHAIRMAN GLEIMAN: Okay -- and it if avoids the 15 operation, not only does it avoid the cost but it avoids the 16 implicit overhead of that portion of the system? 17 THE WITNESS: Yes. 18 CHAIRMAN GLEIMAN: And incurs the implicit 19 overhead of another portion of the system that it does use? 20 THE WITNESS: I don't know. 21 22 CHAIRMAN GLEIMAN: Thank you. Any further follow-up? 23 24 [No response.] CHAIRMAN GLEIMAN: If there is no further 25

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1 follow-up, that brings us to redirect. 2 Mr. Alverno, would you like some time with your 3 witness? 4 MR. ALVERNO: Please. CHAIRMAN GLEIMAN: More than the three days you 5 have already --6 7 [Laughter.] CHAIRMAN GLEIMAN: Ten minutes then. 8 9 MR. ALVERNO: Thank you. 10 [Recess.] CHAIRMAN GLEIMAN: Mr. Alverno, whenever you're 11 12 ready. MR. ALVERNO: Thank you, Mr. Chairman. 13 REDIRECT EXAMINATION 14 BY MR. ALVERNO: 15 Q Mr. Moeller, I would like you to direct your 16 17 attention to Mr. May's cross-examination of you on Friday. 18 And you had provided a response to a question regarding a 19 hypothetical situation involving the cost/revenue 20 relationship between two types of pieces. Do you remember that hypothetical? 21 Α Yes. 22 Could you describe the hypothetical situation 23 0 Mr. May posited? 24 25 А Well, he asked me to assume a situation where you

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had two pieces of mail and they differed only in shape and
 that there was a cost per piece difference of 33 cents and a
 revenue per piece difference of 33 cents.

0 And what were you asked about that hypothetical? 4 5 Α He asked if, in that situation, I would recommend that there be a shape surcharge. And I think I further 6 asked him if I was also to assume that the weights of these 7 8 two pieces were different and he said yes. And I believe that means then, I asked him and I think he has agreed, that 9 then it's the pound rate that is getting this 33 cents in 10 11 revenue.

So in that situation, that's a good thing that the 12 13 revenue is being obtained for this additional cost of 33 cents but ideally you would want to know what's causing that 14 cost difference. The pound rate is the right mechanism for 15 getting that additional revenue if it is indeed weight that 16 17 was causing the cost difference in that hypothetical. To 18 the extent it was shape that was driving that difference, then there would be a basis for a shape surcharge and a 19 lowering of the pound rate because weight would not have 20 been what was causing the cost difference of 33 cents. 21

Q So do you have then an opinion on whether it is the shape characteristic or the weight characteristic that should inform how the rate design should be structured? A I think there is information to be gained on both

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1 those issues and I think we have a study that shows that
2 shape is a big cost determinant and should be recognized in
3 the rate structure.

Q I would like to direct your attention now to Mr. Wiggins' cross-examination of you. He asked you about shape definitions. And do you recall that conversation or that exchange?

8

А

А

Yes, I recall that.

9 Q Now, there was a discussion involving section 10 C050.2.0. I believe it was in Exhibit DMM-C050.2.0 which 11 prescribed shape dimensions for letters and flats and 12 machinable parcels, correct?

13

That's correct.

Q Now, what relationship between flats and
machineable parcels was Mr. Wiggins asking you to accept?

16 A He was attempting to determine if all flats could17 also be defined as machinable parcels.

18

Q Do you have an opinion on that subject?

19 A Yes. During my cross-examination I believe I 20 tried to point out why the proposition that all flats can be 21 defined also as machinable parcels was an incorrect 22 assumption or proposition. If you were to lock at that 23 exhibit, first of all, I think we all get flats in the mail 24 that are thinner than a quarter of an inch, so that should 25 have been enough for me to kick in and say, no, that's not

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1 right.

But on the actual DMM definitions, Mr. Wiggins was pointing to the minimums for the flat sized mail, height, length and thickness, and assumed that all those minimums had to be met when, in actuality, only one of those minimums needs to be exceeded for the piece to become a flat or to be defined as a flat.

8 So a flat does not have to be a quarter of an inch 9 thick, even though looking at this exhibit might lead one to 10 think that. But you have to look at the asterisk, I 11 remember saying the word "asterisk" on Friday, trying to 12 draw attention to this issue here that flats only need to 13 exceed one of those minimums which happen also to be the 14 letter-size maximums in order to be categorized as a flat.

Q So in other words if I had a piece that met the minimum height -- excuse me, that did not meet the minimum height and length dimensions of a flat as prescribed in DMMC050 2.0 but was more than one-quarter-inch thick, it would qualify as a flat?

20 A As long as it was within the maximums also. But 21 his comment that all flats could be considered machineable 22 parcels was incorrect.

Q Okay. Now you were also asked if shape -- excuse me, you were also asked by Mr. Wiggins if shape was the governing criterion with regard to the application of the

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A The language describes pieces that would be subject to the surcharge as being not letter-shaped, not flat-shaped, or are prepared as parcels.

6 That means that they're -- to the extent there's 7 overlap here, which was the subject of some discussion on Friday afternoon, since there are pieces that meet both of 8 9 those definitions, in order to ease administration of that rate element, the surcharge, the language says nonletter, 10 nonflat, or prepared as a parcel, so that these pieces in 11 12 the grey area will be defined by how they are prepared. If 13 these parcels which could also be considered flats are 14 prepared in a big mailing of machineable parcels, the entire mailing will be subject to this what was thought of as a 15 parcel surcharge at one time, rather than have some of that 16 mailing subject to it and some of it not subject to that 17 18 surcharge.

19 Q Okay. So then what you're describing as a 20 situation where you have overlapping shapes, in other words, 21 these pieces could be described as either flats -- or meet 22 the minimum dimensions of either flats or machineable 23 parcels -- and in what circumstance would these pieces be 24 subject to the surcharge?

25

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A They'll be subject to the surcharge if the mailer

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مان المان المحمول المان المحمول المان المان المان المان ا المان المحمول المان المحمول المان المحمول المان الم chooses to prepare all of those pieces as machineable parcels. It's certainly an option for the mailer to take those pieces that would qualify as flats and prepare them separately and avoid the surcharge. So there's a choice here. If you are indeed flat-sized, you can prepare that piece as a flat and avoid the surcharge.

As a matter of fact, and this isn't a secret, 7 really, I think when parcel classification reform was filed, 8 the DMA issued an announcement on their web page that said 9 some parcel mailers may, however, be able to avoid the 10 surcharge by mailing their smaller parcels as flats, so it 11 seemed like it was obvious there that these pieces that are 12 in this grey area can be prepared as flats and avoid the 13 14 surcharge. But if they are prepared as parcels -- and I 15 note that I said this a couple of times Friday, the parcel preparation requirements are much easier than are the flat 16 preparation requirements. 17

So -- and I think I actually said that for flats 18 it was made up to SCF, the actual preparation hierarchy is 19 20 five-digit, three-digit, ADC, and mixed ADC, whereas for machineable parcels you make up five-digit and then you just 21 make up BMCs, and you get the three five-digit rate for the 22 BMC sortation, of which there are many, many fewer than 23 there are three-digit sortations for flats. So machineable 24 parcels benefit -- you benefit from having your piece 25

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declared a machineable parcel -- absent the surcharge you
 certainly do -- because of the easier mail preparation and
 rate eligibility that machineable parcels are afforded.

Q Okay. Now Mr. Wiggins also asked you if the classification language that provides for the residual surcharge should be changed. Do you remember that exchange with Mr. Wiggins?

8 A I remember talking about the classification 9 language.

Okay. One of the questions that he asked you was 10 0 11 whether or not the use of the disjunctive or the term "or" 12 in the classification schedule such as for example in section 321.25 should be changed to the conjunctive, that 13 14 is, an "and." So in other words he was asking if the classification language should read as follows: Regular 15 subclass mail is subject to a surcharge if it is prepared as 16 a parcel and if it is not letter or flat-shaped. 17

Now of course the classification language that's been proposed provides that regular subclass mail is subject to a surcharge if it is prepared as a parcel or if it is not letter or flat-shaped.

Now do you have an opinion as to whether or not the use of the disjunctive or the conjunctive should be used in the circumstance with regard to the classification language?

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. . .

1 A I think the "or" should be used rather than the 2 "and."

3 Q Okay.

A There's too many syllables in those other words.
5 I'm not going to try.

6 Q Exactly.

many products of products and a

7 A And that's because what we had been discussing 8 here that there's overlap and that helps deal with that 9 situation.

10 Q Okay. And -- so the use of the "or" is in fact 11 deliberate for the classification language?

12 A Yes, it's deliberate.

Q And why is it sensible to apply the surcharge, the residual shape surcharge, to pieces that may be of overlapping shapes, that is can qualify as a machinable parcel or a flat?

A I think it is sensible because of what I was
saying earlier about the verification and acceptance
procedures would be simplified, plus these pieces are being
processed as parcels.

They are put in a big BMC container that is going to a BMC parcel sorter, so they are going to be handled as parcels, and again, it can be avoided if the mailer chooses to prepare them as flats instead -- for those pieces that are eligible for flats.

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MR. ALVERNO: Thank you. That's all I have, Mr. 1 2 Chairman. 3 CHAIRMAN GLEIMAN: Is there any follow-up as a 4 consequence of redirect? 5 [No response.] CHAIRMAN GLEIMAN: I just have one request of you. 6 7 I guess it's a question. Could you please 8 identify the DMA publication that you quoted from? 9 THE WITNESS: Yes. It was the DMA Washington 10 Report. 11 I think it was January of '97. Their home page is 12 WWW.the-DMA.org and this was /home pages/home January '97,

13 which makes me think it was in response to the filing of the 14 parcels reform case.

15 MR. ALVERNO: Mr. Chairman, we just so happen to 16 have multiple copies of that if the Commission would like to 17 receive those and if it would like to be made a direct examination exhibit. 18

CHAIRMAN GLEIMAN: It's your call on whether you 19 20 want to make it a cross examination exhibit.

21 I think we can probably find it. I just wanted 22 to --

23 MR. ALVERNO: We'd be happy to just hand it out 24 and give it to the Reporter.

25 CHAIRMAN GLEIMAN: Fine -- if you just want to

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1 hand it out.

I'm sorry if you can't hear me. By the end of the hearings no one in the room will be able to hear me -- with any luck to you all.

5 If there is no follow-up as a consequence of that 6 one question from the bench, then I think that kind of wraps 7 it up for you, Mr. Moeller.

8 We won't ask you to come back tomorrow.

9 THE WITNESS: Thanks.

10 CHAIRMAN GLEIMAN: I don't think -- but I won't be 11 held to that.

12 THE WITNESS: All right.

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13 CHAIRMAN GLEIMAN: Mr. Alverno, if there is
14 nothing more, I am going to dismiss your witness -- not so
15 fast? There appears to be something more.

16 MR. ALVERNO: Yes. The Reporter asked me to mark
17 it, so I marked it as Moeller-DE-1.

18 CHAIRMAN GLEIMAN: That sounds fine, although it
19 is not a marking that I recognize as traditional, but this
20 is a nontraditional case, so what the heck.

21 [Exhibit No. USPS Moeller-DE-1 was 22 marked for identification.] 23 CHAIRMAN GLEIMAN: Mr. Moeller, thank you for your 24 contributions Friday and for agreeing to come back this 25 morning to finish up.

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If there is nothing further, again -- appreciate 1 2 your contributions to the record and you are excused. THE WITNESS: Thank you. 3 4 [Witness excused.] CHAIRMAN GLEIMAN: Now deviating somewhat from our 5 announced schedule, Mr. Koetting, I understand that you have 6 your witness, Mr. Wade, in the room, without declaration, so 7 that we are going to take advantage of his presence to 8 9 dispense with this part of the hearing. MR. KOETTING: That is correct, Mr. Chairman. 10 With the Commission's indulgence, the Postal Service would 11 like to call as its next witness Dr. Steven Wade. 12 13 CHAIRMAN GLEIMAN: Please be seated. Counsel? 14 Whereupon, 15 STEVEN HOWARD WADE, 16 a witness, was called for examination by counsel for the 17 United States Postal Service and, having been first duly sworn, was examined and testified as follows: 18 19 DIRECT EXAMINATION 20 BY MR. KOETTING: 21 0 Dr. Wade, could you please state your complete 22 name for the record? 23 A Steven Howard Wade. Dr. Wade, I am handing you a copy of a document 24 Q that is titled, "Direct Testimony of Steven H. Wade on 25

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1 behalf of the United States Postal Service," which has been 2 designated for purposes of this proceeding as USPS-T-20. 3 Are you familiar with that document? Α Yes. 4 5 0 Was it prepared by you or under your supervision? 6 Α Yes. 7 Does it contain the revised page that was filed 0 8 last week on 10-8-97? 9 Α Yes, it does. If you were to testify orally today, would this be 10 0 your testimony? 11 А Yes. 12 13 MR. KOETTING: Mr. Chairman, at this point the 14 Postal Service would move the Direct Testimony of Steven H. 15 Wade, USPS-T-20 into evidence. CHAIRMAN GLEIMAN: Mr. Koetting, I assume that the 16 testimony has revisions that have been offered up of late? 17 MR. KOETTING: That is correct -- the one we just 18 referred to was the revision of October 8, 1997, which, as 19 20 the witness indicated, is included in the two copies that I am prepared to hand to the Reporter. 21 22 CHAIRMAN GLEIMAN: Are there any objections? 23 [No response.] CHAIRMAN GLEIMAN: Hearing none, Mr. Wade's 24 testimony and exhibits are entered into evidence, and I 25

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direct that they be accepted into evidence. As is our 1 2 practice, they will not be transcribed into the record. [Direct Testimony and Exhibits of 3 4 Steven Howard Wade, Exhibit No. USPS-T-20 was marked for 5 identification and received into 6 7 evidence.] CHAIRMAN GLEIMAN: Mr. Koetting, a question for 8 9 vou. the changes that were made are supposedly detailed in two library references, Reference 261 and 292. 10 Are you planning to enter those into evidence 11 12 today? MR. KOETTING: Mr. Chairman, as they were provided 13 14 in response to interrogatory responses which have been submitted into the record, I believe they already are, by 15 incorporation. 16 CHAIRMAN GLEIMAN: Okay. Do you want to proceed 17 18 then? 19 BY MR. KOETTING: Dr. Wade, I am handing you two copies of the 20 Q Designated Cross Examination. Now did you have an 21 opportunity to go through this material this morning? 22 23 Α Yes, I did. Are those answers that were prepared by you or 24 Q 25 under your supervision?

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1 А Yes, they were. 2 If you were to be asked those questions today, 0 3 would your answers be the same? 4 А Yes. 5 MR. KOETTING: Mr. Chairman, the Postal Service will hand two copies to the Reporter and presumably they 6 7 will be moved into evidence by the parties that designated 8 them. CHAIRMAN GLEIMAN: Two copies of the corrected 9 10 designated written cross examination of the witness will be given to the Reporter. 11 12 I direct that they be accepted into evidence and 13 transcribed into the record at this point. 14 [Designation of Written 15 Cross-Examination of Steven Howard 16 Wade was received into evidence and 17 transcribed into the record.] 18 19 20 21 22 23 24 25

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# BEFORE THE POSTAL RATE COMMISSION WASHINGTON, DC 20268-0001

Postal Rate and Fee Changes, 1997

present a

Docket No. R97-1

# DESIGNATION OF WRITTEN CROSS-EXAMINATION OF UNITED STATES POSTAL SERVICE WITNESS STEVEN H. WADE (USPS-T-20)

The parties listed below have designated answers to interrogatories directed to witness Wade as written cross-examination.

| Party                              | Answer To Interrogatories                        |                                                                                                                                   |
|------------------------------------|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Direct Marketing Association, Inc. | DMA\USPS:<br>UPS\USPS                            | Interrogatory T20-2.<br>Interrogatory T20-2.                                                                                      |
| Magazine Publishers of America     | MPA\USPS:                                        | Interrogatories T20-13-15.                                                                                                        |
| Newspaper Association of America   | NAA\USPS:<br>OCA\USPS:                           | Interrogatories T20-1-4.<br>Interrogatories T20-1-2.                                                                              |
| Office of the Consumer Advocate    | OCA\USPS:<br>DMA\USPS:<br>MPA\USPS:              | Interrogatories T20-1-3.<br>Interrogatories T20-1-2.<br>Interrogatories T20-1-12, T13-<br>1.d redirected from witness<br>Bradley. |
|                                    | NAA\USPS:<br>UPS\USPS:                           | Interrogatories T20-1-4.<br>Interrogatories T20-1-3.                                                                              |
| United Parcel Service              | UPS\USPS:<br>MPA\USPS:<br>NAA\USPS:<br>OCA\USPS: | Interrogatory T20-1.<br>Interrogatories T20-2 and 6.<br>Interrogatories T20-2-4.<br>Interrogatories T20-1-3.                      |

Respectfully submitted,

Margaret P. Cresshaw

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Margaret P. Crenshaw Secretary

<u>DMA/USPS-T20-1</u>. Please refer to LR-H-150, Spreadsheet DATA\_SUM.XLS, Worksheet Survey Data, Column ED.

- a. Please explain how you know definitively that the capacity of an "Other" truck is the same as a "2T" truck? Please explain fully.
- b. Please confirm that the capacity of a "7/9" truck is the same as the capacity of a "9T" truck.
- c. Please confirm that 7/9 is an abbreviation for a 7/9 Ton truck.

#### **Response:**

a. I find the truck capacities conveniently listed at the head of column EI in data sum xls. I do

not definitively know that the capacity of an "other" truck is the same as a 2-ton vehicle.

However, the common truck capacities were either listed on the form or the survey

respondent could write in the capacity -- on the form it is written as "other (list)".

### b. Confirmed.

c. Confirmed.

<u>DMA/USPS-T20-2</u>. Please refer to LR-H-150, Spreadsheet DATA\_SUM.XLS, Worksheet Survey Data, Column FV.

- a. Please confirm that the value of COMPLOAD for facilities that were used in your regression varies from 13.2 percent to 100 percent.
- b. Is it likely that the average capacity utilization for a truck type and trip type at a facility for a full year for a truck when it leaves its origin facility would be 13.2 percent? Please explain fully.
- c. Is it likely that the capacity utilization for a trip type and truck type at one facility averaged over all stops for a full year would be 100 percent? Please explain fully.

#### **Response:**

- a. Confirmed for the values of COMPLOAD in column GA in spreadsheet data\_sum.xls. A word of caution, this concept is just the simple average across all non-blank cells of numbers entered into the COMPLOAD column without consideration for the route frequency (days per year) or the mileage of the route. COMPLOAD is not directly used in the regressions, but the values for the individual routes are used to compute CFM. The sum of CFM across all routes yields facility CFM which was used in the regression models.
- b. The 13.2% value referenced in the interrogatory is inappropriately low. The facility associated with this value is Facility 47. This is because in computing the number reported in data\_sum.xls for Facility 47, several zero rows (see answer a above) were included which caused the simple average value to be lower than reflective of the 14 routes for this facility. Ten of the routes have a load factor value of 10% in the spreadsheet, fac\_47.xls. The remaining 4 routes have a reported load factor of 100%. Making a direct calculation for these 14 routes (excluding the zero rows) yields [10\*10% + 4\*100% ] /14 or 35.7%. Since

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no actual COMPLOAD values are as low as 13.2%, I would say such a value is somewhat unlikely, since the facilities included in the final sample do not have values that low.

Upon double checking the 10% load factor entered for 7-ton trucks, I found an apparent transcription error in the reported load factor entered into the spreadsheet calculations. The survey form value for 7-ton trucks is actually 100% (see cell h46 of sheet \$47 of the spreadsheet fac 47.xls). Correcting the load factor value in the spreadsheet calculations makes a substantial change in the CFM for Facility 47 from 40,027 to 207,865. Correcting the CFM value and re-estimating the preferred model from LR-H-261 (the Restricted Translog model on page 13 of the library reference with a volume variability of 64.77%) makes what I still consider to be only a minor change in the estimated volume variability. After correction, the estimate is 67.11%. Even with a substantial error in the calculation of CFM for this facility, the volume variability shows little change. Indeed, over several revisions of data, the estimate for volume variability has been quite robust. The original estimate used in developing the base year variability was 65.45%. Appendix F summarized results after deleting 4 observations with data problems, and led to a variability of 66.92%. Library Reference H-261, described a recalculation of several of the data values for CFM, AVGMPH and AVGDIST and resulted in an estimate of 64.77%. The range of volume variability is less than three percentage points. Extending the adjustment for BMC spotter usage (using the methodology as shown in Workpaper F, Exhibit 2 Revised), yields a volume variability for Cost Segment 8 of 61.35%.

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c. I find it unlikely that the precise capacity utilization for a trip type and truck type, averaged over all stops for a full year, would be exactly 100%. However, it is conceivable that capacity utilization could be high enough that a survey respondent would provide an estimate of 100%. Average load factors could be 88%, for example. In responding to the survey, a rounded value of 100% might be appropriately selected by the respondent.

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<u>MPA/USPS-T20-1</u> Please refer to Page 6 of your testimony, in which you describe a survey of plant and distribution facilities which provides the data for your analysis of the volume variability for Vehicle Service Drivers,

- a. Please define "usable and consistent information" as used on Page 6, Line 7 of your testimony. Also, please describe the process used to determine whether individual survey responses were "usable and consistent".
- b. Does the Postal Service have workpapers showing how each facility which responded to the VSD Survey developed its load factor estimates? If yes, please provide them.
- c. Please describe the underlying data that are necessary for developing an accurate estimate of average load factor by truck type. Also, please describe how to calculate average load factor by truck type from these underlying data.
- d. How many of the facilities responding to the survey have information systems containing the underlying data necessary to calculate load factors for each truck type? If this figure does not include all 89 facilities which responded with "usable and consistent information", how did personnel at the other facilities develop responses to the survey?
- e. What was the Postal Service's process for reviewing survey responses and ensuring data quality?
- f. Were personnel penalized in any way for providing incorrect data on the VSD survey form? Were personnel rewarded in any way for providing correct data on the VSD survey form?
- g. Did the Postal Service provide additional funding to facilities to complete the VSD survey form?
- h. How much time were facility personnel given to complete the VSD survey form?
- i. Did facilities that did not have the information necessary to complete the survey have the time and money to perform a study to estimate the average load factor? If yes, did any facilities perform a study to help them answer the survey?
- j. Did facility personnel know what the Postal Service was going to do with the responses to the survey?
- k. What was the original purpose of the VSD Survey?

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- 1. Do you believe that facility personnel would have an incentive to over-report load factors on the survey?
- m. Do you believe that facility personnel would have an incentive to under-report load factors on the survey?
- n. Please provide a copy of the instructions sent to facilities on how to complete the survey. Also, please provide a summary of any verbal instructions provided to facility personnel.
- o. Please explain why about 40 percent of the respondents failed to provide "usable and consistent" information in response to this survey.
- p. Please provide a copy of each facility's completed survey submission.

#### **RESPONSE:**

- a. "Usable and consistent information" is how I characterized the arrival to the sample of 89 facilities. Facilities either didn't respond, or the responses were not usable. Responses were usable if the facility returned the cover sheet with facility totals and included the PS Forms 4533, and if the Form 4533 had mileage and workhour data. Responses which were not complete were not used unless they were from one of the 10 largest facilities. The ten largest facilities were contacted directly to insure that their responses were as complete as their data would allow and consistent with our request. Using this approach the largest facilities made the initial sample of 89 facilities.
- In 1990, during a dry run of the data gathering procedures, facilities were asked to provide, if available, any daily logs (transportation efficiency reports TERs) that detail load factors for all trips or logs that list any extra (non-scheduled) service. We discovered that most of the sampled offices did not make use of any form, including the TER consistently. Moreover, for those offices which submitted forms, we were not able to effectively use the data. Therefore, we opted to rely on the field experts who prepare the PS Form 4533's to derive the load factor estimates. We asked them to use all available information to develop the estimates. Asking the sites to provide supporting documentation for this calculation would have been burdensome and based on our experience would not have enhanced the study. We did ask those sites who used TERs to provide them. Some facilities did include TERs and other logs detailing trips in their responses, but those data were not used.

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- c. To measure precisely average load factors by truck type and trip type combination, actual measurements of capacity utilization would need to be made for each stop, on each route, every day. To achieve precise accuracy for computing CFM, the individual load factors need to be appropriately weighted. Thus, the route length for each load factor estimate should be used as weights to weight-average the individual load factor observations.
- d. The survey form did not provide guidelines as to how to estimate load factors. To my knowledge, information allowing the direct calculation of load factors is not available. I view the responses as being estimates made by knowledgeable personnel.
- e. The data were entered in spreadsheets which checked for consistency of the answers (e.g., verifying that percentages that should add to 100% did indeed do so; the number of scheduled routes was consistent the number of drivers). In general whether the totals from the spreadsheet lead to the summary totals on the MVS Questionnaire. Moreover, the trip information entered on the Form 4533 was evaluated to see if the 'type of trip' apportionment was in line with the descriptions of the activities on the forms.
- f. Rewards or penalties were not employed.
- g. No additional funding was provided to facilities to respond to the survey.
- h. It was up to the individual manager to determine how much time was needed. The survey requested a response within approximately 30 days.
- i. To the best of my knowledge no formal studies or data collection activities were undertaken.
- j. While facility personnel did not precisely know what would be done with the information, it was stated that the use was to "improve our method of attributing driver costs".
- k. The original purpose was to provide information to calculate VSD variability.
- 1. No. I know of no incentive to misreport the information.
- m. No. I know of no incentive to misreport the information.

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n. Attached is the memorandum and blank survey form provided to the facility managers requesting participation in the survey.

- o. If the reference is to the 36 of the 89 facilities that I excluded for data reasons, Workpaper B, pages 3 and 4 detail this information. There were some illegible forms and missing information, data errors or potential issues were found in some spreadsheets which couldn't be verified or corrected without reviewing the voluminous Form 4533 data. My involvement covered a fairly short period of time. With more time, I would have attempted to use as many of the 89 facilities as possible.
- p. The completed survey information is provided in the individual facility spreadsheets in a form which is the same format as the survey form. See for example the spreadsheet "Fac\_02.xls", sheet "F2" in LR-H-150 for the survey responses.

. . . . . . .

SAMUEL GREEN JR. Vice President, Customer Services

United States Postal Service 475 L'Enfant Plaza SW Washington DC 20280-1400

August 12, 1993

#### MEMORANDUM FOR MANAGERS VEHICLE MAINTENANCE FACILITIES

SUBJECT: Request for VMF Driver Information

Revenue, Volume, and Cost Analysis at headquarters is performing a study for the Postal Rate Commission of Motor Vehicle Service (MVS) Operators. The purpose of the study is to improve our method of attributing driver costs to each of the correct classes of mail. To perform this task, your assistance is needed.

In order to minimize burdens placed on your operational units, we have simplified our request. The tasks should require no more than two hours to complete. An analyst knowledgeable in MVS operations should answer the attached questionnaire. Please send the completed questionnaire, a copy of PS Form 4533 (Postal Service Motor Vehicle Schedule [MVS]) for each route, and a copy of the June 5-18, 1993 Transportation Efficiency Report to:

> Dennis P. Stevens Revenue, Volume & Cost Analysis 475 L'Enfant Plaza SW, RM 1520 Washington DC 20260-5322

If you use a form other than the Transportation Efficiency Report to track radio dispatched trips, please send that form with a brief description of what the form records and how the information is used. The questionnaire and forms will be analyzed with those from other facilities. The reported results will be summarized but will not be used to evaluate or rate individual employees or offices.

Please forward the total package (questionnaire and forms) by COB September 7, 1993. If you have any questions or require any assistance regarding the proper completion of the enclosed material, please contact Dennis Stevens at (202) 268-3786.

Attachment cc: Managers, Customer Services Districts

202-268-5381 Fax 202-268-4860

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# **MVS QUESTIONNAIRE**

#### 

| VER SCHEDULES                                                                                                                    |                                                                                                                                                                |                                   | PEACENT SCHEDULED                         |  |  |
|----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-------------------------------------------|--|--|
| MVS Operators (                                                                                                                  | P8-5)                                                                                                                                                          | ON DRIVERS                        | PS PORLE (33)                             |  |  |
| full time                                                                                                                        | -                                                                                                                                                              | []                                | []                                        |  |  |
| Dari time flexible                                                                                                               |                                                                                                                                                                |                                   |                                           |  |  |
|                                                                                                                                  | ,<br>                                                                                                                                                          |                                   | لیــــــ                                  |  |  |
| full time                                                                                                                        |                                                                                                                                                                | []                                | []                                        |  |  |
| nart time flexible                                                                                                               |                                                                                                                                                                | <u> </u>                          |                                           |  |  |
| Soptier Tractor C                                                                                                                | Deretors                                                                                                                                                       |                                   |                                           |  |  |
| tid time                                                                                                                         |                                                                                                                                                                | <u></u>                           | <b></b> ]                                 |  |  |
|                                                                                                                                  |                                                                                                                                                                |                                   |                                           |  |  |
| pan ome naxole                                                                                                                   |                                                                                                                                                                | L]                                |                                           |  |  |
| TRIP SCHEDULES (A                                                                                                                | trip is from the VMF and back)                                                                                                                                 | TYPE AS PERCENT                   | PER CEDIT OF TYPE                         |  |  |
| TRI                                                                                                                              | P TYPES                                                                                                                                                        | OF ALL TRUPS                      | PE PORM (333)                             |  |  |
| 1.) Dispatches (so                                                                                                               | rted mail) to Stations/Branches                                                                                                                                |                                   |                                           |  |  |
| 2.) Trips to AO's, n                                                                                                             | earby offices, Amtrack, AMF's, etc.                                                                                                                            |                                   | · · ·                                     |  |  |
| 3.) Collection Mail                                                                                                              | Runs (pick-ups from station/branch/box)                                                                                                                        |                                   |                                           |  |  |
| 4.) Collection Mail                                                                                                              | Runs (pick-ups from mailers/firms)                                                                                                                             |                                   |                                           |  |  |
| 5.) Other (list                                                                                                                  | )                                                                                                                                                              |                                   |                                           |  |  |
|                                                                                                                                  |                                                                                                                                                                |                                   |                                           |  |  |
|                                                                                                                                  | COL. b - Apportion each truck group<br>COL. c - Estimate the average (mos<br>Choose between 0%, 25%<br>DISPATCHES TO<br>STATIONS/BRANCHES<br>STATIONS/BRANCHES | COLLECTION MAIL<br>STATION DESIGN | COLLECTION MAIL.                          |  |  |
| TRUCK SIZE                                                                                                                       | rela sela sela sela sela sela sela                                                                                                                             | ant, s each eac. e                | apis ant and t and a and a cal t          |  |  |
| 5 ton                                                                                                                            |                                                                                                                                                                |                                   |                                           |  |  |
|                                                                                                                                  |                                                                                                                                                                |                                   |                                           |  |  |
| 7 ton                                                                                                                            |                                                                                                                                                                |                                   |                                           |  |  |
|                                                                                                                                  |                                                                                                                                                                |                                   |                                           |  |  |
| tractor trailer                                                                                                                  |                                                                                                                                                                |                                   |                                           |  |  |
|                                                                                                                                  |                                                                                                                                                                |                                   |                                           |  |  |
| other (list)                                                                                                                     |                                                                                                                                                                |                                   |                                           |  |  |
|                                                                                                                                  |                                                                                                                                                                |                                   |                                           |  |  |
| VMF NAME                                                                                                                         |                                                                                                                                                                | - VMF has BMC                     | operations yes no                         |  |  |
| VMF ADDRESS                                                                                                                      |                                                                                                                                                                | VMF has GMF                       | operations yes no                         |  |  |
| VMF CONTACT                                                                                                                      |                                                                                                                                                                |                                   |                                           |  |  |
| NAME                                                                                                                             |                                                                                                                                                                |                                   | TEL #                                     |  |  |
|                                                                                                                                  | SURVEY                                                                                                                                                         | CHECKOFF                          |                                           |  |  |
| 1.) PS Form 4533 attache                                                                                                         | d for each route? 2.) Transportation Effi                                                                                                                      | clency Reports?                   | 3.) If no Efficiency Reports, substitute? |  |  |
| yes ·                                                                                                                            | yee T                                                                                                                                                          | ]                                 | Yee                                       |  |  |
|                                                                                                                                  |                                                                                                                                                                | J                                 |                                           |  |  |
|                                                                                                                                  | return to                                                                                                                                                      | ):                                |                                           |  |  |
| Dennis P. Stevens<br>MVS Survey<br>United States Postal Service<br>475 L'Entant Plaza SW, Room 1520<br>Washington, DC 20290-5322 |                                                                                                                                                                |                                   |                                           |  |  |

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<u>MPA/USPS-T20-2.</u> Please refer to USPS-T.20, Workpaper B, Page 1, Lines 5 and 6, where you state "Each sheet incorporates both the survey information and the data from Form 4533 for one of the 89 facilities in the survey" and Page 6, Lines 6-7 of your testimony.

- a. How many facilities, including BMCs, use vehicle service drivers?
- b. Do you believe that the 89 facilities that responded to tile survey form with usable and consistent information" comprise a representative sample of all facilities that use vehicle service drivers? Please explain your answer.
- c. Did you perform any statistical tests to assess whether the 89 facilities comprise a representative sample of all VSD facilities? If yes, please identify each test, explain the specifications of each test fully, and provide the significance level of each test.
- d. Did the personnel who completed the Form 4533 forms know that the Postal Service planned to use this information for the purpose of estimating the volume variability of VSD costs?

#### **RESPONSE:**

- a. There are 21 BMCs. In 1993, there were 149 facilities which had significant VSD workhours. There were another 213 that reported workhours greater than zero, but many of these had very small usage, indicating possible data entry errors or transfers. See the response to UPS/USPS-T20-1 for a listing.
- b. The 89 facilities account for over 75% of non-BMC VSD workhours -- and the included facilities encompass a wide range of facility sizes. Thus the sample should be quite representative.
- c. No tests were performed.

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d. The Forms 4533 are filled out routinely as part of VSD procedures and were not done specifically for this study. Thus, personnel completing Form 4533 would have likely been unaware that any study using these forms was being or would be undertaken.

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<u>MPA/USPS-T20-3</u>. Please refer to USPS-T-20, Workpaper B, Pages 1 and 2 and Page 6, Lines 6-7 of your testimony.

- a. Please confirm that you omitted 36 of the 89 facilities due to data issues.
- b. Do you believe that the 53 remaining facilities comprise a representative sample of the 89 VSD facilities "that responded to the survey form with usable and consistent information"? Please explain your reasoning in as much detail as possible.
- c. Did you perform any statistical tests to assess whether the 53 facilities comprise a representative sample of the 89 facilities that completed your survey? If so, which tests did you perform? Please explain the specifications of each test fully. What was the significance level of each test?
- d. Suppose that the average load factor for a facility for dispatches to stations/branches was exactly 70 percent and that, on the survey, personnel responded that the average load factor for dispatches to stations/branches was exactly 70 percent.
  - (i) Please confirm that this response by personnel was more accurate than if personnel had followed instructions and stated that their average load factor was 75 percent.
  - (ii) Please also confirm that you would have omitted this response by personnel before performing your regressions.
- e. In light of your answer to (d), do you believe that average load factors other then "0%, 25%, 50%, 75% or 100% (these were the only survey options)" are less accurate than load factors of 0%, 25%, 50%, 75%, or 100%?
- f. On page 1 of USPS-T-20, Workpaper B, you provide three reasons why you omitted facilities (1) percentages did not add to 100 percent for all relevant route characteristic; (2) CFM were not computed for "valid" routes; and (3) load factors were not one of the survey options.
  - (i) Please provide the number of facilities omitted for each such reason.
  - (ii) Please list any other reasons why you omitted facilities and provide the number of facilities omitted for each such reason.

## **RESPONSE:**

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a. I eliminated the 36 observations because of concerns about the data for those facilities. I attempted to use as many observations as possible.

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- b. The remaining 53 facilities account for approximately 43% of non-BMC VSD workhours -- and the included facilities still encompass a wide range of facility sizes. Thus the sample should still be quite representative.
- c. No statistical tests were performed to assess whether the 53 facilities comprised a representative sample.
- d. (i) Confirmed. In fact, 17 of the 53 facilities responded with percentages different from 0%, 25%, 50%, 75%, or 100%.

(ii) The observation would not have been deleted for this reason. As a case in point, Facility 30 (see Workpaper C, page 4) includes load factors of 90%, 85% and 20%, but was not deleted.

- e. Actual precise load factors would be more accurate. However, actually measuring them would raise issues of frequency of measurement, who measures, how does measurement affect service, how costly would measurement be, etc....
- f. (i) For a listing of the reasons facilities were omitted, see Workpaper B, Pages 3 and 4.

(ii) I had no other reasons for omitting facilities beyond those listed.

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- g. <u>MPA/USPS-T20-4</u>. Please refer to USPS-T-20, Workpaper C, Page 2 and USPS-T-20, Workpaper B, Page 1.
- a. Please confirm that you calculated cubic foot miles using the equation shown on Workpaper C, Page 2. Lines 16 and 17 and that this equation uses the load factors from the VSD Survey Form.
- b. Please confirm that cubic-foot miles for Facility 2 is 3,472,698.

(i) How confident are you that this figure is exactly equal to the actual number of cubic foot miles for Facility 2.

(ii) How confident are you that the true number of cubic foot miles for Facility 2 is within 25 percent of this figure?

(iii) How confident are you that the true number of cubic foot miles for Facility 2 is within 50 percent of this figure?

(iv) Please list any statistical tests you performed to arrive at your answers.

#### **RESPONSE:**

- a. Confirmed. Load factor is indeed a part of the computation and was supplied by the survey.
- b. Confirmed, cubic-foot miles (CFM) for Facility 2 is 3,472,698.

(i) Since the survey did not ask for precise load factor estimates, it is not very likely that CFM are precisely this value.

(ii) I am fairly confident that the estimate would be within 25%. There are three issues regarding accuracy -- rounding, observation error and aggregation.

Rounding: The maximum percentage error caused by asking for categories instead of precise values and assuming that load factors were precisely known and properly rounded would be only 12.5%. In most cases, the actual error should be less than this amount. One exception is that if a load factor rounded to zero, then CFM estimate would end up being zero. In such a case, the percentage error for that route would be -100%. I found only two occurrences of a load factor rounded to zero in the data used in the model for the base year variability estimate.

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Observation Error: It is likely that the survey respondent based the load factor estimates on judgement from past experiences and approximations. These measures are recognized as somewhat inexact and thus will incorporate potential errors.

Aggregation: Another source of potential error occurs when several trucks of the same type are used for the same trip type. If both load factors and route lengths are different across the individual trucks, then applying an average load factor to the individual runs will cause potential errors in the computation of CFM.

(iii) I am quite confident that the estimate would be within 50%.

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(iv) I performed no statistical tests in arriving at the answers to (i)-(iii) above.

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<u>MPA/USPS-T20-5.</u> Please refer to USPS-T-20, Workpaper A, Page 1 and Page 19 of your testimony, Lines 20-23.

- a. Please confirm that the survey form on Page 1 of Workpaper A is the one that was used to collect information on the load factor.
- b. The following questions concern the reporting of average load factors
  - (i) If facility personnel knew that the average load factor for Trips to AO's, AMTRAK, AMFs, Other Offices was 62 percent, what should they have reported as the load factor on the survey?
  - (ii) If facility personnel knew that the average load factor for Trips to AO's, AMTRAK, AMFs, Other Offices was 12 percent, what should they have reported as the load factor on the survey?
  - (iii) If facility personnel knew that the average load factor for Trips to AO's, AMTRAK, AMFs, Other Offices was 5 percent, what should they have reported as the load factor on the survey?
  - (iv) If facility personnel knew that the average load factor for Trips to AO's, AMTRAK, AMFs, Other Offices was 13 percent, what should they have reported as the load factor on the survey?
  - (v) If facility personnel knew that the average load factor for Trips to AO's, AMTRAK, AMFs, Other Offices was 37 percent, what should they have reported as the load factor on the survey?
  - (vi) If facility personnel knew that the average load factor for Trips to AO's, AMTRAK, AMFs, Other Offices was 38 percent, what should they have reported as the load factor on the survey?
  - (vii) If facility personnel knew that the average load factor for Trips to AO's, AMTRAK, AMFs, Other Offices was 63 percent, what should they have reported as the load factor on the survey?
  - (viii) If facility personnel knew that the average load factor for Trips to AO's, AMTRAK, AMFs, Other Offices was 87 percent, what should they have reported as the load factor on the survey?
  - (ix) If facility personnel knew that the average load factor for Trips to AO's, AMTRAK, AMFs, Other Offices was 88 percent, what should they have reported as the load factor on the survey?

- c. Assume that a facility reported an average load factor for a truck type of 50 percent. In your answers to the following questions, please be as quantitative as possible. Please describe fully any statistical tests you performed to arrive at your answers.
  - (i) How certain are you that the actual load factor was exactly 50 percent?
  - (ii) How certain are you that the actual load factor was somewhere between 40 percent and 60 percent?
  - (iii) How certain are you that the actual load factor was somewhere between 25 percent and 75 percent?
- d. Model 5 estimates that the volume variability is 65.4% and the 95 percent confidence interval around this estimate is between 53.1% and 77.7% Please describe fully the method you used to determine the 95 percent confidence interval.
- e. Please confirm that your 95 percent confidence interval does not take into account the fact that your values for CFM are imprecise because they're based upon imprecise estimates of load factors. Please also confirm that taking into account the imprecision in your CFM estimates would increase the size of your 95 percent confidence interval.

#### **RESPONSE:**

a. Confirmed.

| <b>b</b> . | (i)    | 50%  |
|------------|--------|------|
|            | (ii)   | 0%   |
|            | (iii)  | 0%   |
|            | (iv)   | 25%  |
|            | (v)    | 25%  |
|            | (vi)   | 50%  |
|            | (vii)  | 75%  |
|            | (viii) | 75%  |
|            | (ix)   | 100% |
|            |        |      |

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c. (i) Not very certain, it would be fairly unusual for a load factor to be precisely 50.0%.

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(ii) Fairly certain. The half-interval has a width of 10% which is just under the average rounding error of 12.5%.

(iii) Quite confident.

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- d. The 95 percent confidence interval was provided directly by the Excel regression software since I estimated the logarithmic model by first normalizing (dividing by means) each variable. Thus, the variability at the mean is the coefficient of CFM. Its 95 percent confidence interval is computed directly from the standard error of the CFM coefficient.
- e. I can't confirm this. From Dhrymes, <u>Introductory Econometrics</u>, Springer-Verlag, 1978, page 266: "No unambiguous statement may be made regarding the t-ratios of OLS estimated parameters in an EIV context relative to those that would prevail if error free observations were available." Since the both the t-ratio and the confidence intervals are related to standard errors, the confidence interval could be either smaller or larger.

<u>MPA/USPS-T20-6.</u> Please refer to LR-H-150, Workbook data\_sum.xls, Worksheet Survey Data. Please provide a data dictionary for this worksheet or, alternatively, define the meaning of each column heading.

**RESPONSE:** The following table lists the meanings for each column.

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#### **LESPONSE OF USPS WITNESS WADE TO INTERR**

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| Column | Concept Name | Meaning                              |  |
|--------|--------------|--------------------------------------|--|
| Α      | Facility     | Numbering Scheme                     |  |
| В      | MVS_FT       | From survey, see Workpaper C, page 4 |  |
| C      | MVS_PTF      | From survey, see Workpaper C, page 4 |  |
| D      | MVS_TRA      | From survey, see Workpaper C, page 4 |  |
| E      | MVS_TEM      | From survey, see Workpaper C, page 4 |  |
| F      | TRAC_FT      | From survey, see Workpaper C, page 4 |  |
| G      | TRAC_PTF     | From survey, see Workpaper C, page 4 |  |
| н      | TRAC_TRA     | From survey, see Workpaper C, page 4 |  |
| 1      | TRAC_TEM     | From survey, see Workpaper C, page 4 |  |
| J      | SPOT_FT      | From survey, see Workpaper C, page 4 |  |
| κ      | SPOT_PTF     | From survey, see Workpaper C, page 4 |  |
| L      | SPOT_TRA     | From survey, see Workpaper C, page 4 |  |
| M      | PCEN_MVS     | From survey, see Workpaper C, page 4 |  |
| Ν      | PCEN_TRA     | From survey, see Workpaper C, page 4 |  |
| 0      | PCEN_SPO     | From survey, see Workpaper C, page 4 |  |
| P      | TOTLDISP     | From survey, see Workpaper C, page 4 |  |
| Q      | TOTLHAUL     | From survey, see Workpaper C, page 4 |  |
| R      | TOTLCOLL     | From survey, see Workpaper C, page 4 |  |
| S      | TOTLFIRM     | From survey, see Workpaper C, page 4 |  |
| Т      | TOTLOTHR     | From survey, see Workpaper C, page 4 |  |
| υ      | total check  | Checksum for trip type percentages   |  |
| V      | PCENDISP     | From survey, see Workpaper C, page 4 |  |
| W      | PCENHAUL     | From survey, see Workpaper C, page 4 |  |
| x      | PCENCOLL     | From survey, see Workpaper C, page 4 |  |
| Y      | PCENFIRM     | From survey, see Workpaper C, page 4 |  |
| Z      | PCENOTHR     | From survey, see Workpaper C, page 4 |  |
| AA     | Unused       | Unused                               |  |
| AB     | 5A1          | From survey, see Workpaper C, page 4 |  |
| AC     | 5B1          | From survey, see Workpaper C, page 4 |  |
| AD     | 5C1          | From survey, see Workpaper C, page 4 |  |
| AE     | 5A2          | From survey, see Workpaper C, page 4 |  |
| AF     | 582          | From survey, see Workpaper C, page 4 |  |
| AG     | 5C2          | From survey, see Workpaper C, page 4 |  |
| AH     | 5A3          | From survey, see Workpaper C, page 4 |  |
| Al     | 583          | From survey, see workpaper C, page 4 |  |
| AJ     | 503          | From survey, see workpaper C, page 4 |  |
| AK     | 5A4          | From survey, see workpaper C, page 4 |  |
| AL     | 504          | From survey, see Workpaper U, page 4 |  |
| AM     | 504          | From survey, see Workpaper C, page 4 |  |

Comments 1 through 89 Directly from survey form Should be 100% Directly from survey form Unused Directly from survey form Directly from survey form
| AN  | 5A5              | From survey, see Workpaper C, page 4 |
|-----|------------------|--------------------------------------|
| AO  | 585              | From survey, see Workpaper C, page 4 |
| AP  | 5C5              | From survey, see Workpaper C, page 4 |
| AQ  | Unused           | Unused                               |
| AR  | 7A1              | From survey, see Workpaper C, page 4 |
| AS  | 7B1              | From survey, see Workpaper C, page 4 |
| AT  | 7C1              | From survey, see Workpaper C, page 4 |
| AU  | 7A2              | From survey, see Workpaper C, page 4 |
| AV  | 782              | From survey, see Workpaper C, page 4 |
| AW  | 7C2              | From survey, see Workpaper C, page 4 |
| AX  | 7A3              | From survey, see Workpaper C, page 4 |
| AY  | 783              | From survey, see Workpaper C, page 4 |
| AZ  | 7C3              | From survey, see Workpaper C, page 4 |
| BA  | 7A4              | From survey, see Workpaper C, page 4 |
| BB  | 7B4              | From survey, see Workpaper C, page 4 |
| 8C  | 7C4              | From survey, see Workpaper C, page 4 |
| BD- | 7A5              | From survey, see Workpaper C, page 4 |
| BE  | 785              | From survey, see Workpaper C, page 4 |
| BF  | 7C5              | From survey, see Workpaper C, page 4 |
| BG  | Unused           | Unused                               |
| BH  | 9A1              | From survey, see Workpaper C, page 4 |
| BI  | 9B1              | From survey, see Workpaper C, page 4 |
| BJ  | 9C1              | From survey, see Workpaper C, page 4 |
| BK  | 9A2              | From survey, see Workpaper C, page 4 |
| BL  | 9 <del>8</del> 2 | From survey, see Workpaper C, page 4 |
| BM  | 9C2              | From survey, see Workpaper C, page 4 |
| BN  | 9A3              | From survey, see Workpaper C, page 4 |
| BO  | 9B3              | From survey, see Workpaper C, page 4 |
| BP  | 9C3              | From survey, see Workpaper C, page 4 |
| BQ  | 9A4              | From survey, see Workpaper C, page 4 |
| BR  | <b>9B4</b>       | From survey, see Workpaper C, page 4 |
| BS  | 9C4              | From survey, see Workpaper C, page 4 |
| BT  | 9A5              | From survey, see Workpaper C, page 4 |
| BU  | 9B5              | From survey, see Workpaper C, page 4 |
| BV  | 9C5              | From survey, see Workpaper C, page 4 |
| BW  | Unused           | Unused                               |
| BX  | 79A1             | From survey, see Workpaper C, page 4 |
| ΒY  | 79B1             | From survey, see Workpaper C, page 4 |
| BZ  | 79C1             | From survey, see Workpaper C, page 4 |
| CA  | 79A2             | From survey, see Workpaper C, page 4 |

Directly from survey form Directly from survey form Directly from survey form Unused Directly from survey form **Directly from survey form** Directly from survey form Unused Directly from survey form Directly from survey form Directly from survey form **Directly from survey form** Directly from survey form Unused Directly from survey form Directly from survey form Directly from survey form **Directly from survey form** 

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| СВ | 7982   | From survey, see | Workpaper C, page 4 |
|----|--------|------------------|---------------------|
| CC | 79C2   | From survey, see | Workpaper C, page 4 |
| CD | 79A3   | From survey, see | Workpaper C, page 4 |
| CE | 79B3   | From survey, see | Workpaper C, page 4 |
| CF | 79C3   | From survey, see | Workpaper C, page 4 |
| CG | 79A4   | From survey, see | Workpaper C, page 4 |
| СН | 79B4   | From survey, see | Workpaper C, page 4 |
| CI | 79C4   | From survey, see | Workpaper C, page 4 |
| Cl | 79A5   | From survey, see | Workpaper C, page 4 |
| CK | 79B5   | From survey, see | Workpaper C, page 4 |
| CL | 79C5   | From survey, see | Workpaper C, page 4 |
| CM | Unused | Unused           |                     |
| CN | TTA1   | From survey, see | Workpaper C, page 4 |
| CO | TTB1   | From survey, see | Workpaper C, page 4 |
| CP | TTC1   | From survey, see | Workpaper C, page 4 |
| CQ | TTA2   | From survey, see | Workpaper C, page 4 |
| CR | TTB2   | From survey, see | Workpaper C, page 4 |
| CS | TTC2   | From survey, see | Workpaper C, page 4 |
| СТ | TTA3   | From survey, see | Workpaper C, page 4 |
| CU | TTB3   | From survey, see | Workpaper C, page 4 |
| CV | TTC3   | From survey, see | Workpaper C, page 4 |
| CW | TTA4   | From survey, see | Workpaper C, page 4 |
| СХ | TTB4   | From survey, see | Workpaper C, page 4 |
| CY | TTC4   | From survey, see | Workpaper C, page 4 |
| CZ | TTA5   | From survey, see | Workpaper C, page 4 |
| DA | TTB5   | From survey, see | Workpaper C, page 4 |
| DB | TTC5   | From survey, see | Workpaper C, page 4 |
| DC | Unused | Unused           |                     |
| DD | OA1    | From survey, see | Workpaper C, page 4 |
| DE | OB1    | From survey, see | Workpaper C, page 4 |
| DF | OC1    | From survey, see | Workpaper C, page 4 |
| DG | OA2    | From survey, see | Workpaper C, page 4 |
| DH | OB2    | From survey, see | Workpaper C, page 4 |
| DI | OC2    | From survey, see | Workpaper C, page 4 |
| DJ | OA3    | From survey, see | Workpaper C, page 4 |
| DK | OB3    | From survey, see | Workpaper C, page 4 |
| DL | OC3    | From survey, see | Workpaper C, page 4 |
| DM | OA4    | From survey, see | Workpaper C, page 4 |
| DN | OB4    | From survey, see | Workpaper C, page 4 |
| DO | OC4    | From survey, see | Workpaper C, page 4 |
|    |        |                  |                     |

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| DP | OA5             | From survey, see Workpaper C, page 4                                      | <ul> <li>Directly from survey form</li> </ul> |
|----|-----------------|---------------------------------------------------------------------------|-----------------------------------------------|
| DQ | 085             | From survey, see Workpaper C, page 4                                      | Directly from survey form                     |
| DR | OC5             | From survey, see Workpaper C, page 4                                      | Directly from survey forn                     |
| DS | total check A1  | Checksums for trip type by truck type for Dispatches to S&B               | Should be 100% summe                          |
| DT | total check A2  | Checksums for trip type by truck type for Trips to AOs,                   | Should be 100% summe                          |
| DU | total check A3  | Checksums for trip type by truck type for Collections at S&B, Boxes       | Should be 100% summe                          |
| DV | total check A4  | Checksums for trip type by truck type for Firm Collections                | Should be 100% summe                          |
| DW | total check A5  | Checksums for trip type by truck type for Other trips                     | Should be 100% summe                          |
| DX | total check 58  | Checksums for truck type by trip type percentages for 5 ton               | Should be 100% summe                          |
| DY | total check 7B  | Checksums for truck type by trip type percentages for 7 ton               | Should be 100% summe                          |
| DZ | total check 9B  | Checksums for truck type by trip type percentages for 9 ton               | Should be 100% summe                          |
| EA | total check 79B | Checksums for truck type by trip type percentages for 7/9 ton             | Should be 100% summe                          |
| EB | total check TTB | Checksums for truck type by trip type percentages for tractor trailer     | Should be 100% summe                          |
| EC | total check OB  | Checksums for truck type by trip type percentages for other trucks        | Should be 100% summe                          |
| ED | \$SCHEDU        | Schedule Number                                                           | Directly from Form 4533                       |
| EE | DAILYMI         | From Form 4533, see Workpaper C, page 5                                   | Directly from Form 4533                       |
| EF | \$FREQ          | From Form 4533, see Workpaper C, page 5                                   | Directly from Form 4533                       |
| EG | PAIDTIME        | Time for single-vehicle schedules from Form 4533, see Workpaper C, page 5 | Directly from Form 4533                       |
| EH | MPDTIME         | Time for multiple-vehicle route, apportioned by vehicle type/capacity     | Directly from Form 4533                       |
| El | Truck Capacity  | From Form 4533, see Workpaper C, page 5                                   | Directly from Form 4533                       |
| EJ | ANNUALMI        | From Form 4533, see Workpaper C, page 5                                   | Directly from Form 4533                       |
| EK | TRIPS           | Number of trips from origin and back                                      | Derived from Form 4533                        |
| EL | SPOTTER         | Start Times for spotter activities for each route                         | Computed from Form 45                         |
| EM | SPOTTER         | Start Times for spotter activities for each route                         | Computed from Form 45                         |
| EN | ST_TRACT        | Start Times for tractor trailer activities for each route                 | Computed from Form 45                         |
| EO | ENDTRACT        | Start Times for tractor trailer activities for each route                 | Computed from Form 45                         |
| EP | Unused          | Unused                                                                    | Unused                                        |
| EQ | ST_9TON         | Start Times for 7/9 ton truck activities for each route                   | Computed from Form 45                         |
| ER | END9TON         | Start Times for 7/9 ton truck activities for each route                   | Computed from Form 45                         |
| ES | Unused          | Unused                                                                    | Unused                                        |
| ET | ST_5TON         | Start Times for 5 Ion truck activities for each route                     | Computed from Form 45                         |
| EU | END5TON         | Start Times for 5 ton truck activities for each route                     | Computed from Form 45                         |
| EV | Unused          | Unused                                                                    | Unused                                        |
| EW | Unused          | Unused                                                                    | Unused                                        |
| EX | ANNUALHR        | Not used in VSD model, or downstrem calculations, often not entered       | Not used in VSD model                         |
| EY | NIGHTDIF        | Not used in VSD model, or downstrem calculations, often not entered       | Not used in VSD model                         |
| EZ | DAILYHR         | Not used in VSD model, or downstrem calculations, often not entered       | Not used in VSD model                         |
| FA | SATHOURS        | Not used in VSD model, or downstrem calculations, often not entered       | Not used in VSD model                         |
| FB | SUNHOURS        | Not used in VSD model, or downstrem calculations, often not entered       | Not used in VSD model                         |
| FC | HOLIHRS         | Not used in VSD model, or downstrem calculations, often not entered       | Not used in VSD model                         |
|    |                 |                                                                           |                                               |

rom survey form om survey form rom survey form e 100% summed across truck types e 100% summed across trip types. rom Form 4533 from Form 4533 by route and summed d from Form 4533, multiple vehicle routes only d from Form 4533, multiple vehicle routes only d from Form 4533, multiple vehicle routes only ed from Form 4533, multiple vehicle routes only ed from Form 4533, multiple vehicle routes only d from Form 4533, multiple vehicle routes only d from Form 4533, multiple vehicle routes only d from Form 4533, multiple vehicle routes only

| FE       CLOCK_IN       Derived from Form 4533 arrive and leave times in minutes       Computed from Form 4533         FG       ON CALL       Derived from Form 4533 arrive and leave times in minutes       Computed from Form 4533         FG       Derived from Form 4533 arrive and leave times in minutes       Computed from Form 4533         FI       LOAD       Derived from Form 4533 arrive and leave times in minutes       Computed from Form 4533         FJ       TRAINING       Derived from Form 4533 arrive and leave times in minutes       Computed from Form 4533         FW       VASHUP       Derived from Form 4533 arrive and leave times in minutes       Computed from Form 4533         FU       Unused       Unused       Unused         FU       NNN       Derived from Form 4533 arrive and leave times in minutes       Computed from Form 4533         FU       Unused       Unused       Unused       Unused         FU       Unused       Unused       Unused       Unused         FU       Unused       Unused       Unused       Computation         FT       Attraction       Computation       Computation         FT       Attraction       Computation       Computation         FT       Attraction       Computation       Computation         FT                                                                                                                                                                                                                                                                             | FD  | Unused      | Unused                                                                           | Unused                                                   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------------|----------------------------------------------------------------------------------|----------------------------------------------------------|
| FF       ON CALL       Derived from Form 4533 arrive and leave times in minutes       Computed from Form 4533         FH       MANEUVE       Derived from Form 4533 arrive and leave times in minutes       Computed from Form 4533         FJ       TRAINING       Derived from Form 4533 arrive and leave times in minutes       Computed from Form 4533         FJ       TRAINING       Derived from Form 4533 arrive and leave times in minutes       Computed from Form 4533         FK       WASHUP       Derived from Form 4533 arrive and leave times in minutes       Computed from Form 4533         FK       WASHUP       Derived from Form 4533 arrive and leave times in minutes       Computed from Form 4533         FN       Unused       Unused       Unused         FN       Unused       Unused       Unused         FO       Unused       Unused       Unused         FQ       MILESST       Apportioned daily miles for multi-vehichle routes.       Computation         FY       ATTRHOUR       Scheduled hours       Computation         FV       AVERCAPT       Average capacity factor for each route using fractor trailer       Sum of LF((f)*TKpc((t)) see Workpaper C, page 2, line 1         FX       AVERCAP7       Average capacity factor for each route using 1 ton trucks       Sum of LF((f)*TKpc((t)) see Workpaper C, page 2, line 1                                                                                                                                                                                               | FE  | CLOCK_IN    | Derived from Form 4533 arrive and leave times in minutes                         | Computed from Form 4533                                  |
| FG       SPOTTER       Derived from Form 4533 arrive and leave times in minutes       Computed from Form 4533         FI       LOAD       Derived from Form 4533 arrive and leave times in minutes       Computed from Form 4533         FI       TRAINING       Derived from Form 4533 arrive and leave times in minutes       Computed from Form 4533         FK       WASHUP       Derived from Form 4533 arrive and leave times in minutes       Computed from Form 4533         FK       WASHUP       Derived from Form 4533 arrive and leave times in minutes       Computed from Form 4533         FN       Unused       Unused       Unused         FN       Unused       Unused       Unused         FN       Unused       Unused       Unused         FP       MILESST       Apportioned daily miles for multi-vehichle routes.       Computation         FR       MILESST       Apportioned daily miles for multi-vehichle routes.       Computation         FV       AVERCAPT       Apportioned daily miles for multi-vehichle routes.       Computation         FV       AVERCAPT       Average capacity factor for each route using 1 ton trucks       Sum of LF(f)*TKpct(f) see Workpaper C, page 2, line 1         FV       AVERCAPT       Average capacity factor for each route using 2 ton trucks       Sum of LF(f)*TKpct(f) see Workpaper C, page 2, line 1                                                                                                                                                                                         | FF  | ON CALL     | Derived from Form 4533 arrive and leave times in minutes                         | Computed from Form 4533                                  |
| FH       MANELVE       Derived from Form 4533 arrive and leave times in minutes       Computed from Form 4533         FJ       TRAINING       Derived from Form 4533 arrive and leave times in minutes       Computed from Form 4533         FJ       TRAINING       Derived from Form 4533 arrive and leave times in minutes       Computed from Form 4533         FK       WASHUP       Derived from Form 4533 arrive and leave times in minutes       Computed from Form 4533         FK       Unused       Unused       Unused         FM       Unused       Unused       Unused         FO       Unused       Unused       Unused         FQ       MLESST       Apportioned daily miles for multi-vehichle routes.       Computation         FS       TOTMILES       Apportioned daily miles for multi-vehichle routes.       Computation         FV       AVERCAPT       Apportioned daily miles for multi-vehichle routes.       Computation         FV       AVERCAPT       Apportioned daily miles for multi-vehichle routes.       Computation         FV       AVERCAPT       Apportioned daily miles for multi-vehichle routes.       Computation         FV       AVERCAPT       Average capacity factor for each route using 1 con trucks       Sum of LF(t)*TKpct(t) see Workpaper C, page 2, line 1         FV       AVERCAPT       Average                                                                                                                                                                                                              | FG  | SPOTTER     | Derived from Form 4533 arrive and leave times in minutes                         | Computed from Form 4533                                  |
| FI       CAD       Derived from Form 4533 arrive and leave times in minutes       Computed from Form 4533         FK       WASHUP       Derived from Form 4533 arrive and leave times in minutes       Computed from Form 4533         FK       WASHUP       Derived from Form 4533 arrive and leave times in minutes       Computed from Form 4533         FK       WASHUP       Derived from Form 4533 arrive and leave times in minutes       Computed from Form 4533         FN       Unused       Unused       Unused         FN       Unused       Unused       Unused         FN       Unused       Unused       Unused         FP       MILESTT       Apportioned daily miles for multi-vehichle routes.       Computation         FR       MILESST       Apportioned daily miles for multi-vehichle routes.       Computation         FN       ADHOUR       Scheduled hours       Computation         FU       ADUHOUR       Scheduled hours adjusted for unscheduled trips       Computation         FV       AVERCAPP       Average capacity factor for each route using 7 ton trucks       Sum of LF(0)*TKpct(0) see Workpaper C, page 2, line 1         FY       AVERCAPS       Average capacity factor for each route using 2 ton trucks       Sum of LF(0)*TKpct(0) see Workpaper C, page 2, line 1         FY       AVERCAPS       Average c                                                                                                                                                                                                             | FH  | MANEUVE     | Derived from Form 4533 arrive and leave times in minutes                         | Computed from Form 4533                                  |
| FJ     TRAINING     Derived from Form 4533 arrive and leave times in minutes     Computed from Form 4533       FK     WASHUP     Derived from Form 4533 arrive and leave times in minutes     Computed from Form 4533       FM     Unused     Unused     Unused       FM     Unused     Unused     Unused       FO     Unused     Unused     Unused       FO     Unused     Unused     Unused       FQ     MILESST     Apportioned daily miles for multi-vehichle routes.     Computation       FT     Attraction     Scheduled hours adjusted for unscheduled frips     Computation       FT     ATTRRHOUR     Scheduled hours adjusted for unscheduled frips     Computation       FV     AVERCAPT     Average capacity factor for each route using Yactor trailer     Sum of LF(0)*TKpcf(0) see Workpaper C, page 2, line 1       FY     AVERCAPT     Average capacity factor for each route using 2 ton trucks     Sum of LF(0)*TKpcf(0) see Workpaper C, page 2, line 1       FY     AVERCAPS     Average capacity factor for each route using 2 ton trucks     Sum of LF(0)*TKpcf(0) see Workpaper C, page 2, line 1       FY     AVERCAPS     Average capacity factor for each route using 2 ton trucks     Sum of LF(0)*TKpcf(0) see Workpaper C, page 2, line 1       GA     COMPLOAD     Holding cell for average capacity factor for each route using 2 ton trucks     Sum of LF(0)*TKpcf(0) see Workpaper                                                                                                                                                    | FI  | LOAD        | Derived from Form 4533 arrive and leave times in minutes                         | Computed from Form 4533                                  |
| FK     WASHUP     Derived from Form 4533 arrive and leave times in minutes     Computed from Form 4533       FM     Unused     Unused     Unused       FN     Unused     Unused     Unused       FN     Unused     Unused     Unused       FN     Unused     Unused     Unused       FN     Unused     Unused     Unused       FP     MILESTT     Apportioned daily miles for multi-vehichle routes.     Computation       FR     MILEST     Apportioned daily miles for multi-vehichle routes.     Computation       FT     ATTRHOUR     Scheduled hours     Computation       FU     ADLHOUR     Scheduled hours     Computation       FU     ADLHOUR     Scheduled hours adjusted for unscheduled trips     Computation       FV     AVERCAPP     Average capacity factor for each route using 1 on trucks     Sum of LF((1)*TKpct(i) see Workpaper C, page 2, line 1       FY     AVERCAPS     Average capacity factor for each route using 5 ton trucks     Sum of LF((1)*TKpct(i) see Workpaper C, page 2, line 1       FY     AVERCAPS     Average capacity factor for each route using 5 ton trucks     Sum of LF((1)*TKpct(i) see Workpaper C, page 2, line 1       FY     AVERCAPS     Average capacity factor for each route using 5 ton trucks     Sum of LF((1)*TKpct(i) see Workpaper C, page 2, line 1       FY     AV                                                                                                                                                                                                                                    | FJ  | TRAINING    | Derived from Form 4533 arrive and leave times in minutes                         | Computed from Form 4533                                  |
| FL       NON_MVS       Derived from Form 4533 arrive and leave times in minutes       Computed from Form 4533         FM       Unused       Unused       Unused         FM       Unused       Unused       Unused         FO       MILESST       Apportioned daily miles for multi-vehichle routes.       Computation         FT       ATTRHOUR       Scheduled hours adjusted for unscheduled trips       Computation         FV       AVERCAPT       Average capacity factor for each route using 1 trucks       Sum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1         FY       AVERCAPS       Average capacity factor for each route using 2 ton trucks       Sum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1         FY       AVERCAPS       Average capacity factor for each route using 2 ton trucks       Sum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1         FY       AVERCAPS       Average capacity factor for each route using 2 ton trucks                                                                                                                                                                                                                                                                         | FK  | WASHUP      | Derived from Form 4533 arrive and leave times in minutes                         | Computed from Form 4533                                  |
| FM     Unused     Unused       FN     Unused     Unused       FN     Unused     Unused       FO     Unused     Unused       FP     MILESST     Apportioned daily miles for multi-vehichle routes.     Computation       FR     MILESST     Apportioned daily miles for multi-vehichle routes.     Computation       FR     MILESST     Apportioned daily miles for multi-vehichle routes.     Computation       FR     MILESST     Apportioned daily miles for multi-vehichle routes.     Computation       FI     ATTRHOUR     Scheduled hours     Computation       FU     AVERCAPT     Average capacity factor for each route using fractor trailer     Sum of LF(t)*TKpct(t) see Workpaper C, page 2, line 1       FX     AVERCAPS     Average capacity factor for each route using 7 ton trucks     Sum of LF(t)*TKpct(t) see Workpaper C, page 2, line 1       FX     AVERCAPS     Average capacity factor for each route using 2 ton trucks     Sum of LF(t)*TKpct(t) see Workpaper C, page 2, line 1       FZ     AVERCAP2     Average capacity factor for each route using 5 ton trucks     Sum of LF(t)*TKpct(t) see Workpaper C, page 2, line 1       FZ     AVERCAP2     Average capacity factor for each route using 1 ton trucks     Sum of LF(t)*TKpct(t) see Workpaper C, page 2, line 1       FZ     AVERCAP2     Average capacity factor for each route using 1 ton trucks     Sum of                                                                                                                                                                  | FL  | NON_MVS     | Derived from Form 4533 arrive and leave times in minutes                         | Computed from Form 4533                                  |
| FN     Unused     Unused       FO     Unused     Unused       FP     MILESTT     Apportioned daily miles for multi-vehichle routes.     Computation       FQ     MILESST     Apportioned daily miles for multi-vehichle routes.     Computation       FR     MILESST     Apportioned daily miles for multi-vehichle routes.     Computation       FS     TOTMILES     Apportioned daily miles for multi-vehichle routes.     Computation       FV     AVERCAPT     Average capacity factor for each route using tractor trailer     Sum of LF(f)*TKpct(f) see Workpaper C, page 2, line 1       FX     AVERCAPT     Average capacity factor for each route using 2 ton trucks     Sum of LF(f)*TKpct(f) see Workpaper C, page 2, line 1       FX     AVERCAPT     Average capacity factor for each route using 2 ton trucks     Sum of LF(f)*TKpct(f) see Workpaper C, page 2, line 1       FX     AVERCAP2     Average capacity factor for each route using 2 ton trucks     Sum of LF(f)*TKpct(f) see Workpaper C, page 2, line 1       FX     AVERCAP2     Average capacity factor for each route using 2 ton trucks     Sum of LF(f)*TKpct(f) see Workpaper C, page 2, line 1       GG     DISPTRIP     Total daily tips to Associate Offices     Computation       GG     DISPTRIP     Total daily tips to Associate Offices     Computation       GG     DISPTRIP     Total daily collection runs for pickups from mailers/firms                                                                                                                                   | FM  | Unused      | Unused                                                                           | Unused                                                   |
| FO     Unused     Unused       FP     MILESTT     Apportioned daily miles for multi-vehichle routes.     Computation       FQ     MILESST     Apportioned daily miles for multi-vehichle routes.     Computation       FR     MILESST     Apportioned daily miles for multi-vehichle routes.     Computation       FT     ATTRHOUR     Scheduled hours adjusted for unscheduled trips     Computation       FU     ADLHOUR     Scheduled hours adjusted for unscheduled trips     Computation       FV     AVERCAPT     Average capacity factor for each route using 1 ton trucks     Sum of LF(i)*TKpct(i) see Workpaper C, page 2, line 1       FY     AVERCAPT     Average capacity factor for each route using 1 ton trucks     Sum of LF(i)*TKpct(i) see Workpaper C, page 2, line 1       FY     AVERCAP5     Average capacity factor for each route using 2 ton trucks     Sum of LF(i)*TKpct(i) see Workpaper C, page 2, line 1       FY     AVERCAP5     Average capacity factor for each route using 2 ton trucks     Sum of LF(i)*TKpct(i) see Workpaper C, page 2, line 1       FZ     AVERCAP2     Average capacity factor for each route using 2 ton trucks     Sum of LF(i)*TKpct(i) see Workpaper C, page 2, line 1       FZ     AVERCAP1     Average capacity factor for each route using 2 ton trucks     Sum of LF(i)*TKpct(i) see Workpaper C, page 2, line 1       FZ     AVERCAP2     Average capacity factor for each route using 2 ton trucks     Sum o                                                                                          | FN  | Unused      | Unused                                                                           | Unused                                                   |
| FP       MILESTT       Apportioned daily miles for multi-vehichle routes.       Computation         FQ       MILESST       Apportioned daily miles for multi-vehichle routes.       Computation         FR       MILEST       Apportioned daily miles for multi-vehichle routes.       Computation         FS       TOTMLES       Apportioned daily miles for multi-vehichle routes.       Computation         FT       ATTRHOUR       Scheduled hours adjusted for unscheduled trips       Computation         FV       AVERCAPT       Average capacity factor for each route using fractor trailer       Sum of LF(0)*TKpct(it) see Workpaper C, page 2, line 1         FX       AVERCAP7       Average capacity factor for each route using 7 ton trucks       Sum of LF(0)*TKpct(it) see Workpaper C, page 2, line 1         FX       AVERCAP7       Average capacity factor for each route using 5 ton trucks       Sum of LF(0)*TKpct(it) see Workpaper C, page 2, line 1         FX       AVERCAP2       Average capacity factor for each route using 2 ton trucks       Sum of LF(0)*TKpct(it) see Workpaper C, page 2, line 1         GA       COMPLOAD       Hoking cell for average capacity factor for each route using 5 ton trucks       Sum of LF(0)*TKpct(it) see Workpaper C, page 2, line 1         GB       Unused       Unused       Sum of LF(0)*TKpct(it) see Workpaper C, page 2, line 1         GG       DISPTRIP       Total daily collection                                                                                                   | FO  | Unused      | Unused                                                                           | Unused                                                   |
| FQ       MILESST       Apportioned daily miles for multi-vehichle routes.       Computation         FR       MILESST       Apportioned daily miles for multi-vehichle routes.       Computation         FS       TOTMILES       Apportioned daily miles for multi-vehichle routes.       Computation         FT       ATTRHOUR       Scheduled hours adjusted for unscheduled trips       Computation         FV       AVERCAPT       Average capacity factor for each route using 1 torucks       Sum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1         FY       AVERCAP5       Average capacity factor for each route using 2 to trucks       Sum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1         FZ       AVERCAP5       Average capacity factor for each route using 5 ton trucks       Sum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1         FZ       AVERCAP5       Average capacity factor for each route using 5 ton trucks       Sum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1         FZ       AVERCAP2       Average capacity factor for each route using 2 ton trucks       Sum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1         GA       COMPLOAD       Hoking cell for average capacity factor for each route using 5 ton trucks       Sum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1         GB       Unused       Unused       Sum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1         GB                                                                                          | FP  | MILESTT     | Apportioned daily miles for multi-vehichle routes.                               | Computation                                              |
| FR       MILESST       Apportioned daily miles for multi-vehichle routes.       Computation         FS       TOTMILES       Apportioned daily miles for multi-vehichle routes.       Computation         FU       ADLHOUR       Scheduled hours       Computation         FV       AVERCAPT       Average capacity factor for each route using 1 factor trailer       Sum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1         FW       AVERCAP9       Average capacity factor for each route using 3 fon trucks       Sum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1         FX       AVERCAP7       Average capacity factor for each route using 5 ton trucks       Sum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1         FX       AVERCAP2       Average capacity factor for each route using 2 ton trucks       Sum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1         GA       COMPLOAD       Holking cell for average capacity factor for each route using 2 ton trucks       Sum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1         GB       Unused       Unused       Unused       Unused       Unused         GC       DISPTRIP       Total daily dispatches to Stations and Branches       Computation       Computation         GF       FIRMTRIP       Total daily collection runs for mistations and branches       Computation       Computation         GG       OTHATTRIP                                                                                                                                    | FQ  | MILES9T     | Apportioned daily miles for multi-vehichle routes.                               | Computation                                              |
| FS       TOTMUES       Apportioned daily miles for multi-vehichle routes.       Computation         FT       ATTRHOUR       Scheduled hours adjusted for unscheduled trips       Computation         FU       ADJHOUR       Scheduled hours adjusted for unscheduled trips       Computation         FV       AVERCAPT       Average capacity factor for each route using factor trailer       Sum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1         FW       AVERCAP7       Average capacity factor for each route using 7 ton trucks       Sum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1         FY       AVERCAP7       Average capacity factor for each route using 5 ton trucks       Sum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1         FZ       AVERCAP2       Average capacity factor for each route using 5 ton trucks       Sum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1         FZ       AVERCAP2       Average capacity factor for each route using 2 ton trucks       Sum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1         GA       COMPLOAD       Holding cell for average capacity factor for each route using 2 ton trucks       Sum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1         GB       Unused       Unused       Sum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1         GC       DISPTRIP       Total daily dispatches to Stations and Branches       Computation         GE                                                                                          | FR  | MILES5T     | Apportioned daily miles for multi-vehichle routes.                               | Computation                                              |
| FT.       ATTRHOUR       Scheduled hours       Computation         FU       ADJHOUR       Scheduled hours adjusted for unscheduled trips       Computation         FV       AVERCAPT       Average capacity factor for each route using 1 tractor trailer       Sum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1         FW       AVERCAP7       Average capacity factor for each route using 2 ton trucks       Sum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1         FX       AVERCAP7       Average capacity factor for each route using 5 ton trucks       Sum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1         FZ       AVERCAP2       Average capacity factor for each route using 2 ton trucks       Sum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1         GA       COMPLOAD       Hotking cell for average capacity factor for each route using 2 ton trucks       Sum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1         GC       DISPTRIP       Total daily dispatches to Stations and Branches       Computation         GD       HAULTRIP       Total daily objection runs form stations and branches       Computation         GF       FIRMTRIP       Total daily collection runs for pickups from mailers/firms       Computation         GG       OTHRTRIP       Other daily trips including non-scheduled       Computation         GI       NONSCHED       Total daily trips including non-scheduled<                                                                                                   | FS  | TOTMILES    | Apportioned daily miles for multi-vehichle routes.                               | Computation                                              |
| FUADJHOURScheduled hours adjusted for unscheduled fripsComputationFVAVERCAPTAverage capacity factor for each route using 1 trucksSum of LF(it)*TKpc(it) see Workpaper C, page 2, line 1FXAVERCAP7Average capacity factor for each route using 9 ton trucksSum of LF(it)*TKpc(it) see Workpaper C, page 2, line 1FXAVERCAP5Average capacity factor for each route using 5 ton trucksSum of LF(it)*TKpc(it) see Workpaper C, page 2, line 1FZAVERCAP5Average capacity factor for each route using 2 ton trucksSum of LF(it)*TKpc(it) see Workpaper C, page 2, line 1GACOMPLOADHolding cell for average capacity factor for each route using 2 ton trucksSum of LF(it)*TKpc(it) see Workpaper C, page 2, line 1GBUnusedUnusedSum of LF(it)*TKpc(it) see Workpaper C, page 2, line 1GCDISPTRIPTotal daily dispatches to Stations and BranchesComputationGFFIRMTRIPTotal daily collection runs from stations and branchesComputationGGOTHRTRIPTotal daily collection runs for pickups from mailers/firmsComputationGHTOTAL TRIPSTotal daily trips including non-scheduledComputationGHCALLDECIDaily times in hours instead of minutes - see columns FE through FL aboveDerived from Form 4533GMNEUVDECIDaily times in hours instead of minutes - see columns FE through FL aboveDerived from Form 4533GPTRAIDECIDaily times in hours instead of minutes - see columns FE through FL aboveDerived from Form 4533GQWASHDECIDaily times in hou                                                                                                                                   | FT, | ATTRHOUR    | Scheduled hours                                                                  | Computation                                              |
| FVAVERCAPTAverage capacity factor for each route using tractor trailerSum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1FWAVERCAP9Average capacity factor for each route using 9 ton trucksSum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1FXAVERCAP5Average capacity factor for each route using 7 ton trucksSum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1FZAVERCAP5Average capacity factor for each route using 2 ton trucksSum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1FZAVERCAP2Average capacity factor for each route using 2 ton trucksSum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1GACOMPLOADHolding cell for average capacity factor for each route using 2 ton trucksSum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1GBUnusedUnusedUnusedUnusedUnusedGCDISPTRIPTotal daily dispatches to Stations and BranchesComputationGECOLLTIPTotal daily collection runs for pickups from mailers/firmsComputationGFFIRMTRIPTotal daily collection runs for pickups from mailers/firmsComputationGINONSCHEDTotal aniult trips including non-scheduledComputationGJCFMCubic Foot Miles, see Workpaper C, page 2Computed in Individual facility sheets and summedGJCFMCubic Foot Miles, see Workpaper C, page 2Computed in Individual facility sheets and summedGJCFMCubic Foot Miles, see Workpaper C, page 2Derived from Form 4533GMSPOTDECIDaily times in hours ins                                                                                                                                                     | FU  | ADJHOUR     | Scheduled hours adjusted for unscheduled trips                                   | Computation                                              |
| FWAVERCAP9Average capacity factor for each route using 9 ton trucksSum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1FXAVERCAP7Average capacity factor for each route using 7 ton trucksSum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1FYAVERCAP2Average capacity factor for each route using 5 ton trucksSum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1GACOMPLOADHolding cell for average capacity factor for each route using 2 ton trucksSum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1GACOMPLOADHolding cell for average capacity factor for each route regardless of truck typeSum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1GBUnusedUnusedSum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1GCDISPTRIPTotal daily dispatches to Stations and BranchesComputationGECOLLTRIPTotal daily collection runs from stations and branchesComputationGFFIRMTRIPTotal daily collection runs from stations and branchesComputationGHTOTAL TRIPSTotal daily tripsComputationGINONSCHEDTotal annual trips including non-scheduledComputationGINONSCHEDTotal annual trips including non-scheduledComputed in individual facility sheets and summedGMSPOTDECIDaily times in hours instead of minutes - see columns FE through FL aboveDerived from Form 4533GMSPOTDECIDaily times in hours instead of minutes - see columns FE through FL aboveDerived from Form 4533GPTRAIDECIDaily times in hours                                                                                                                                   | FV  | AVERCAPT    | Average capacity factor for each route using tractor trailer                     | Sum of LF(it)*TKpct(it) see Workpaper C, page 2, line 17 |
| FXAVERCAP7Average capacity factor for each route using 7 ton trucksSum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1FYAVERCAP5Average capacity factor for each route using 5 ton trucksSum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1FZAVERCAP2Average capacity factor for each route using 2 ton trucksSum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1GACOMPLOADHolding cell for average capacity factor for each route regardless of truck typeSum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1GBUnusedUnusedUnusedSum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1GDHAULTRIPTotal daily dispatches to Stations and BranchesComputationGECOLLTRIPTotal daily collection runs from stations and branchesComputationGFFIRMTRIPTotal daily collection runs for pickups from mailers/firmsComputationGINONSCHEDTotal annual trips including non-scheduledComputationGJCFMCubic Foot Miles, see Workpaper C, page 2ComputationGLCALDECIDaily times in hours instead of minutes - see columns FE through FL aboveDerived from Form 4533GMSPOTDECIDaily times in hours instead of minutes - see columns FE through FL aboveDerived from Form 4533GPTRAIDECIDaily times in hours instead of minutes - see columns FE through FL aboveDerived from Form 4533GQWASHDECIDaily times in hours instead of minutes - see columns FE through FL aboveDerived from Form 4533GMSPOTDECIDaily times in h                                                                                                                                            | FW  | AVERCAP9    | Average capacity factor for each route using 9 ton trucks                        | Sum of LF(it)*TKpct(it) see Workpaper C, page 2, line 17 |
| FYAVERCAP5Average capacity factor for each route using 5 ton trucksSum of LF(ii)*TKpct(ii) see Workpaper C, page 2, line 1FZAVERCAP2Average capacity factor for each route using 2 ton trucksSum of LF(ii)*TKpct(ii) see Workpaper C, page 2, line 1GACOMPLOADHolding cell for average capacity factor for each route regardless of truck typeSum of LF(ii)*TKpct(ii) see Workpaper C, page 2, line 1GBUnusedUnusedUnusedUnusedGCDISPTRIPTotal daily dispatches to Stations and BranchesComputationGECOLLTRIPTotal daily collection runs form stations and branchesComputationGFFIRMTRIPTotal daily collection runs for pickups from mailers/firmsComputationGGOTHRTRIPTotal daily tripsComputationGHTOTAL TRIPSTotal daily trips including non-scheduledComputationGJCFMCubic Foot Miles, see Workpaper C, page 2ComputationGLCALLDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GMSPOTDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GNNEUVDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GPTRAIDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GQWASHDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GACLOCDECI                                                                                                                                                                                               | FX  | AVERCAP7    | Average capacity factor for each route using 7 ton trucks                        | Sum of LF(it)*TKpct(it) see Workpaper C, page 2, line 17 |
| FZAVERCAP2Average capacity factor for each route using 2 ton trucksSum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1GACOMPLOADHoking cell for average capacity factor for each route regardless of truck typeSum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1GBUnusedUnusedSum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1GCDISPTRIPTotal daily dispatches to Stations and BranchesComputationGDHAULTRIPTotal daily collection runs from stations and branchesComputationGFFIRMTRIPTotal daily collection runs for pickups from mailers/firmsComputationGGOTHRTRIPOther daily trips including non-scheduledComputationGINONSCHEDTotal annual trips including non-scheduledComputed in Individual facility sheets and summedGJCFMCubic Foot Miles, see Workpaper C, page 2Computed in Individual facility sheets and summedGLCALDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GNNEUVDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GPTRAIDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GPTRAIDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GPTRAIDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GPTRAIDECIDaily times in hours instead                                                                                                                                                  | FY  | AVERCAP5    | Average capacity factor for each route using 5 ton trucks                        | Sum of LF(it)*TKpct(it) see Workpaper C, page 2, line 17 |
| GACOMPLOADHolding cell for average capacity factor for each route regardless of truck typeSum of LF(it)*TKpct(it) see Workpaper C, page 2, line 1GBUnusedUnusedUnusedUnusedGCDISPTRIPTotal daily dispatches to Stations and BranchesComputationGDHAULTRIPTotal daily collection runs from stations and branchesComputationGECOLLTRIPTotal daily collection runs from stations and branchesComputationGFFIRMTRIPTotal daily collection runs for pickups from mailers/firmsComputationGGOTHRTRIPOther daily trips including non-scheduledComputationGINONSCHEDTotal annual trips including non-scheduledComputed in Individual facility sheets and summedGJCFMCubic Foot Miles, see Workpaper C, page 2Computed in Individual facility sheets and summedGKLOADDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GMSPOTDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GPTRAIDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GPTRAIDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GQWASHDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GPTRAIDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533 </td <td>FZ</td> <td>AVERCAP2</td> <td>Average capacity factor for each route using 2 ton trucks</td> <td>Sum of LF(it)*TKpct(it) see Workpaper C, page 2, line 17</td> | FZ  | AVERCAP2    | Average capacity factor for each route using 2 ton trucks                        | Sum of LF(it)*TKpct(it) see Workpaper C, page 2, line 17 |
| GBUnusedUnusedUnusedGCDISPTRIPTotal daily dispatches to Stations and BranchesComputationGDHAULTRIPTotal daily trips to Associate OfficesComputationGECOLLTRIPTotal daily collection runs from stations and branchesComputationGFFIRMTRIPTotal daily collection runs for pickups from mailers/firmsComputationGGOTHRTRIPOther daily trips including non-scheduledComputationGHTOTAL TRIPSTotal daily trips including non-scheduledComputationGINONSCHEDTotal annual trips including non-scheduledComputed in individual facility sheets and summedGJCFMCubic Foot Miles, see Workpaper C, page 2Computed in individual facility sheets and summedGKLOADDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GMSPOTDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GOCLOCDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GPTRAIDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GPTRAIDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GQWASHDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GOCLOCDECIDaily times in hours instead of minutes see columns FE through F                                                                                                                                                                                                     | GA  | COMPLOAD    | Holding cell for average capacity factor for each route regardless of truck type | Sum of LF(it)*TKpct(it) see Workpaper C, page 2, line 17 |
| GCDISPTRIPTotal daily dispatches to Stations and BranchesComputationGDHAULTRIPTotal daily trips to Associate OfficesComputationGECOLLTRIPTotal daily collection runs from stations and branchesComputationGFFIRMTRIPTotal daily collection runs for pickups from mailers/firmsComputationGGOTHRTRIPTotal daily collection runs for pickups from mailers/firmsComputationGGOTHRTRIPOther daily tripsComputationGHTOTAL TRIPSTotal daily collecting non-scheduledComputationGINONSCHEDTotal annual trips including non-scheduledComputed in individual facility sheets and summedGJCFMCubic Foot Miles, see Workpaper C, page 2Computed in individual facility sheets and summedGKLOADDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GMSPOTDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GNNEUVDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GPTRAIDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GPTRAIDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GPTRAIDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GQWASHDECIDaily times in hours instead of minut                                                                                                                                                                                                  | GB  | Unused      | Unused                                                                           | Unused                                                   |
| GDHAULTRIPTotal daily trips to Associate OfficesComputationGECOLLTRIPTotal daily collection runs from stations and branchesComputationGFFIRMTRIPTotal daily collection runs for pickups from mailers/firmsComputationGGOTHRTRIPOther daily tripsComputationGHTOTAL TRIPSTotal daily trips including non-scheduledComputationGINONSCHEDTotal annual trips including non-scheduledComputed in individual facility sheets and summedGJCFMCubic Foot Miles, see Workpaper C, page 2Computed in individual facility sheets and summedGLCALLDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GMSPOTDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GNNEUVDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GOCLOCDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GPTRAIDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GQWASHDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GPTRAIDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GPTRAIDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533 <tr< td=""><td>GC</td><td>DISPTRIP</td><td>Total daily dispatches to Stations and Branches</td><td>Computation</td></tr<>                                                       | GC  | DISPTRIP    | Total daily dispatches to Stations and Branches                                  | Computation                                              |
| GECOLLTRIPTotal daily collection runs from stations and branchesComputationGFFIRMTRIPTotal daily collection runs for pickups from mailers/firmsComputationGGOTHRTRIPOther daily tripsComputationGHTOTAL TRIPSTotal daily trips including non-scheduledComputationGINONSCHEDTotal annual trips including non-scheduledComputed in individual facility sheets and summedGJCFMCubic Foot Miles, see Workpaper C, page 2Computed in individual facility sheets and summedGLCALLDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GMSPOTDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GNNEUVDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GOCLOCDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GPTRAIDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GQWASHDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GPTRAIDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GQWASHDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533Derived from Form 4533Derived from Form 4533Derived from Form 4533 <td>GD</td> <td>HAULTRIP</td> <td>Total daily trips to Associate Offices</td> <td>Computation</td>                                                                       | GD  | HAULTRIP    | Total daily trips to Associate Offices                                           | Computation                                              |
| GFFIRMTRIPTotal daily collection runs for pickups from mailers/firmsComputationGGOTHRTRIPOther daily tripsComputationGHTOTAL TRIPSTotal daily trips including non-scheduledComputationGINONSCHEDTotal annual trips including non-scheduledComputed in individual facility sheets and summedGJCFMCubic Foot Miles, see Workpaper C, page 2Computed in individual facility sheets and summedGLCALLDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GMSPOTDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GNNEUVDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GOCLOCDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GOCLOCDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GOCLOCDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GPTRAIDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GPTRAIDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GQWASHDEC1Daily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533Derived from Form 4533Derived from Form 4533Derive                                                                                                                                                              | GE  | COLLTRIP    | Total daily colleciton runs from stations and branches                           | Computation                                              |
| GGOTHRTRIPOther daily tripsComputationGHTOTAL TRIPSTotal daily trips including non-scheduledComputationGINONSCHEDTotal annual trips including non-scheduledComputed in Individual facility sheets and summedGJCFMCubic Foot Miles, see Workpaper C, page 2Computed in Individual facility sheets and summedGKLOADDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GLCALLDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GMSPOTDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GNNEUVDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GOCLOCDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GOCLOCDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GOCLOCDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GPTRAIDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GQWASHDEC1Daily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533Derived from Form 4533Derived from Form 4533Derived from Form 4533                                                                                                                                                                                                                             | GF  | FIRMTRIP    | Total daily collection runs for pickups from mailers/firms                       | Computation                                              |
| GHTOTAL TRIPSTotal daily trips including non-scheduledComputationGINONSCHEDTotal annual trips including non-scheduledComputed in individual facility sheets and summedGJCFMCubic Foot Miles, see Workpaper C, page 2Computed in individual facility sheets and summedGKLOADDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GLCALLDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GNNEUVDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GOCLOCDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GPTRAIDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GQWASHDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533Derived from Form 4533Derived from Form 4533Derived from Form 4533                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | GG  | OTHRTRIP    | Other daily trips                                                                | Computation                                              |
| GINONSCHEDTotal annual trips including non-scheduledComputed in individual facility sheets and summedGJCFMCubic Foot Miles, see Workpaper C, page 2Computed in individual facility sheets and summedGKLOADDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GLCALLDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GMSPOTDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GNNEUVDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GOCLOCDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GPTRAIDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GQWASHDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | GH  | TOTAL TRIPS | Total daily trips including non-scheduled                                        | Computation                                              |
| GJCFMCubic Foot Miles, see Workpaper C, page 2Computed in individual facility sheets and summedGKLOADDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GLCALLDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GMSPOTDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GNNEUVDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GOCLOCDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GPTRAIDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GQWASHDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Gl  | NONSCHED    | Total annual trips including non-scheduled                                       | Computed in individual facility sheets and summed        |
| GKLOADDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GLCALLDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GMSPOTDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GNNEUVDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GOCLOCDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GPTRAIDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GQWASHDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | GJ  | CFM         | Cubic Foot Miles, see Workpaper C, page 2                                        | Computed in individual facility sneets and summed        |
| GLCALLDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GMSPOTDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GNNEUVDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GOCLOCDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GPTRAIDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GQWASHDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | GK  | LOADDECI    | Daily times in hours instead of minutes see columns FE through FL above          | Derived from Form 4533                                   |
| GMSPOTDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GNNEUVDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GOCLOCDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GPTRAIDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GQWASHDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | GL  | CALLDECI    | Daily times in hours instead of minutes see columns FE through FL above          | Derived from Form 4533                                   |
| GNNEUVDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GOCLOCDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GPTRAIDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GQWASHDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | GM  | SPOTDEC     | Daily times in hours instead of minutes see columns FE through FL above          | Derived from Form 4533                                   |
| GOCLOCDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GPTRAIDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533GQWASHDECIDaily times in hours instead of minutes see columns FE through FL aboveDerived from Form 4533                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | GN  | NEUVDECI    | Daily times in hours instead of minutes see columns FE through FL above          | Derived from Form 4533                                   |
| GP TRAIDECI Daily times in hours instead of minutes see columns FE through FL above Derived from Form 4533<br>GQ WASHDECI Daily times in hours instead of minutes see columns FE through FL above Derived from Form 4533                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | GO  | CLOCDECI    | Daily times in hours instead of minutes see columns FE through FL above          | Derived from Form 4533                                   |
| GQ WASHDECI Daily times in hours instead of minutes see columns FE through FL above Derived from Form 4533                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | GP  | TRAIDECI    | Daily times in hours instead of minutes see columns FE through FL above          | Derived from Form 4533                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | GQ  | WASHDECI    | Daily times in hours instead of minutes see columns FE through FL above          | Derived from Form 4533                                   |

| GR | NMVSDECI   | Daily times in hours instead of minutes see columns FE through FL above    | Derived from Form 4533                 |
|----|------------|----------------------------------------------------------------------------|----------------------------------------|
| GS | Unused     | Unused                                                                     | Unused                                 |
| GT | TLOAD      | Annual times in hours columns GK through GR above, times route frequency   | Derived from Form 4533                 |
| GU | TON CALL   | Annual times in hours columns GK through GR above, times route frequency   | Derived from Form 4533                 |
| GV | TSPOTTER   | Annual times in hours columns GK through GR above, times route frequency   | Derived from Form 4533                 |
| GW | TMANEUVE   | Annual times in hours columns GK through GR above, times route frequency   | Derived from Form 4533                 |
| GX | TCLOCKIN   | Annual times in hours columns GK through GR above, times route frequency   | Derived from Form 4533                 |
| GY | TTRAININ   | Annual times in hours - columns GK through GR above, times route frequency | Derived from Form 4533                 |
| GZ | TWASHUP    | Annual times in hours columns GK through GR above, times route frequency   | Derived from Form 4533                 |
| HA | TNON_MVS   | Annual times in hours columns GK through GR above, times route frequency   | Derived from Form 4533                 |
| HB | TNONDRIV   | Annual times in hours columns GK through GR above, times route frequency   | Derived from Form 4533                 |
| HC | TDRIVE     | Annual driving times in hours from schedules                               | Derived from Form 4533                 |
| HD | VEHIRUNS   | Total runs, including multi-vehicles                                       | Derived from Form 4533                 |
| HE | EXTRARUN   | Runs for multi-vehicle routes                                              | Derived from Form 4533                 |
| HF | SCHEDNUM   | Number of routes scheduled (Total runs minus multi-vehicle runs).          | Derived from Form 4533                 |
| HG | ANNUTRIP   | Annual trips computed from Form 4533                                       | Derived from Form 4533                 |
| HH | SEGPDTIM   | Daily paid time for multi-vehicle routes, apportioned to truck type        | Derived from Form 4533                 |
| HI | TOTHOUR    | Annual paid time for multi-vehicle routes, apportioned to truck type       | Derived from Form 4533                 |
| нј | SPOTPAID   | Spotter time for multi vehicle routes                                      | Derived from Form 4533                 |
| нк | COMPANMI   | Annual miles for each route                                                | Derived from Form 4533                 |
| HL | COMPANHR   | Total annual hours                                                         | Derived from Form 4533                 |
| HM | NONDRIVE   | Sum of non-drive time activities for each route.                           | Derived from Form 4533                 |
| HN | DRIVE      | Total time minus non-drive time for each route                             | Derived from Form 4533                 |
| но | AVGMPH     | See Workpaper C, page 3                                                    | Calculation done at the facility level |
| HP | AVGDIST    | See Workpaper C, page 3                                                    | Calculation done at the facility level |
| HQ | No Heading | Intermediate step for calculating average capacity                         | Calculation done at the facility level |
| HR | No Heading | Intermediate step for calculating average capacity                         | Calculation done at the facility level |
| HS | No Heading | Intermediate step for calculating average capacity                         | Calculation done at the facility level |
| HT | No Heading | Intermediate step for calculating average capacity                         | Calculation done at the facility level |
| HU | No Heading | Intermediate step for calculating average capacity                         | Calculation done at the facility level |
| HV | No Heading | Intermediate step for calculating average capacity                         | Calculation done at the facility level |
| HW | No Heading | Intermediate step for calculating average capacity                         | Calculation done at the facility level |
| HX | No Heading | Intermediate step for calculating average capacity                         | Calculation done at the facility level |
| HY | No Heading | Intermediate step for calculating average capacity                         | Calculation done at the facility level |
| HZ | No Heading | Intermediate step for calculating average capacity                         | Calculation done at the facility level |
| IA | No Heading | Intermediate step for calculating average capacity                         | Calculation done at the facility level |
| (B | No Heading | Intermediate step for calculating average capacity                         | Calculation done at the facility level |
| IC | No Heading | Intermediate step for calculating average capacity                         | Calculation done at the facility level |
| ID | No Heading | Intermediate step for calculating average capacity                         | Calculation done at the facility level |
| IE | No Heading | Intermediate step for calculating average capacity                         | Calculation done at the facility level |

| IF   | No Heading | Intermediate |
|------|------------|--------------|
| IG   | No Heading | Intermediate |
| IH   | No Heading | Intermediate |
| 11   | No Heading | Intermediate |
| IJ   | No Heading | Intermediate |
| IK   | No Heading | Intermediate |
| IL . | No Heading | Intermediate |
| IM   | No Heading | Intermediate |
| IN   | No Heading | Intermediate |
| 10   | No Heading | Intermediate |
| iP   | No Heading | Intermediate |
| IQ   | No Heading | Intermediate |
| IR   | No Heading | Intermediate |
| IS   | No Heading | Intermediate |
| IT   | AvgCap     | Sum of colu  |
|      |            |              |

 $\dot{b}$ 

Intermediate step for calculating average capacity Calculation done at the facility level Calculation done at the facility level

<u>MPA/USPS-T20-7</u>. Please refer to Attachment to Response, MPA/USPS-T20-1(n) where the MVS questionnaire guidance states "COL. C - Estimate the average (most frequent occurrence) truck load for all trip types; Choose between 0%, 25%. 50%, 75%, and 100% of capacity" and your response to MPA/USPS-T20-1(d).

- a Please confirm that the survey provides no further guidance regarding how to calculate average load factor ("Column C") by trip type and truck type.
- b. Please confirm that the United States Postal Service has not performed a study or an audit to ensure that all facilities used the same method to estimate average load factor by truck type and trip type.

#### **Response:**

a. The written materials certainly provided no further guidance. It is my understanding

that in some cases phone contact occurred during follow-up, and it is possible that load

factor estimation was discussed.

b. Confirmed.

and the second sec

MPA/USPS-T20-8. Please refer to USPS-T-20. Workpaper C, Page 5, Annual Totals Section

- a Please confirm that the amount in the Hours column of the Annual Totals Section should be equal to the amount in the Week Day Hours column plus the amount in the Saturday Hours column.
- b. Please confirm that, for the Form 4533 example shown on Page 5 of workpaper C, the amount in the Hours column is not equal to the amount in the Week Day Hours column plus the amount in the Saturday Hours column.
- c. Please describe the United States Postal Service's general process for checking the quality of data entered into Form 4533.
- d For the Vehicle Service Driver Study did you perform any additional quality checks on Form 4533 data to ensure there were no errors? If so, what were your rules for determining errors in Form 4533 data and how did you perform such checks?

#### **Response:**

- a. Confirmed.
- b. Confirmed.
- c. As far as I know, the USPS has no general process for checking the quality of data entered into Form 4533. To the best of my knowledge, these forms are used by local management for managing VSD operations. Therefore, in order for the information to be useful, there is a local incentive for accuracy.
- d. I did not perform any quality checks on the data entered on Form 4533.

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MPA/USPS-T20-9. Please refer to USPS-T-20, Workpaper C, Page 5 and USPS-T-20,

Workpaper A, Page 1.

- a. Can a single route include multiple trip types?
- b. Can a single route include multiple truck types?

### **Response:**

a. Yes.

b. Yes.

<u>MPA/USPS-T20-10</u>. Please refer to Exhibit 2, Derivation of Overall LDC 34 volume variability, of your direct testimony where you derive a volume variability for LDC 34 of 59.86 percent and Appendix F, Exhibit 2 Revised or your direct testimony where you derive a volume variability for LDC 34 of 61.18 percent.

- a. Please confirm that the volume variability for Vehicle Service Drivers developed in your direct testimony was 59.86 percent and that this volume variability was based on a volume variability estimate for plants of 65.45 percent. If not confirmed, please explain fully.
- b. Please confirm that the volume variability for vehicle Service Drivers developed in Appendix F of your testimony was 61.18 percent and that this volume variability was based on a volume variability estimate for plants of 66.92 percent. If not confirmed, please explain fully.
- c. Please derive the volume variability for LDC 34 based on a volume variability estimate for plants of 64.77 percent. Please revise Exhibit 2 to reflect this volume variability estimate.
- d. Please confirm that the volume variability for LDC 34 based on a volume variability estimate for plants of 64.77 percent is more accurate than the volume variability estimates in parts a. and b. If not confirmed, please explain.
- e. Please confirm that the volume variability for LDC 34 based on a volume variability estimate for plants of 64.77 percent should be used to estimate volume-variable costs for Cost Segment 8 Vehicle Service Drivers. If not confirmed, please explain fully.

## **Response:**

- a. Confirmed.
- b. Confirmed.
- c. The revised volume variability is 59.21%.

#### Exhibit 2. Derivation of Overall LDC 34 Volume Variability Revised for LR-H-261

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|                  | LDC 34                  | Total          | BMC                    | S           | Plants                  |             |  |
|------------------|-------------------------|----------------|------------------------|-------------|-------------------------|-------------|--|
|                  | Accrued Costs           | Variability    | Accrued Costs          | Variability | Accrued Costs           | Variability |  |
| Total            | \$410,283,643           | }              | \$41,707 <b>,</b> 379  | I           | \$368,576,264           | 64.77%      |  |
| Non-Spotter      | \$373,646,727<br>91.07% | 65.02%         | \$6,466,078<br>15,50%  | 65.0%       | \$367,180,649<br>99.62% | 65.02%      |  |
| Spotter          | \$36,636,916<br>8,93%   | 0.00%          | \$35,241,301<br>84.50% | 0.0%        | \$1,395,615<br>0.38%    | 0.00%       |  |
| Weighted Average | e                       | 59 <u>.21%</u> |                        | 10.1%       | <u> </u>                | <u> </u>    |  |

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Sources: BMC and Spotter Shares, Workpaper E; Accrued Costs Library Reference H-9, revised plant variability estimate, Workpaper D.

- d. I would characterize the estimate from part c. as the more reliable and preferred estimate, but not significantly different from the variability in the original testimony. As far as whether it is more accurate, since the "true" volume variability is unknown, I can not say. Based on this model, the 95 percent confidence interval for volume variability is between 53.6 and 76.0 percent. That means that if additional random samples were drawn from the same underlying population having the same structural relationships as this sample, then, on average, 95 percent of samples would produce estimates of volume variability between 53.6 and 76.0 percent.
- e. In responding to DMA/USPS-T20-2-b, an apparent load factor transcription error was discovered in the data for Facility 47. Correcting the error and re-estimating the model from LR-H-261 yields a plant variability for vehicle service drivers of 67.11%. The overall variability from this model is 61.35%. I view this as the preferred estimate of volume variability.

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<u>MPA/USPS-T20-11</u>. Please refer to LR-H-261, Page 2, Lines 14 through 16 where you state: "There were also some additional instances where I noticed that something in the data needed potential correcting (a missing trip indicator or mis-matched vehicle capacity). For seven facilities, I made adjustments to the data where needed."

- a. For each facility where you made a correction please describe how you determined that there was a mistake.
- b. For each facility where you made a correction, please describe how you knew the correct answer.

#### **Response:**

Parts a and b are answered together by facility and correction made.

Facility 5: The data for one route which was a tractor-trailer route was listed with a capacity of 0, but also reported a daily mileage of 25. If capacity is 0, CFM will compute as zero. I checked the Form 4533 for this route and determined that the route did service stops with a tractor trailer, so I added a capacity of 2300 representing a tractor trailer.

Facility 32: CFM was not computed for what appeared to be a valid route. Upon checking further, I found that this was the only route for this facility with a vehicle capacity listed as 750 cubic feet (5-ton). The survey form did not indicate that any of the 113 routes had a capacity equivalent to a 5-ton truck, and the spreadsheet calculations for such a case will produce a zero CFM value. On the other hand, 40 of the routes reported vehicle capacities of 875 cubic feet (7-ton). I adjusted the capacity for the route in question to 875 (the closest in capacity to a 5-ton truck reported on the survey form) so that CFM would be calculated.

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Facility 38: CFM was not computed for what appeared to be a valid route. Upon checking further, I found that this route listed zero trips. Upon checking the Form 4533, I found that the route should have been reported as having a single trip instead of zero.

Facility 54: CFM was not computed for what appeared to be several valid routes. Upon checking further, I found that there were 11 routes listed with a vehicle capacity of 750 cubic feet (5-ton truck). The survey form did not indicate any of the routes with a vehicle capacity equivalent to a 5-ton truck, and the spreadsheet calculations in such cases will produce a zero CFM values. On the other hand, the survey did report the use of 7-ton trucks. I therefore adjusted the capacity for these 11 routes to 875 cubic feet (the closest in capacity to a 5-ton truck reported on the survey form) so that CFM would be calculated. I also noticed that one additional route was listed as both a multi-vehicle route and a single-vehicle route. The other route data were consistent with a single-vehicle route so I removed the ambiguous multi-vehicle flag for the route.

Facility 60: I noticed that total time block times in column FI of Facility 60's spreadsheet exceeded the route time listed in the spreadsheet in column EG (from Form 4533) for two routes. Both of these routes are 4-hour routes, but the time blocks added to 4.8 hours. The corrections were made by reviewing the Form 4533 data for the two routes. I also noticed that there were route data for two routes in rows 73 and 74 of the spreadsheet, but which did

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not have calculations carried completely through the spreadsheet. I merely copied the appropriate formula cells to these rows to make the corrections.

Facility 61: As for two of the routes for Facility 60, I noticed that the total time listed for one route was 8.1 hours. I reviewed the Form 4533 and corrected the data in the time blocks.

Facility 88: I noticed that CFM was not computed for a route with otherwise complete data. The vehicle capacity was entered as 1025 cubic feet, the capacity of a 7/9 or 9-ton truck. Since no trucks were listed on the survey form for this capacity, I adjusted the truck capacity to 7-ton (or 875 cubic feet), the closest reported truck capacity on the survey. I also noticed that another route was listed as both single-vehicle and multi-vehicle. As for Facility 54 the other route data were consistent with this as a single-vehicle route, so the multivehicle flag was removed. I also noticed that a route listed as a multi-vehicle route split between a 2-ton and a 5-ton truck had spotter time listed instead of time in the 2-ton truck. I made this correction by moving the time block into the 2-ton area from the spotter area.

<u>MPA/USPS-T20-12</u>. Please refer to LR-H-261, Page 2 where it states; "The implicit assumption in the spreadsheets was that none of on-call time would be driving time."

- a. Please list all "implicit assumptions" underlying the calculation of variables used in your regressions.
- b. Please confirm that "implicit assumptions" reduce the precision of your estimates of the variables used in your regressions.
- c. Is it possible that the "implicit assumptions" used to calculate the variables used in your regressions bias any of the variables upward? Please explain fully.
- d. Is it possible that the "implicit assumptions" used to calculate the variables used in your regressions bias any of the variables downward? Please explain fully.

#### **Response:**

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- a. The implicit assumptions that I can identify are:
  - 1. the respondent to the VSD survey form was knowledgeable enough to provide

meaningful estimates for the facility,

2. that respondents to the VSD survey had no biases in reporting estimates or had any

incentive to provide other than their best estimates,

3. that estimates of load factors by knowledgeable personnel (as opposed to direct

measurements over the course of the year) would be sufficiently accurate,

- 4. the average statistics for the facility reported on the survey form can be appropriately applied to individual route statistics from Form 4533,
- 5. that when a driver's route uses more than one vehicle, that times allotted to each vehicle can be used to apportion mileage,
- 6. that routes of a particular type not scheduled with Form 4533 have characteristics similar to those scheduled using the form,

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 that the number of unique stops provides an adequate characterization of the network serviced by VSD, and

8. that the average driving speed as measured from routes reporting individual stop time (loading time) and time between stops (driving time) on Form 4533 is a reasonably accurate measure for the routes where such data are not available (i.e., where routes are not scheduled with form 4533, or for routes which have blocks of time listed as "on-call" or "report to supervisor" time, where they may cover varying points as requested by a dispatcher).

- b. Confirmed. In general, any assumptions made in developing the concepts used in the regression models will reduce the precision of the concepts relative to a more direct measurement of the concepts.
- c. While it is possible that the implicit assumptions could bias the calculation of a particular variable, I can think of no specific implications of the implicit assumptions that would bias the estimates of individual concepts upward.
- d. While it is possible that the implicit assumptions could bias the calculation of a particular variable, I can think of no specific implications of the implicit assumptions that would bias the estimates of individual concepts downward.

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<u>MPA/USPS-T20-13</u>. Please refer to your response to MPA/USPS-T20-10e and LR-H-261, Spreadsheet Fac\_03b, Worksheet Fac\_3 and assume three things for a particular row: 1) TOTLDISP (Column P) is equal to 100, 2) PCENDISP (Column V) is equal to 50, and 3) TRIPS (Column ER) is equal to 2.

- a. Please confirm that the spreadsheet would calculate the value for Total Trips Daily (Column GH) for that row as 3.
- b. Please confirm that the entry in Column P indicates that 100 percent of scheduled trips for Facility 3 are dispatches (sorted mail) to stations/branches. if not confirmed, please explain fully.
- c. Please confirm that the entry in Column V indicates that 50 percent of dispatches (sorted mail) to stations/branches for Facility 3 are scheduled on the PS Form 4533. if not confirmed, please explain fully.
- d. Please confirm that if 50 percent of trips are scheduled and 2 trips per day are scheduled, then there are actually four total trips per day. If not confirmed please explain fully.
- e. If subpart a and subpart d are confirmed, please confirm that if the value of Total Trips Daily (Column GH) is calculated incorrectly, then the value for CFM is also calculated incorrectly because inputs to the CFM equation arc calculated based upon the Total Trips Daily variable (Column GH). If not confirmed, please explain fully.
- f. If subpart a and subpart d are confirmed, please list all variables which are calculated using the Total Trips Daily variable.
- g. Would the "preferred estimate of volume variability" be based upon a regression after correcting your method for calculating Total Trips Daily? If so, what is this preferred estimate of volume variability?

#### Response:

- a. Confirmed.
- b. Confirmed.
- c. Confirmed.
- d. Confirmed.

e. Confirmed. However, the error in the calculation is actually what I would call an approximation error. For most facilities, the error from the approximation is quite small, since the approximate trips will be close to a precise calculation when the percentage of routes scheduled with the form is large (e.g., 90 percent or more of routes scheduled using form 4533, which applies to most facilities). The revised formula at line 14 of Workpaper C, page 2 is:

$$=1 \div \sum_{i} P_i \cdot PctSched_i$$

- f. The only variable used in the regressions affected by this approximation is CFM.
- g. Yes, the revised variability for plant and distribution facilities is now 66.1%. Before making the correction, the estimate for plant and distribution facilities was 67.1% (see response to DMA/USPS-T20-2b).

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<u>MPA/USPS-T20-14</u>. Please refer to your response to MPA/USPS-T20-10e, DMA/USPS-T20-2b, LR-H-1 50, Spreadsheet Data\_sum, and LR-H-261, Spreadsheet LR\_H261. Please provide an updated Spreadsheet Data\_sum and an updated Spreadsheet LR\_H261 reflecting all data corrections made since they were filed, including any corrections necessitated by your response to MPA/USPS-T20-13.

#### Response:

The corrected information is provided in LR-H-292. This information includes an updated spreadsheet data\_sum (named datasum2.xls), an updated spreadsheet comparable to LR-H-261 which provides the regression data, regression results, and updated diskettes for the 49 facilities used in the analysis. The other facility spreadsheets which were not used in either LR-H-261 or LR-H-292 have not been updated and can be found in LR-H-150. A revised Exhibit 2 is provided on page 22 of the testimony.

<u>MPA/USPS-T20-15</u>. Please refer to your response to MPA/USPS-T20-8b where you confirm that there is an error in the Form 4533 you use as a sample on Workpaper C, Page 5 and your response to MPA/USPS-T20-8c where you state, "As far as I know, the USPS has no general process for checking the quality of data entered in Form 4533."

- a. Has the Postal Service performed any analysis or study of the quality of Form 4533 data? If so, please summarize and provide a copy of all such analyses and studies.
- b. Has the Inspection Service or Inspector General performed any analysis or study of the quality of Form 4533 data? If so, please summarize and provide a copy of all such analyses and studies.

#### **Response:**

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- a. To the best of my knowledge, no.
- b. To the best of my knowledge, no.

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## RESPONSE OF USPS WITNESS WADE TO INTERROGATORY OF THE 3212 MAGAZINE PUBLISHERS OF AMERICA REDIRECTED FROM WITNESS BRADLEY

## MPA/USPS-T13-1

d. Please confirm that in his study of the volume-variability of vehicle service driver costs, witness Wade's analysis relies on the estimated actual volume of mail on a route (see his Workpaper C at page 2, lines 16-17). If you do not confirm, please explain.

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### **Response:**

Confirmed.

#### RESPONSE OF USPS WITNESS WADE TO INTERROGATORY OF THE NEWSPAPER ASSOCIATION OF AMERICA

<u>NAA/USPS-T20-1</u>. Please refer to pages 6 and 7 of your direct testimony. You describe the survey of Plant and Distribution facilities.

- a. Please discuss all factors that might lead respondents to the survey to underestimate average annual load factors.
- b. If, in your opinion, estimates of load factors are likely to be underestimated, please provide an estimate of the likely magnitude of this downward bias.
- c. Please discuss all factors that might lead respondents to the survey to overestimate average annual load factors.
- d. If, in your opinion, estimates of load factors are likely to be overestimated, please provide an estimate of the likely magnitude of this upward bias.

#### **Response:**

- a. As I stated in response to MPA/USPS-T-20-1 (j), (k), (l) and (m), I know of no incentive for survey respondents to mis-report the survey information. The general purpose of the survey was stated in the cover letter as being "to improve our method of attributing driver costs."
  Concerning causes or sources of potential errors in estimating load factors, I am not aware of any particular reason why there might be a systematic underestimation.
- b. In my opinion, load factor estimates are not likely to be systematically underestimated.
- c. As I stated in response to MPA/USPS-T-20-1 (j), (k), (l) and (m), I know of no incentive for survey respondents to mis-report the survey information. The general purpose of the survey was stated in the cover letter as being "to improve our method of attributing driver costs." I am not aware of any factor or incentive that would cause survey respondents to mis-report the information. Concerning causes or sources of potential errors in estimating load factors, I am not aware of any particular reason why there might be an upward bias in developing the estimates. However, in rounding the data to the percentages reported on the forms, there is the possibility of some upward bias to the load factors. If load factors are uniformly

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# RESPONSE OF USPS WITNESS WADE TO INTERROGATORY OF THE NEWSPAPER ASSOCIATION OF AMERICA

<u>NAA/USPS-T20-2</u>. Please discuss why your preferred estimate of volume variability for VSD hours is higher than those proposed in previous rate hearings, including R77-1, R80-1, R84-1, R87-1, R90-1 and R94-1.

#### Response:

In R77-1, the 7% variability estimate was developed assuming that only vehicle load time was volume variable, and was based on an analysis of a single facility. In R80-1, R84-1 and R87-1 a similar assumption was made, however the scope of the analysis was expanded. The variability estimate for all three of these cases was 16%. In R90-1, the USPS proposed an interim variability estimate of 47.3% was based on similarity of VSD operations to intra-SCF highway contract routes. In R94-1, the proposed variability was 31.65%. This latter estimate was the PRC's recommended adjusted variability from R90-1. It is the simple average of 47.3% and 16%.

My methodology of statistically analyzing factors that potentially affect workhour usage across facilities removes the previous assumption (R77-1, R80-1, R84-1 and R87-1) that only load time can be affected by volume. Variability in these cases was at most 16% and considerably lower than my estimates in this case. From page 9, lines 4-8, of my testimony, "CFM potentially affects loading time in a direct fashion at the route level. Furthermore, at the facility level, changes in CFM may cause adjustments in either the number of trips or the number of VSD routes. In such cases, other components of VSD hours, not viewed as volume variable at the route-level, will be affected." It is my view that removing the assumption that only load time can

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# RESPONSE OF USPS WITNESS WADE TO INTERROGATORY OF THE NEWSPAPER ASSOCIATION OF AMERICA

be affected by volume is the primary reason for the current higher estimates than in these 4 omnibus cases.

The point estimate of overall volume variability for Cost Segment 8 provided for the base year is 59.86%. Subsequent data corrections, have not materially altered this result in my opinion. Based on the econometric model which supports the overall CS 8 estimate, the point estimate for plant and distribution facilities with VSD operations is 65.5%, with a 95-percent confidence interval of between 53.1% and 77.7%. At the lower end of the 95% confidence interval (and after making an adjustment for BMC spotter workhours using the methodology of Exhibit 2 Revised from Workpaper F) the overall variability estimate is approximately 49%, not materially higher that what was proposed in R90-1. However, since the source of the R90-1 estimate was not directly taken from VSD operations, the fact that the current 95% confidence interval is different from the earlier estimate is not surprising. Similar observations apply to the R94-1 estimate.

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# RESPONSE OF USPS WITNESS WADE TO INTERROGATORY OF THE NEWSPAPER ASSOCIATION OF AMERICA

<u>NAA-USPS-T20-3</u>. In your opinion, does your method for estimating volume variability of VSD hours improve on the methods employed in previous rate hearings? Please explain your response.

#### Response:

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I believe that my method improves on the previous methods because it replaces some major assumptions made by the earlier methodologies with analysis of actual VSD data. For example, in comparison with R77-1, R80-1, R84-1, and R87-1, rather than assuming that only load time is affected by volume, my methodology analyzes total workhour usage across a large number of facilities. Compared to the USPS interim proposal for the R90-1 volume variability estimate and the averaged variability used in R94-1 (the PRC's average of 16% and the USPS proposed 47.3%), my methodology does not assume that the variability of VSD operations should be similar to or the same as intra-SCF highway contract routes, but instead analyses data specifically from VSD operations. While improvements in data and methodology are always possible, I believe that the method of analyzing specific VSD data and making as few assumptions as possible represents an improvement over previous methodologies.

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#### RESPONSE OF USPS WITNESS WADE TO INTERROGATORY OF THE NEWSPAPER ASSOCIATION OF AMERICA

<u>NAA/USPS-T20-4</u>. In your opinion, does your method provide more accurate estimates of volume variability of VSD hours relative to estimates employed in previous rate hearings? Please explain your response.

#### **Response:**

Relative to R77-1, R80-1, R84-1, and R87-1, I believe that my method of analyzing specific VSD data provides an estimate of volume variability more accurate than the methods in these cases. The estimates for these cases were based on the operational assumption that only load time was volume variable, an assumption which I did not make in developing my estimate. Relative to R90-1, my point estimate of volume variability is somewhat higher, but the lower end of the 95-percent confidence interval behind my higher point estimate is not substantially different. Even though I don't find a major difference between the two estimates, but I believe my methodology will provide more accurate estimates, primarily because I do not base it on the assumption that VSD volume variability should be the same as intra-SCF highway contract routes. Relative to R94-1, I also believe my method will provide more accurate estimates, since for this case, the R90-1 intra-SCF highway contract variability was averaged with earlier results which had assumed only load time was volume variable.

<u>OCA/USPS-T20-1</u>. Your workpaper F, pages 1 and 5, indicates that problems with four facility observations and the hours scheduled for spotter activities which were discovered too late to adjust the base year estimate of volume variability on your exhibit 2 would result in an increase in the volume variability of cost segment 8, vehicle service driver (VSD) costs, from 59.86% to 61.18%.

- a. Please confirm that if the higher variability of 61.18% were used the new base year attribution for cost segment 8 used by witness Alexandrovich in his workpaper B-8(w/s 8.1.1, col. 3, note c) would increase from \$245.555 million to \$251.012 million, or \$5,457 million. If not, please explain.
- b. In your opinion, based upon the information now available to you, is the appropriate variability for cost segment 8, vehicle service drivers 61.18%?

#### **Response:**

- a. I can confirm the mathematics of this calculation. The base year cost segment 8 costs are \$410.284 million. Multiplying this amount by 0.5986 yields \$245.555 million. If instead 0.6118 is used, the estimate is \$251.012 million.
- b. At the time of preparation of Workpaper F, 61.18% is the estimate I would have proposed had the corrections been made in time for the base year estimate. However, in my opinion, the revision from 59.86% to 61.18% was a minor change that did not constitute a material difference from the base year estimate, especially in view of the 95% confidence interval for the estimate.

Subsequent to the preparation of Workpaper F, I discovered additional data modifications that needed to be made. As discussed in my response to DMA/USPS-T20-2-b, after correcting an apparent load factor transcription error in the data for Facility 47, and then re-estimating the Restricted Translog Model on page 13 of LR-H-261, the volume variability

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estimate becomes 67.11% before adjusting for BMC spotter hours as in Workpaper F,

Exhibit 2 Revised. After adjustment for BMC spotter hours, the estimate would now be

61.35%. Again, I view this as a minor change from the base year estimate.

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<u>OCA/USPS-T20-2</u>. Please refer to your testimony at page 21 discussing "spotter" hours and your exhibit 2.

- a, Please confirm that if your exhibit 2 were revised to reflect the revision of your study to eliminate the problem observations and non-confirmable spotter workhours discussed in the above interrogatory, total spotter costs on exhibit 2 would be \$36,636,916 or 8.93% of the total vehicle service driver costs. If not, please explain.
- b. Your testimony at page 21 states your study assumes that volume variability for spotter workhours is zero. Based upon your observation, experience and intuition following this study, do you believe the variability of spotter workhours to be greater than zero?
- c. Based upon your observation, experience and intuition following your study, please state what you would expect upon full analysis of spotter workhours to be the volume variability to the nearest 10%.
- d. Did you undertake any analysis to determine the variability of spotter costs in your studies? If so, please state what results you obtained and why you did not include the results in your testimony.
- e. Are there any plans to undertake a study of the variability of the spotter costs in the near future?

#### **Response:**

- a. Confirmed.
- b. I believe that it is likely that spotter workhour variability is greater than zero. I do not have a basis for concluding how much greater than zero it might be. Therefore, as I stated in my testimony at page 21, lines 18 and 19, zero variability is merely an assumption. I pointed out in footnote 17 how earlier treatments of VSD volume variability had assumed that only load time was volume variable, leaving a much larger block of VSD hours assumed to have zero variability. I proposed the assumption because it was consistent with earlier assumptions of zero variability for blocks of VSD hours and because I viewed developing data which could be used in developing an estimate to be beyond what I could accomplish for this proceeding.

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- c. I do not feel that I am qualified to make such an estimate.
- d. No.

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e. I am not aware of any plans.

<u>OCA/USPS-T20-3</u>. Please refer to your testimony at pages 19-20 and your workpaper D, page 11 concerning the econometric model 5 which you selected as a basis for your VSD variability recommendation.

- a. Please explain why you used a constant variability of 34% for STOPS which does not vary by facility when you did not use a constant STOPS variability for models 3 and 4 considered in your study (WP-D, pages 7 and 9).
- b. Please explain why you used a different constant STOP variability for model 6 (WP-D, page 6).

#### Response:

- a. The nature of the general models, Model 3 and Model 4, is to include all potential interactions and second-order terms. By doing so, it would almost always be the case that the estimated variability with respect to all variables would vary by facility. The second-order and interactions between stops and the other two variables, CFM and AVGMPH, were statistically insignificant in Model 4. By removing these statistically insignificant terms, Model 5 would therefore exhibit a constant variability with respect to STOPS.
- b. The interaction and second-order terms of Model 6 were the same as Model 5. Thus, STOPS variability from this model is constant across facilities. It is different from the variability in Model 5, because of the addition of the two variables, AVGDIST and AVGCAP, which had been eliminated earlier. This model was run to ensure that leaving them out did not affect the Model 5 results materially. They were both statistically insignificant (the t-statistics of their estimated coefficients were less than one) when added to Model 5 and this was my basis for preferring Model 5 over Model 6.

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UPS/USPS-T20-1. In reference to page 6, footnote 4 of your testimony, please identity which non-BMC facilities are included in your sample and which non-BMC facilities were excluded, and indicate the reasons for each exclusion. For each included and excluded non-BMC facility, please provide the VSD workhours reported in FY 1993 and in FY 1996.

**RESPONSE:** The attached table displays the 1993 and 1996 data for the non-BMC facilities reporting VSD workhours. Survey forms were unavailable for all but 89 facilities. The numbering scheme accords with Workpaper B, pages 3 and 4 which indicates the reasons for excluding observations from the 89 survey respondents.

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| Number | Flag149 | Flag53 | 1993 Hours | 1996 Hours    |        |                 |             |             |                   |            |
|--------|---------|--------|------------|---------------|--------|-----------------|-------------|-------------|-------------------|------------|
| 1      | 1       | 0      | 361118     | 391644        |        |                 |             |             |                   |            |
| 2      | 1       | 1      | 194550     | 223067        |        |                 |             |             |                   |            |
| 3      | 1       | 1      | 40163      | <b>3</b> 9189 | Notes: |                 |             |             |                   |            |
| 4      | 1       | 1      | 161151     | 179238        | 0      | Number is th    | e facility  | numberii    | na scheme.        |            |
| 5      | 1       | 1      | 239847     | 297868        |        | The first 89 r  | numbers     | are for fa  | cilities that par | ticipated  |
| 6      | 1       | 0      | 89660      | 122566        |        | in the survey   | 1.          |             |                   |            |
| 7      | 1       | 1      | 212020     | 228430        | 0      | Flag149 den     | otes faci   | lities that | were judged to    | have       |
| 8      | 1       | 0      | 61261      | 61554         |        | significant 19  | 993 work    | hours 1     | 52 facilities hav | e .        |
| 9      | 1       | 1      | 47935      | 62120         |        | flags of 1. N   | WRS da      | ta for 3 o  | f the flagged fa  | cilities   |
| 10     | 1       | 0      | 40648      | 46867         |        | were not ava    | ilable, le  | aving 149   | 9 facilities      |            |
| 11     | 1       | 1      | 10598      | 6612          | 0      | Flag53 deno     | tes facilit | lies includ | led in the same   | ble        |
| 12     | 1       | 1      | 31506      | 32004         |        | used for dev    | eloping t   | he base y   | ear variability   |            |
| 13     | 1       | 0      | 0          | 0             | 0      | Facilities nur  | nbered b    | elow fron   | n 90 on, did no   | t have     |
| 14     | 1       | 0      | 109226     | 158108        |        | survey inform   | nation an   | d were e    | xcluded for this  | reason     |
| 15     | 1       | 1      | 46447      | 53724         | o      | Facilities with | h Flag53    | = 0 were    | excluded for re   | easons     |
| 16     | 1       | 1      | 39494      | 46488         |        | listed in USP   | S-T-20.     | Workpap     | er B. pages 3 a   | ind 4.     |
| 17     | 1       | 1      | 250443     | 279776        |        |                 | ,           |             |                   |            |
| 18     | 1       | 0      | 16226      | 20604         |        |                 |             |             |                   |            |
| 19     | 1       | 0      | 0          | 0             |        |                 |             |             |                   |            |
| 20     | 1       | 0      | 66080      | 89172         |        |                 |             |             |                   |            |
| 21     | 1       | 0      | 397215     | 388459        |        |                 |             |             |                   |            |
| 22     | 1       | 0      | 88158      | 98936         |        |                 |             |             |                   |            |
| 23     | +1      | 0      | 77568      | 97332         |        |                 |             |             | •                 |            |
| 24     | 1       | 0      | 39736      | 50222         |        |                 |             |             |                   |            |
| 25     | 1       | 1      | 25632      | 46981         |        |                 |             |             |                   |            |
| 26     | 1       | 1      | 49856      | 52888         |        |                 |             |             |                   |            |
| 27     | 1       | 1      | 86357      | 118808        |        | •               |             |             |                   |            |
| 28     | 1       | 0      | 300019     | 325827        |        |                 |             |             |                   |            |
| 29     | 1       | 0      | 17245      | 16065         |        |                 |             |             |                   |            |
| 30     | 1       | 1      | 42448      | 56709         |        | Number F        | lag149      | Flag53      | 1993 Hours        | 1996 Hours |
| 31     | 1       | 1      | 53124      | 58838         |        |                 | •           | •           |                   |            |
| 32     | 1       | 1      | 156620     | 174584        |        | 199             | 0           | 0           | 192               | 2          |
| 33     | 1       | 0      | 462232     | 432337        |        | 200             | 0           | 0           | 188               | 0          |
| 34     | 1       | 1      | 849610     | 906630        |        | 201             | 0           | 0           | 187               | 0          |
| 35     | 1       | 1      | 22806      | 24947         |        | 202             | Ō           | Ó           | 176               | Ō          |
| 36     | 1       | 1      | 7200       | 7953          |        | 203             | 0           | 0           | 174               | 0          |
| 37     | 1       | 0      | 81035      | 100734        |        | 204             | 0           | 0           | 173               | 0          |
| 38     | 1       | 1      | 625760     | 646285        |        | 205             | 0           | 0           | 167               | 31         |
| 39     | 1       | 1      | 5627       | 7             |        | 206             | 0           | 0           | 162               | 213        |
| 40     | 1       | 0      | 406593     | 361447        |        | 207             | 0           | 0           | 144               | 39         |
| 41     | 1       | 0      | 353416     | 365707        |        | 208             | 0           | 0           | 136               | 0          |
| 42     | 1       | 1      | 449471     | 532419        |        | 209             | Ö           | 0           | 133               | 0          |
| 43     | 1       | 1      | 335394     | 320212        |        | 210             | Ō           | 0           | 132               | Ō          |
| 44     | 1       | 1      | 170319     | 199140        |        | 211             | Ö           | Ő           | 127               | 0          |
| 45     | 1       | Ď      | 170536     | 184401        |        | 212             | Ō           | Ď           | 118               | 136        |
| 46     | 1       | Ō      | 133786     | 158881        |        | 213             | ō           | Ō           | 112               | 0          |
| 47     | 1       | 1      | 18710      | 22642         |        | 214             | Ō           | 0           | 112               | 0          |
| 48     | 1       | 1      | 104719     | 104165        |        | 215             | 0           | 0           | 106               | 8          |

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| 49         | 1      | 0 | 59455  | 74326  | 216 | 0 | 0 | 104        | 0    |
|------------|--------|---|--------|--------|-----|---|---|------------|------|
| 50         | 1      | 1 | 40699  | 50169  | 217 | 0 | D | 103        | 0    |
| 51         | 1      | 1 | 221069 | 239078 | 218 | 0 | 0 | 102        | Ő    |
| 52         | 1      | 1 | 5902   | 5892   | 219 | 0 | 0 | 99         | D    |
| 53         | 1      | 1 | 90292  | 146807 | 220 | 0 | 0 | 98         | 34   |
| 54         | 1      | 1 | 110118 | 161566 | 221 | 0 | 0 | 97         | 0    |
| 55         | 1      | 0 | 184487 | 210809 | 222 | 0 | 0 | 96         | 3    |
| 56         | 1      | 1 | 35082  | 39178  | 223 | 0 | 0 | <b>9</b> 6 | 0    |
| 57         | 1      | 0 | 31432  | 34375  | 224 | 0 | 0 | 84         | 38   |
| 58         | 1      | 0 | 66574  | 65944  | 225 | 0 | 0 | 82         | 0    |
| 59         | 1      | 1 | 140635 | 164943 | 226 | 0 | 0 | 82         | 0    |
| 60         | 1      | 1 | 63567  | 75446  | 227 | 0 | 0 | 80         | 40   |
| 61         | 1      | 1 | 106163 | 117900 | 228 | 0 | Ð | 78         | 6    |
| 62         | 1      | 0 | 227250 | 276957 | 229 | 0 | 0 | 74         | 0    |
| 63         | 1      | 0 | 125050 | 151623 | 230 | 0 | 0 | 72         | 0    |
| 64         | 1      | 0 | 155408 | 183841 | 231 | 0 | 0 | 69         | 0    |
| 65         | 1      | 1 | 181754 | 247600 | 232 | 0 | 0 | 69         | 0    |
| <b>6</b> 6 | 1      | 0 | 39399  | 45899  | 233 | 0 | 0 | 69         | 0    |
| 67         | 1      | 0 | 53358  | 67075  | 234 | 0 | 0 | 64         | 0    |
| 68         | 1      | 1 | 37121  | 33874  | 235 | 0 | 0 | 63         | 0    |
| 69         | 1      | 0 | 262831 | 286888 | 236 | 0 | 0 | 62         | 124  |
| 70         | 1      | 1 | 118333 | 0      | 237 | 0 | D | 62         | D    |
| 71         | 1      | 0 | 72323  | 81771  | 238 | 0 | 0 | 61         | 70   |
| 72         | 1      | 1 | 23831  | 24596  | 239 | 0 | 0 | 60         | 0    |
| 73         | 1      | 1 | 25477  | 26732  | 240 | 0 | 0 | 57         | 0    |
| 74         | 1      | 1 | 56334  | 63164  | 241 | 0 | 0 | 52         | 3    |
| 75         | 1      | 1 | 23852  | 24275  | 242 | Ó | 0 | 50         | 0    |
| 76         | 1      | Ó | 175474 | 161892 | 243 | 0 | 0 | 49         | . 0  |
| 77         | 1      | 1 | 101195 | 127947 | 244 | 0 | ō | 48         | Ō    |
| 78         | 1      | 1 | 28415  | 30016  | 245 | Ō | 0 | 47         | 0    |
| 79         | 1      | 1 | 14432  | 15593  | 246 | Ō | Ō | 46         | 0    |
| 80         | 1      | Ó | 136410 | 167584 | 247 | Ō | 0 | 44         | 0    |
| 81         | 1      | 1 | 79004  | 77689  | 248 | 0 | 0 | 44         | 0    |
| 82         | 1      | 1 | 16214  | 15487  | 249 | 0 | 0 | 44         | 0    |
| 83         | 1      | Ó | 0      | 0      | 250 | Ō | Ū | 43         | -4   |
| 84         | 1      | 1 | 7383   | 8027   | 251 | 0 | 0 | 42         | 0    |
| 85         | 1      | 1 | 25197  | 32583  | 252 | Ő | Ō | 42         | 257  |
| 86         | 1      | 1 | 51524  | 64796  | 253 | Ō | 0 | 41         | 7433 |
| 87         | 1      | 1 | 116981 | 132824 | 254 | Ō | D | 40         | 0    |
| 88         | 1      | 1 | 22234  | 35318  | 255 | 0 | D | 40         | 8    |
| 89         | 1      | Ó | 12702  | 18587  | 256 | Ó | Ø | 40         | 0    |
| 90         | 1      | 0 | 31007  | 34266  | 257 | 0 | 0 | 39         | D    |
| 91         | 1      | Ō | 15593  | 19856  | 258 | Ō | 0 | 38         | 0    |
| 92         | 1      | 0 | 6022   | 0      | 259 | 0 | D | 35         | 0    |
| 93         | 1      | Ō | 4642   | 2      | 260 | 0 | 0 | · 35       | 0    |
| 94         | 1      | ō | 68532  | 92947  | 261 | 0 | D | 35         | 0    |
| 95         | 1      | Ō | 286872 | 298348 | 262 | Ő | 0 | 34         | 0    |
| 96         | ,<br>1 | õ | 10130  | 17509  | 263 | 0 | D | 34         | Ö    |
| 97         | 1      | Ō | 95168  | 99909  | 264 | Ō | D | 34         | 48   |
| 98         | 1      | Ō | 19801  | 22050  | 265 | Ū | D | 33         | 0    |
| 99         | 1      | ō | 100423 | 127511 | 266 | 0 | 0 | 32         | 40   |
| 100        | 1      | Ō | 36961  | 35105  | 267 | 0 | 0 | 31         | 0    |

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| 101 | 1      | .Ω  | 178482 | .215820 | -268 | .0 | 0   | -29 | 10       |
|-----|--------|-----|--------|---------|------|----|-----|-----|----------|
| 102 | 1      | 0   | 178273 | 197610  | 269  | 0  | 0   | 27  | 0        |
| 103 | 1      | 0   | 5958   | 0       | 270  | 0  | 0   | 27  | 0        |
| 104 | 1      | 0   | 10223  | 9757    | 271  | 0  | 0   | 25  | 0        |
| 105 | 1      | 0   | 43090  | 62716   | 272  | 0  | 0   | 24  | 0        |
| 106 | 1      | 0   | 56109  | 53235   | 273  | 0  | 0   | 24  | 0        |
| 107 | 1      | 0   | 139793 | 150176  | 274  | 0  | 0   | 24  | 0        |
| 108 | 1      | 0   | 9417   | 12490   | 275  | 0  | 0   | 24  | 266      |
| 109 | 1      | 0   | 18343  | 15659   | 276  | 0  | 0   | 23  | 344      |
| 110 | 1      | 0   | 111257 | 117398  | 277  | 0  | 0   | 22  | 0        |
| 111 | 1      | 0   | 64808  | 76436   | 278  | 0د | 0   | 22  | Ō        |
| 112 | 1      | 0   | 52501  | 52921   | 279  | 0  | 0   | 21  | 0        |
| 113 | 1      | 0   | 13534  | 19103   | 280  | 0  | 0   | 20  | 0        |
| 114 | 1      | 0   | 34372  | 33785   | 281  | 0  | 0   | 20  | 0        |
| 115 | 1      | Ō   | 8007   | 14205   | 282  | 0  | Ó   | 19  | 0        |
| 116 | 1      | ō   | 33704  | 35967   | 283  | Ō  | Ō   | 19  | 19       |
| 117 | 4      | ō   | 5191   | 14149   | 284  | 0  | Ō   | 19  | 0        |
| 118 | 1      | 0   | 35401  | 39205   | 285  | 0  | 0   | 18  | Ū.       |
| 119 | 1      | ñ   | 5537   | 166075  | 286  | 0  | 0   | 18  | 10       |
| 120 | ,<br>1 | ň   | 19608  | 21720   | 287  | 0  | ō   | 17  | 0        |
| 121 | 4      | ñ   | 115119 | 0       | 288  | 0  | Ő   | 17  | 0        |
| 121 | 4      | ñ   | 24700  | 26282   | 280  | ő  | ñ   | 16  | 0        |
| 122 | 4      | 0   | R301   | 8300    | 200  | 0  | ň   | 16  | Ő        |
| 123 | 4      | ő   | 210000 | 200474  | 200  | ň  | ñ   | 15  | ů<br>0   |
| 124 | 4      | 0   | 19062  | 40077   | 207  | ň  | ň   | 13  | ő        |
| 120 | 4      | 0   | 22200  | 455022  | 202  | 0  | Ő   | 13  | 0        |
| 120 |        | 0   | 52255  | 90094   | 283  | 0  | 0   | 13  | 152      |
| 127 |        | 0   | 07 144 | 02204   | 234  | 0  | 0   | 13  | · 1      |
| 128 | 1      | 0   | 6040   | 0021    | 290  | 0  | · 0 | 10  | ,<br>,   |
| 129 | 1      | 0   | 10903  | 14000   | 290  | 0  | 0   | 12  | . U<br>2 |
| 130 | 1      | 0   | 20301  | 30013   | 287  | 0  | 0   | 12  | 2        |
| 131 | 1      | 0   | 13010  | 10444   | 280  | 0  | 0   | 12  | 0        |
| 132 | 1      | 0   | 21/43  | 26594   | 299  | U  | 0   | 12  | 0        |
| 133 | 1      | 0   | 10806  | U       | 300  | 0  | 0   | 11  | 0        |
| 134 | 1      | 0   | 20173  | 24323   | 301  | 0  | 0   | 11  | 0        |
| 135 | 1      | 0   | 141188 | 2214/8  | 302  | 0  | 0   | 10  | 0        |
| 136 | 1      | 0   | 81496  | 103000  | 303  | 0  | 0   | 10  | 0        |
| 137 | 1      | D   | 59466  | 63825   | 304  | 0  | U   | 10  | 0        |
| 138 | 1      | 0   | 68265  | 2726    | 305  | U  | U   | 9   | 0        |
| 139 | 1      | 0   | 20408  | 391     | 306  | 0  | 0   | 9   | 337      |
| 140 | 1      | 0   | 19799  | 22849   | 307  | U  | 0   | 8   | 0        |
| 141 | 1      | 0   | 42188  | 36645   | 308  | 0  | 0   | . 8 | 33       |
| 142 | 1      | Q   | 141610 | 185211  | 309  | 0  | 0   | . 7 | 3        |
| 143 | 1      | 0   | 53435  | 59792   | 310  | 0  | 0   | 7   | 10       |
| 144 | 1      | 0   | 33506  | 41984   | 311  | 0  | 0   | 7   | 94       |
| 145 | 1      | 0   | 17398  | 19250   | 312  | 0  | 0   | 7   | 0        |
| 146 | 1      | 0   | 44367  | 55578   | 313  | 0  | 0   | 7   | 3        |
| 147 | 1      | D   | 13458  | 16102   | 314  | 0  | 0   | 6   | 0        |
| 148 | 1      | 0   | 18064  | 25837   | 315  | 0  | 0   | 6   | 0        |
| 149 | 1      | 0   | 5177   | 4999    | 316  | 0  | 0   | 6   | 6        |
| 150 | 1      | . 0 | 36632  | 31968   | 317  | 0  | 0   | 6   | 0        |
| 151 | 1      | 0   | 10634  | 9665    | 318  | 0  | 0   | 6   | 7646     |
| 152 | 1      | ٥   | 22172  | 25215   | 319  | 0  | 0   | 5   | 0        |

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| 153 | 0 | 0 | 8092            | .Q    | 320    | 0   | 0  | 5        | 0        |
|-----|---|---|-----------------|-------|--------|-----|----|----------|----------|
| 154 | 0 | 0 | 4203            | 4043  | 321    | 0   | 0  | 5        | ō        |
| 155 | 0 | 0 | 3419            | 21    | 322    | 0   | 0  | 5        | Ō        |
| 156 | 0 | 0 | 3384            | 4657  | 323    | 0   | 0  | 5        | -8       |
| 157 | 0 | 0 | 3005            | 3982  | 324    | 0   | 0  | 4        | . 0      |
| 158 | 0 | 0 | 2351            | 0     | 325    | 0   | 0  | 4        | Ō        |
| 159 | 0 | 0 | 2304            | 16    | 326    | 0   | 0  | 4        | Ō        |
| 160 | 0 | 0 | 2265            | 3642  | 327    | 0   | 0  | 4        | 6        |
| 161 | 0 | 0 | 2229            | 0     | 328    | 0   | 0  | 4        | Ō        |
| 162 | 0 | 0 | 2065            | 3717  | 329    | 0   | 0  | 4        | Ō        |
| 163 | 0 | 0 | 2061 .          | 0     | 330    | 0   | 0  | 4        | Ō        |
| 164 | 0 | 0 | 2012            | 2053  | 331    | 0   | 0  | 4        | -1512    |
| 165 | 0 | 0 | 1832            | 0     | 332    | 0   | 0  | 4        | 0        |
| 166 | 0 | 0 | 1829            | 3212  | 333    | 0   | 0  | 4        | Ō        |
| 167 | 0 | 0 | 1801            | 113   | 334    | 0   | 0  | 4        | 0        |
| 168 | 0 | 0 | 1171            | 1276  | 335    | 0   | 0  | 4        | Ū.       |
| 169 | 0 | 0 | <del>9</del> 92 | 0     | 336    | 0   | 0  | 4        | Ō        |
| 170 | 0 | 0 | 938             | 0     | 337    | Ó   | Ō  | 4        | 2        |
| 171 | 0 | 0 | 884             | 6983  | 338    | Ō   | Ō  | 4        | 0        |
| 172 | 0 | 0 | 855             | 0     | 339    | Ō   | Ō  | 3        | ō        |
| 173 | O | 0 | 725             | 0     | 340    | Ō   | Ō  | 3        | ō        |
| 174 | Ō | 0 | 641             | 0     | 341    | Ō   | Ō  | 3        | D        |
| 175 | Ō | Ō | 628             | Ō     | 342    | Ō   | ō  | 3        | 0        |
| 176 | Ō | Ō | 530             | Ō     | 343    | 0   | Đ  | 3        | 0        |
| 177 | Ō | Ō | 494             | 69    | 344    | Ō   | Ō  | 3        | ō        |
| 178 | Õ | Ō | 481             | 0     | 345    | Ō   | Ď  | 2        | Ō        |
| 179 | Ō | ō | 422             | Ō     | 346    | ō   | Ō  | 2        | 0        |
| 180 | Ō | ō | 413             | 154   | 347    | 0   | Ō  | 2        | 0        |
| 181 | 0 | ō | 388             | 0     | 348    | Ō   | ō  | 2        | 3        |
| 182 | ō | ō | 382             | Ō     | 349    | ō   | ō  | 2        | Ő        |
| 183 | Ō | Ō | 334             | 17    | 350    | Ō   | Ō  | 2        | 1        |
| 184 | Ō | Ō | 266             | 44978 | 351    | Ō   | 0  | 2        | Ċ.       |
| 185 | Ō | ō | 263             | 1676  | 352    | Ō   | ō  | 2        | Ō        |
| 186 | Ō | ō | 259             | 9757  | 353    | Ō   | ō  | 2        | 6        |
| 187 | ō | ō | 257             | 0     | 354    | ō   | Ō  | 1        | Ō        |
| 188 | Ō | 0 | 253             | Ō     | 355    | 0   | Ō  | 1        | Ō        |
| 189 | Ō | Ō | 243             | 14    | 356    | Ō   | Ō  | 1        | 0        |
| 190 | 0 | ō | 241             | 83    | 357    | Ō   | Ō  | 1        | 4        |
| 191 | ō | ō | 234             | 0     | 358    | Ō   | Ō  | 1        | 0        |
| 192 | Ō | ō | 230             | 10    | 359    | ō   | Ō  | 1        | Ō        |
| 193 | 0 | ō | 219             | 0     | 360    | Ō   | Ó  | 1        | 0        |
| 194 | Ď | ō | 217             | Ď     | 361    | Ō   | Ō  | 1        | 0        |
| 195 | ő | õ | 214             | 9     | 362    | ō   | ō  | 1        | 0        |
| 196 | õ | õ | 210             | Ū.    | 363    | ō   | ō  | 1        | 0        |
| 197 | Ō | õ | 206             | 84    | 364    | Ō   | ŏ  | 1        | 0        |
| 198 | Ō | ō | 197             | 678   | 365    | Ō   | Ō  | 1        | D        |
|     | - | - |                 |       |        | -   |    |          |          |
|     |   |   |                 |       | Totals | 152 | 53 | 14064644 | 15605802 |

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به المعصور من بعنهم الدين بعد المحيط المراجعة العالي المصالح التي بالمصل المصالح المن من المصل بالما المصل الم
UPS/USPS-T20-2. In reference to your observations concerning volume variability as a function of facility size at page 20, lines 5 to 13, of your testimony, please confirm that a 5-percent increase in volume at all facilities would result in an increase in VSD workhours by more than 65.4% of 5 percent, since 65.4% is the variability of VSD hours at the mean facility and variability increases with facility size. Please explain any nonconfirmation.

**RESPONSE:** This is mathematically correct for my model. However, applying such an estimate in practice raises several issues and complications. First, the assumption of proportional volume growth across facilities is questionable -- there are bound to be gainers and losers. Even though volume changes are not available, changes in VSD workhour usage is certainly not proportional based on the data provided for UPS/USPS-T20-1, above. The average increase in VSD hours usage was 11%, while for individual facilities the growth ranged from a decrease of 38% to an increase of 83%.

A second practical issue raised is that even if volume growth occurs in a proportional nature, other factors which influence variability may not grow proportionally (for example, in the present case, AvgMPH may change across facilities in a very uneven manner).

Third, when summing predicted hours responses across facilities, the confidence interval of the predicted sum is complicated by the fact that it is a function of the sum of individual estimates,

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each with their own and unique interval. The confidence intervals for very small or large facilities may be quite large relative to the average facility, since the further away from the average facility that a specific facility lies, the greater the confidence interval for its estimated hours.

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UPS/USPS-T20-2. In reference to your observations concerning volume variability as a function of facility size at page 20, lines 5 to 13, of your testimony, please confirm that a 5-percent increase in volume at all facilities would result in an increase in VSD workhours by more than 65.4% of 5 percent, since 65.4% is the variability of VSD hours at the mean facility and variability increases with facility size. Please explain any nonconfirmation.

**RESPONSE:** This is mathematically correct for my model. However, applying such an estimate in practice raises several issues and complications. First, the assumption of proportional volume growth across facilities is questionable -- there are bound to be gainers and losers. Even though volume changes are not available, changes in VSD workhour usage is certainly not proportional based on the data provided for UPS/USPS-T20-1, above. The average increase in VSD hours usage was 11%, while for individual facilities the growth ranged from a decrease of 38% to an increase of 83%.

A second practical issue raised is that even if volume growth occurs in a proportional nature, other factors which influence variability may not grow proportionally (for example, in the present case, AvgMPH may change across facilities in a very uneven manner).

Third, when summing predicted hours responses across facilities, the confidence interval of the predicted sum is complicated by the fact that it is a function of the sum of individual estimates,

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each with their own and unique interval. The confidence intervals for very small or large facilities may be quite large relative to the average facility, since the further away from the average facility that a specific facility lies, the greater the confidence interval for its estimated hours.

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UPS/USPS-T20-3. In reference to your identification of four irregular

observations cited in your Workpaper F, Supplemental Analysis, please state whether inclusion or exclusion of these four observations provides a more or less reliable estimate of volume variability based on your preferred regression equation model, and state the basis for your conclusions.

**RESPONSE:** The four irregular observations excluded in the supplemental analysis of Workpaper F were excluded because of data issues. Thus, I view the estimates in Workpaper F as more reliable.

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CHAIRMAN GLEIMAN: It is my understanding that no 1 2 one wishes to cross examine this witness. Is that in fact the case or is there someone in 3 the room that would like to cross examine? 4 5 [No response.] 6 CHAIRMAN GLEIMAN: If there is no cross 7 examination, that brings us to the possibility of questions from the bench. 8 9 I don't know whether anyone else up here does. I have a question for you, Mr. Wade, and I will try and be as 10 11 brief as possible. 12 In your analysis at pages 21 and 22 of your testimony you adopt a zero variability for spotters. 13 Is it reasonable that there is a requirement for a 14 minimum number of spotters when a facility opens, but as the 15 volume of mail passing through the facility increases the 16 number of contract trucks serving the facility would also 17 increase, and consequently there might be a need for 18 additional spotters? 19 Spotters are those folks who move the tractor 20 trailers around. 21 22 THE WITNESS: I'm familiar. I did answer a similar question I think to OCA number 2. 23 CHAIRMAN GLEIMAN: I'm aware that there was a --24 THE WITNESS: Oh, all right. And, yes, there is 25

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1 that possibility. Basically, I was making an assumption of 2 zero variability for spotters in lieu of having a data or 3 actually performing a study to try to estimate what it might 4 be.

5 CHAIRMAN GLEIMAN: Do you disagree with the 6 suggestion that the variability for spotters might, as a 7 consequence of what I just asked you, be greater than zero?

THE WITNESS: No, I don't disagree with that.

9 CHAIRMAN GLEIMAN: Might it be reasonable to 10 assume that spotter variability is the equivalent of the 11 weighted average of contract transportation variabilities 12 estimated by Witness Bradley, which is something on the 13 order of 78 percent or thereabout?

14 THE WITNESS: That I feel somewhat unqualified to 15 make the judgment. I am not really familiar with Witness 16 Bradley's testimony. I think spotter activities are 17 probably quite different from the variability that you were 18 citing in terms of, you know, they are yard operations 19 primarily at BMCs.

20CHAIRMAN GLEIMAN: So the variability is above21zero but we don't know how much above zero?

THE WITNESS: That's basically my testimony, yes.
 CHAIRMAN GLEIMAN: Is there any followup as a
 consequence of the questions from the Bench?

25 [No response.]

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CHAIRMAN GLEIMAN: If there is not, that brings us 1 to redirect. There is no redirect. Which means there can't 2 be any recross, which means, Mr. Wade, I want to thank you 3 for coming here this morning and for your contributions to 4 our record and, if there is nothing further, you're excused. 5 6 THE WITNESS: Thank you. [Witness excused.] 7 CHAIRMAN GLEIMAN: Ms. Reynolds, I believe you 8 9 have the next witness. MS. REYNOLDS: Thank you, Mr. Chairman. 10 The Postal Service would like to call Witness 11 Norma Nieto to the stand. 12 13 Whereupon, NORMA BEATRIZ NIETO, 14 a witness, was called for examination by counsel for the 15 U.S. Postal Service and, having been first duly sworn, was 16 examined and testified as follows: 17 DIRECT EXAMINATION 18 BY MS. REYNOLDS: 19 Ms. Nieto, could you state your name for the 20 0 record, your full name? 21 22 А Yes, Norma Beatriz Nieto. I am going to be showing you two copies of a 23 Q document entitled Direct Testimony of Norma B. Nieto on 24 behalf of the United States Postal Service. 25

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Are you familiar with this document? 1 2 А Yes. Was it prepared by you or under your direction? 3 Q Α Yes. 4 If you were to testify here orally today, would 5 0 this be your testimony? 6 7 Α Yes, it would. MS. REYNOLDS: At this point, I would like to 8 9 offer these two copies to the reporter and to the Commission and move them into evidence. 10 CHAIRMAN GLEIMAN: Are there any objections? 11 12 [No response.] 13 CHAIRMAN GLEIMAN: Hearing none, Ms. Nieto's testimony and exhibits are received into evidence and I 14 direct that they be accepted into evidence. As is our, 15 practice, they will not be transcribed into the record. 16 [Direct Testimony and Exhibits of 17 Norma Beatriz Nieto, Exhibit No. 18 USPS-T-2 was marked for 19 identification and received into 20 evidence.] 21 CHAIRMAN GLEIMAN: Ms. Nieto, have you had an 22 opportunity to examine the packet of designated written 23 cross-examination that was made available to you earlier 24 25 today?

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THE WITNESS: Yes, I have. 1 CHAIRMAN GLEIMAN: If these questions were asked 2 3 of you today, would your answers be the same as those you 4 previously provided in writing? 5 THE WITNESS: Yes, they would. 6 CHAIRMAN GLEIMAN: That being the case, 7 Ms. Reynolds, I have two copies here we can provide. Thank 8 you, Ms. Reynolds. MS. REYNOLDS: I would like to note, Mr. Chairman, 9 10 that there is a typographical error appearing on the cover page of each set of the written discovery and we have 11 corrected that on each of the copies. 12 13 CHAIRMAN GLEIMAN: Thank you for your assistance. 14 We appreciate it. 15 MS. REYNOLDS: Additionally at this time, we have 16 two library references that the Postal Service considers 17 would be appropriate to move into evidence. 18 CHAIRMAN GLEIMAN: If we could dispense with the 19 designated written cross-examination first, I would appreciate it. 20 21 Two copies of the designated written 22 cross-examination of the witness having been given to the 23 reporter, I will direct that they be accepted into evidence 24 and transcribed into the record at this point. 25 MR. LEVY: I'm sorry, Your Honor. I don't believe

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I have seen a copy of the list. 1 CHAIRMAN GLEIMAN: The list of? 2 3 MR. LEVY: Designated cross-ex. If I may briefly? 4 CHAIRMAN GLEIMAN: Be my guest, sir. 5 We will reserve Mr. Levy's rights and move with 6 respect to those two -- are you okay? 7 MR. LEVY: No objection. CHAIRMAN GLEIMAN: Okay, fine, thank you. 8 9 [Designation of Written Cross-Examination of Norma Beatriz 10 Nieto was received into evidence 11 and transcribed into the record.] 12 13 14 15 16 17 18 19 20 21 22 23 24 25

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## BEFORE THE POSTAL RATE COMMISSION WASHINGTON, DC 20268-0001

Postal Rate and Fee Changes, 1997

Docket No. R97-1

Interrogatories T13-7(b), 10(b-d),

Interrogatory T34-10(d) Response

of USPS witness Nieto to

17(c-d); redirected from witness

## DESIGNATION OF WRITTEN CROSS-EXAMINATION OF UNITED STATES POSTAL SERVICE WITNESS NORMA B. NIETO (USPS-T-2)

The parties listed below have designated answers to interrogatories directed to witness Nieto as written cross-examination.

ABP\USPS:

ABP\USPS:

Party

Answer To Interrogatories

Bradley.

American Business Press

interrogatory redirected from witness Taufique. FGFSA\USPS: Interrogatories T2-12. Interrogatories T16-15; redirected FGFSA\USPS: from Hatfield. MH\USPS: Interrogatories T2-3-4, 5(c), 6(c), 7(b), 8(b), 9. Interrogatories T2-12-13; as UPS\USPS: supplemented on  $9\29\97$ . FGFSA\USPS: Interrogatories T2-1-26, 26(a), 27-41, 44-55. FGFSA\USPS: Interrogatories T13-11, 17, 20, 25(b), 30, redirected from witness Bradley. FGFSA\USPS: Interrogatories T16-12-15 redirected from witness Hatfield. Interrogatories T2-3-9. MH\USPS: Interrogatories T12, 50(c) and (i) OCA\USPS: redirected from witness Degen. Interrogatories T2-1-10, 12-13, 15-UPS\USPS:

19, 22, 24-25.

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Office of the Consumer Advocate

| OCA\USPS:   | Interrogatories T2-1, T12-50(c)(i)<br>redirected from witness Degen                                                                                                                    |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ABP\USPS:   | Interrogatories T34-10(d)<br>redirected from witness Taufique,<br>T13-7(b), 10(b-d), 17(c-d)                                                                                           |
| FGFSA\USPS: | redirected from witness Bradley.<br>Interrogatories T2-1-12(b), 13-41,<br>44-55; T13-11, 17, 20, 25(b), 30(a)<br>redirected from witness Bradley,<br>T16-12-15 redirected from witness |
| MH\USPS:    | Interrogatories T2-3-4, $5(c)$ , $6(c)$ , $7(b)$ , $8(b)$ .                                                                                                                            |
| UPS\USPS:   | Interrogatories T2-1-10, 12-13, 15-26; (12)-28(a), 28(b)(ii), 28(c), 29-                                                                                                               |
| 72          | 32(b), 33-49 redirected from<br>witness Bradley, T20-5, 7, 8 and 18<br>redirected from witness Wade.                                                                                   |
|             |                                                                                                                                                                                        |

# United Parcel Service

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| UPS\USPS:   | Interrogatories T2-1-2, 8-10, 12<br>(supplemental response), 13<br>(supplemental response), 15-46, 49-<br>50.                                                                                                     |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FGFSA\USPS: | Interrogatories T2-2-6, 10-11, 12(a-<br>b), 13-20, 23-26, 26(a), 27-38, 40-<br>41, 45, FGFSA\USPS-T13-11<br>(redirected from witness Bradley),<br>FGFSA\USPS-T16-12-15 (all<br>redirected from witness Hatfield). |

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Respectfully submitted,

mpegant P. Censhaw

Margaret P. Crenshaw Secretary

## ANSWER OF NORMA B. NIETO TO INTERROGATORY OF AMERICAN BUSINESS PRESS (REDIRECTED FROM WITNESS TAUFIQUE)

ABP/USPS-T34-10(d). On p. 14, line 23, you refer to "average haul" as a factor in allocation of distance related transportation costs to periodical rate zones.

(d) Confirm that data comparable to that described in part c above also available [sic] for rail contracts.

**RESPONSE:** 

ABP/USPS-T34-10(d).

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(d) Not confirmed. The Postal Service purchases intra-BMC freight rail transportation on a day-to-day, as-needed basis. The Postal Service negotiates contracts with freight railroads, designating rates and routing information. When the Postal Service uses freight rail transportation, payments are made at the rates specified in the contracts. This fundamental difference in contract structure makes drawing similarities with HCSS inappropriate. Neither of the databases that concern rail contracts (the National Air and Surface System (NASS) and the Rail Management Information System (RMIS)) contain the types of data referred to in part (c) of your question.

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### BP/USPS-T13-7

Your testimony on p. 9 states that, since Docket R87-1, USPS has tried to direct Firstclass mail from air transportation to surface transportation when feasible. [a] Confirm and explain why, in FY 1995, highway costs for First-class were about 43% of the cost of domestic air; and in 1996, surface First-class was 62% of domestic air costs for first-class mail.

[b] When USPS buys surface purchased transportation used by First-class mail, does it utilize space in trucks or trailers also utilized by periodicals or standard mail?

[c] Does first-class mail have priority over periodical mail in the following examples of purchased transportation:

[1] more direct routing to destination SCF?

[2] more stops to pickup or unload mail?

[3] priority in being loaded into a truck leaving a facility at which there is also periodical mail ready to be trucked out of the facility at the same time or even before the first-class volume is processed for shipment to an identical destination as the periodicals

## Response to ABP/USPS-T13-7.

[a] Answered by witness Alexandrovich.

[b] The Postal Service does not buy surface transportation individually for different

classes of mail. To the extent that both First-Class mail and periodicals and standard

mail travel between the same facilities, then they will likely share space on purchased

surface transportation. The TRACS distribution keys indicated that almost all classes of

mail can be found on all types (intra-SCF, inter-SCF, intra-BMC, and inter-BMC) of

highway transportation to varying degrees.

[c] Answered by the Postal Service.

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#### RESPONSE OF POSTAL SERVICE WITNESS NIETO TO INTERROGATORIES 3244 OF THE AMERICAN BUSINESS PRESS (REDIRECTED FROM WITNESS BRADLEY)

## ABP/USPS-T13-10

[a] Did "the addition of more volume" to the existing network (p.9) in connection with First-class mail since R87-1 cause the significant annual increases in highway contract accounts?

[b] How much (in pounds and pieces) did First-class mail (letters, presort letters, postal cards) use purchased highway transportation in FY 1987? How much in FY 1996?

[c] How much did second-class regular rate volume (in pounds and pieces) use purchased highway transportation in FY 1987? In FY 1996?

[d] How much did second-class outside the county volume (pounds and pieces) use purchased highway transportation in FY 1987? In FY 1996? (Outside the county means all regular rate, classroom, and nonprofit subclasses.)

## Response to ABP/USPS-T13-10.

[a] Answered by witness Bradley.

[b] This information is not available. Please refer to the response to FGFSA/USPS-

T13-11.

[c] This information is not available. Please refer to the response to FGFSA/USPS-

T13-11.

[d] This information is not available. Please refer to the response to FGFSA/USPS-

T13-11.

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#### RESPONSE OF POSTAL SERVICE WITNESS NIETO TO INTERROGATORIES OF THE AMERICAN BUSINESS PRESS (REDIRECTED FROM WITNESS BRADLEY)

## ABP/USPS-T13-17

 [a] Please explain and elaborate upon your statement on p.37 as follows:
 "Not surprisingly the cost per cubic-foot-mile is also much smaller for the tractor trailer contract cost segments in both accounts" (inter-SCF and intra-SCF.)

[b] Confirm and explain why the cost per CFM for <u>inter-SCF trailers</u> is \$903 per CFM less than <u>intra-SCF</u> vans and \$683 per CFM less than inter-SCF <u>vans</u>.

[c] Identify by subclass the volume (in pounds) per year of mail that travels in inter-SCF straight body trucks as compared with the volume by subclass that travels in inter-SCF tractor trailers.

[d] Please substitute inter-BMC for inter-SCF for question [c] above, and provide the same kind of information requested.

## Response to ABP/USPS-T13-17.

[a] Answered by witness Bradley.

- [b] Answered by witness Bradley.
- [c] This information is not available. Please refer to the response to FGFSA/USPS-

T13-11.

[d] This information is not available. Please refer to the response to FGFSA/USPS-

T13-11.

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# FGFSA/USPS-T2-1

Refer to the Library References pertaining to TRACS - USPS-LR-H-78 through 84:

- Was each library reference prepared by you or under your direction? a)
- Are you the sponsor of any or all of these library references? **b**}

## **Response:**

- Yes. a)
- I am not certain what you mean by 'sponsoring' the library references. I prepared b)

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them and am prepared to answer questions about them.

## FGFSA/USPS-T2-2

Were the data collection instructions applicable during FY 1996 the same as those shown in LR-G-112, Docket No. R94-1? Please identify any changes.

## Response:

Yes.

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#### FGFSA/USPS-T2-3

Refer to LR-H-82. Please provide the code to read the 5 digit TESTDATE which begins with the numbers 78.

#### Response:

The variable TESTDATE is a SAS date. SAS dates represent an absolute number of

days from an arbitrary point in time, thus must be formatted to be presented in familiar

form. For example, the SAS date 13042 represents the date September 16, 1995.

Under normal circumstances the code below would accomplish the reading and

formatted printing of the SAS dates in question:

DATA TEMP; INFILE 'TRACSSMN.Z.HWY196.FLAT.TEXT'; INPUT @29 TESTDATE 5.; RUN; PROC PRINT DATA=TEMP; FORMAT TESTDATE MMDDYY8.; RUN;

However, in the TRACS data files submitted, most date variables have been encrypted

due to their direct relation to TESTID, whose encryption was also required to secure the

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encryption algorithm. The overall purpose of data encryption is to allow intervenors to

replicate the TRACS results without compromising the security of commercially

sensitive information.

## FGFSA/USPS-T2-4

Refer to LR-H-82. Explain the derivation and method of determining the numbers shown in the columns headed TOTWT and WT.

a) Are these numbers actual weights from a scale measurement, or computed weights? If the latter, explain what weight factor is used in the TRACS programs to calculate the weight for each mailcode.

b) Where mail is sacked, trayed or containerized, is the weight of the sack, tray or container taken into account? If so, explain, with the weight factor used for each type of container. Also, explain how the weight of the sack, tray or container is distributed to the mail contained therein.

#### Response:

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a. These numbers are actual weights, typically recorded from an electronic scale

attached to the data collector's computer. The weights are initially recorded as pounds

and ounces, and are represented as pounds (and decimal fractions thereof) in the

variables TOTWT and WT.

b. The variable TOTWT is the actual gross weight, measured by electronic scale, of an item (such as a sack, a tray, etc.), including both the contents of the item and the tare weight of the item itself. A TRACS data collector also takes the mail out of the item and groups it into categories by mailcode for electronic weighing. For each mailcode grouping, the variable WT is the weight of that group. The tare weight of the item itself is the difference between TOTWT and the sum of WT across all mailcodes found within the item. No weight factor is used. When the item's contents are expanded to the item level, the tare weight is distributed to the contents of the item proportionately to each mailcode's share of the net weight. At this point, TOTWT will equal the sum of WT across all mailcodes found within the item.

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## FGFSA/USPS-T2-5

Confirm that, as used in LR-H-82, transportation account number 53127 is Intra BMC and 53131 is Inter BMC.

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## Response:

Confirmed.

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## FGFSA/USPS-T2-6

Confirm that the percent of total sample size allocated to each facility type is as shown in Exhibit 2 on page 3 of LR-H-78. If you do not confirm, please provide the correct percentage for each.

a) In Exhibit 2, for the Intra-BMC entries, confirm that the inbound refers to inbound to the BMC and that the outbound refers to outbound from the BMC. If you do not confirm, please provide complete clarification.

b) Explain the basis and criteria used in assigning the percentage to each facility type.

c) For the Inter-SCF account, it is stated, on page 2 of LR-H-78, that BMCs are generally not served. Explain why 5% of the samples for Inter-SCF are taken at BMC destinations.

d) For Intra-BMC, the volume of mail outbound from the BMC is greater than the volume of mail inbound to the BMC. Explain why 70% of the samples are taken on the inbound move, and only 30% on the outbound move.

#### Response:

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a. For intra-BMC contracts, a specific contract route-trip is defined as inbound when

the final destination (last stop) is a BMC. Otherwise, it is considered outbound. All

stops on the contract route-trip are eligible for sampling.

b. There are two criteria used in assigning the sampling percentages to each facility

type: efficient allocation of limited data collection resources, and minimization of overall

- variance in the resulting distribution key.

c. Even though Inter-SCF contracts generally do not serve BMC's, five percent of

Inter-SCF samples are taken at BMC destinations because Inter-SCF contracts do

occasionally have BMC stops. This occurs because most contracts are composed of

more than one route-trip. Although the majority of the route-trips in a contract provide

the same type of service, there may be one route-trip served under the contract which

would fall into a different type of service. Route-trips cannot be classified individually,

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and thus the whole contract must be classified as Intra-SCF, Inter-SCF, Intra-BMC, or Inter-BMC. For a hypothetical example, a contract can be established for the purpose of providing Inter-SCF service in a certain area. Later, it is decided that a run to the BMC is desired, and a route-trip is added to the existing contract. Then we have an Inter-SCF contract with a route-trip that serves a BMC. TRACS samples at these facilities because the contracts under these accounts serve these destinations.

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d. Please refer to my response to FGFSA/USPS-T2-16, parts d. and e.

#### FGFSA/USPS-T2-7

Do you agree that, as a general rule, Inter-BMC transportation is not used for Priority or Express mail, except to destinations other than a BMC? If not, please fully explain.

#### Response:

One would not expect to see Inter-BMC transportation used for Priority Mail or Express

Mail, except on contracts also serving SCF's. However, the TRACS sample does

occasionally show small amounts of Priority Mail and Express Mail moving on Inter-

BMC transportation.

## FGFSA/USPS-T2-8

Confirm that, in Q1 1996, TRACS sample data for account 53131

a) Records 1 sample at a BMC destination facility for Priority Mail (see, TESTID no. 70346UA) Please provide, for that TESTID, the place of origin of the sampled priority mail, and explain why this mail was unloaded at a BMC facility.

b) No other sample of Priority mail was recorded at a BMC destination facility.

c) If you do not confirm any of the above, please fully explain.

## Response:

- a. Not confirmed.
- b. Not confirmed.
- c. Our review of the Q1 1996 data showed that no Priority Mail was sampled under

TESTID no. 70346UA, but that Priority Mail was sampled at a BMC destination

facility from an account 53131 movement during Q1 1996 under TESTID's

70086YB, 70706QM, 70316JX, and 77026RY. For each Priority Mail piece

sampled, the origin facility was another BMC. TRACS data collectors simply

record what types of mail were sampled at the time of the test. They are not

trained to speculate if a mailclass should be found on a certain type of

movement. In fact, they are not aware of what account the contract that they are

sampling falls into. However, this could occur if a BMC and SCF are co-located.

## FGFSA/USPS-T2-9

Confirm that, in Q1, 1996, TRACS data for account 53131

a) Records 4 samples at BMC destination facilities for Express mail. See, TESTID nos. 70086YB, 70706QM, 73016JX and 77026RY.

b) No other samples of Express mail were taken at BMC destination facilities.

c) If you do not confirm any of the foregoing, please fully explain.

d) For each of the above TESTID numbers, provide the place of origin of the sampled Express mail, and explain why Express mail was unloaded at a BMC facility.

#### Response:

- a. Not confirmed.
- b. Not confirmed.
- c. Our review of the Q1 1996 data showed that no Express Mail was sampled

under TESTID's no. 70086YB, 70706QM, 70316JX, and 77026RY, but that

Express Mail was sampled at a BMC destination facility from an account 53131

movement during Q1 1996 under TESTID 70346UA.

d. The origin facility was another BMC. A TRACS test simply measures what types

of mail were on a particular truck, but does not attempt to speculate why a

particular class of mail is on a particular movement. However, it may occur when

a BMC is co-located with an SCF or another facility.

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## FGFSA/USPS-T2-10.

a) Within the Intra-BMC highway transportation account, do most or all contracts specify a trip from/to a BMC with a return trip to/from the BMC (that is, a round trip)? If the number or percentage of IntraBMC highway contracts that do not specify or require a return trip (that is, a non-paired trip) is known, please provide.

b) For those Intra-BMC highway contracts that specify a round trip, do most such round trips originate and terminate at (i) the BMC, or (ii) some other point, such as an SCF?

c) For those Intra-BMC highway contracts that specify a round trip, (i) do most such trips stop at specified facilities on the outbound leg and then return to the BMC via the same route (stopping at the same facilities), or (ii) do most such trips make a "loop" back to the BMC without retracing the stops (ie., making only one stop at all or most facilities before returning to the BMC)?

#### Response:

a. Highway contract routes generally have multiple trips specified within them.

These trips do not generally represent a round-trip unto themselves. However,

Trip 1 is generally the first part of a round-trip and Trip 2 is generally the return

portion of the round-trip. Based on the number of non-paired trips (i.e., Trip 3 but

no corresponding Trip 4), an estimate of the percentage of non-round trips is less

than 5%.

b. The number is roughly even, with slightly more trips originating at BMCs.

c. There exists a great deal of variety within the contracts for specified trips, and both examples provided in your interrogatory occur. As a generalization, most routes follow the specified route back to the BMC. However, another example of a route might be SCF1-SCF2-SCF3-BMC-SCF3-SCF1.

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## FGFSA/USPS-T2-11.

a) Confirm that under TRACS all samples of highway transportation are taken when the truck is unloaded. Please explain fully any non-confirmation.

b) Please confirm that when a truck on an intra-BMC route is sampled at the BMC,
 (i) the sample necessarily represents a truck that was in-bound to the BMC, and (ii) mail that is unloaded at the BMC consists of mail that originated at facilities from within the area served by the BMC. Please explain fully any non-confirmation.

## Response:

- a. Confirmed.
- b. (i) Confirmed.
  - (ii) While this is generally true, there exists a great deal of variety within

highway contract route specifications, and there may be exceptions.

## FGFSA/USPS-T2-12.

Please confirm that TRACS data are used to estimate on a quarterly basis the percentage of capacity utilized with respect to the four different highway accounts. a. Confirm that the TRACS data for the highway capacity utilization factors for FY 1995 is accurately reflected in the following table.

# (TABLE WAS OMITTED)

b. Provide a similar table showing the highway capacity utilization factors for FY96.
 c. Provide comparable capacity utilization data for each of the FYs from 1990 through 1994.

### Response:

Not confirmed. This data is collected by TRACS and these estimates are produced, but

they are used only by the TRACS system itself as part of the distribution key

development.

a. We confirm that the following table represents FY95 highway capacity utilization

factors as estimated by TRACS:

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## RESPONSE OF POSTAL SERVICE WITNESS NIETO TO INTERROGATORIES OF FLORIDA GIFT FRUIT SHIPPERS ASSOCIATION

#### Highway Capacity Utilization Factors FY95

|                       | FY 1995 |        |               |       |
|-----------------------|---------|--------|---------------|-------|
|                       | P01     | PQ2    | PQ3           | P04   |
|                       |         |        |               |       |
| IND'S-SCF             | 39 4%   | 39.3%  | 38.7%         | 35.4% |
| Test Conducted AL     | 1       |        |               | -     |
| Inbound SCF           | 43.5%   | 37.7%  | 37.1%         | 33 4% |
| Inbound Other         | 29.2%   | 31.8%  | 32.3%         | 27.3% |
| Outbound SCF          | 48.8%   | 47.2%  | 52.P%         | 45.8% |
| Outbound Other (a.m.) | 50.2%   | 52 7%  | 47.6%         | 45.8% |
| Outbound Other (p.m.) | 25 4%   | 27.5%  | 28 4%         | 24.8% |
| Inter-SCF             | 49.6%   | 43 4%  | 45.3%         | 40.3% |
| Test Conducted At     |         |        |               |       |
| BMC                   | 49.5%   | 40.6%  | 41.0%         | 32.5% |
| SCF                   | 53.3%   | 49.7%  | 51.3%         | 49.0% |
| Other                 | 46.0%   | 40.1%  | 42.5%         | 39 4% |
| intra-BMC             | 57.7%   | 59 7 K | 60.2%         | 52.0% |
| Test Conducted AL     |         |        |               |       |
| BMC                   | 42.0%   | 42 1%  | 40.2%         | 37.7% |
| Inbound SCF           | 64.2%   | 54 8%  | 61 4%         | 48 6% |
| Inbound Other         | 50 8%   | 66 3%  | 57.1%         | 47.8% |
| Outpound SCF          | 74.9%   | 72 1%  | 74 7%         | 67.2% |
| Dutpound Other        | 56.3%   | 63 1%  | 67.5%         | 58.5% |
| inter-BMC             | 64.1%   | 73.0%  | 66. <b>3%</b> | 69.9% |
| Test Conducted AL     |         |        |               |       |
| BMC                   | 68.9%   | 68 7%  | 65.5%         | 64.2% |
| SCF                   | 67.5%   | 69.0%  | 59.9%         | 68.5% |
| Othe:                 | 56.0%   | 81.4%  | 73.6%         | 77.2% |
|                       |         |        |               |       |

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b. Highway capacity utilization factors for FY96 can be seen in the table below:

#### Highway Capacity Utilization Factors FY95

|                       | FY 1996 |        |        |               |
|-----------------------|---------|--------|--------|---------------|
|                       | PQ 1    | PQ 2   | PQ 3   | PO 4          |
| Inter CCC             |         | A. 194 | 41 7V  | 95.96         |
| Test Conducted At     | 43.73   | 44.174 | 41.17  | 33.1%         |
| inhound CCT           | 33 34   | 41.5%  | 35.5%  | 29.3%         |
| Inhound Other         | 66.3%   | 61 414 | 43.5%  | 28.6%         |
| Outpound SCE          | 61 65   | 55 4%  | 50 6%  | 57 114        |
| Outbound Other (s.m.) | 47.1%   | 48 314 | 43.9%  | 42.5%         |
| Outbound Other (p.m.) | 27.1%   | 22.9%  | 35.3%  | 22.9%         |
| Inter-SCF             | 54.7%   | 44.7%  | 40.9%  | 38.3%         |
| Test Conducted At     |         |        |        |               |
| вмс                   | 63.5%   | 38 1%  | 28.2%  | 23.2%         |
| SCF                   | 53.1%   | 53 1%  | 50.3%  | 49.3%         |
| Other                 | 47.5%   | 42.9%  | 44.2%  | 42.5%         |
| intra-BMC             | \$3.8%  | 58.8%  | 54.0%  | 48 1K         |
| Test Conducted At     |         |        |        |               |
| BMC                   | 44.8%   | 40.5%  | 38.0%  | 41.3%         |
| Inbound SCF           | 57 1%   | 61.2%  | 60.0%  | 56.9%         |
| infound Other         | 37.5%   | 58.9%  | 42.8%  | 29.5%         |
| Outbound SCF          | 73.8%   | 75.2%  | 72.2%  | 66.2%         |
| Outbound Other        | 55.6%   | 58.2%  | \$6.7% | 46.6%         |
| inter-BMC             | 70.1%   | 67.3%  | 63.6%  | 57.5%         |
| Test Conducted At.    |         |        |        |               |
| BMC                   | 69.1%   | 71.0%  | 63.2%  | <b>6</b> 1.1% |
| SCF                   | 69.3%   | 67.4%  | 64.0%  | 61.3%         |
| Other                 | 71.8%   | 83.3%  | 63.4%  | \$0.0%        |
|                       |         |        |        |               |

c. Objection filed September 15, 1997.

## FGFSA/USPS-T2-13.

For purposes of your response to this interrogatory, assume that an intra-BMC truck makes a 200-mile run out from the BMC and en route to the final destination facility it makes four equidistant stops including the final destination facility (i.e., 50 miles per segment), then returns to the BMC via the same route. For simplicity, assume that the total cost for the entire trip is \$400, which averages \$1.00 per mile.

a. Please confirm that (i) under TRACS the cost of the 200-mile outbound run is considered to be equal to the cost of the return inbound run, and (ii) under the hypothetical posited here, the cost of one outbound and one inbound run would each be \$200.

b. Please confirm that TRACS would treat each of the four outbound segments and each of the four inbound segments as having a cost of \$50. If you do not confirm, please explain how TRACS determines the cost of individual segments.

c. Please confirm that under TRACS neither the cost apportioned to segments on the outbound portion of the trip nor the cost apportioned to segments on the inbound portion depend on (i) the actual load factor (capacity utilization) of the sampled trip, or (ii) the average load factors outbound from and inbound to BMCS. If you do not confirm, please explain how load factors enter into apportionment of the total trip cost to the different segments.

### Response:

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a and b. Confirmed for the sample selection process, not confirmed for the expansion process. In the sample selection process, cost stratification was used in the sample design prior to FY95 in addition to the FACCAT stratification. In order to group the primary sampling unit (essentially, a route-trip-segment-day) into cost strata, the historical cost of the whole contract had to be divided into costs of the individual route-trip-segments by capacity cubic feet and miles to serve as a proxy for the primary sampling unit. Although this code remains in the sample selection program and the variable is not dropped, this proxy cost (SEGCOST) is

not used either for sampling or expansion. In the last stage of the expansion process, the cubic-foot miles of a class of mail (which can include more than one segment; refer to FGFSA/USPS-T2-14) are simply multiplied by the cost per cubic-foot mile of the contract which they traveled under.

Please refer to the above response. Since in the sample selection process only historical information on the contract costs and route are available, load factors cannot be taken into account. For the expansion process, costs are not apportioned to trips or segments; rather, the cost per cubicfoot mile of the contract is applied to the estimated cubic-foot miles of mail.

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### FGFSA/USPS-T2-14.

a. For purposes of your response to this interrogatory, assume that an intra-BMC truck makes a run out from the BMC and en route to the final destination it makes five stops at facilities A, B, C, D and E, where E is the final destination. Assume further that (i) the truck picks up and drops off mail at each stop, and (ii) the truck is sampled at an intermediate point, such as when the truck arrives at point D from point C. For the sample taken at point D, does the TRACS program distribute any of the cost apportioned to prior segments (e.g., from the BMC to facility A, or from A to B, or from B to C) or the final segment (e.g., from D to E or does the TRACS program limit itself to distributing only the cost apportioned to the trip segment between facilities C and D?

b. When a particular trip is sampled, does the TRACS program distribute any portion of the cost of segments prior or subsequent to the segment that was sampled? If so, please state (i) the percent of such other segment costs that are distributed, and (ii) explain the basis for distributing costs of other segments even though no sample was taken at A, B, C or E.

#### Response:

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a. and b. The TRACS data collector samples various item types (i.e., sacks, pallets)

at point D. The data collector records not only the weight and number of pieces within the item type, but also the facility code of origin (FCODE3) for the item type (where the item got onto the truck). If all the item types sampled at point D originated at point C, then TRACS only uses cubic-foot miles on that leg for the expansion process.

However, if the origin facility code of an item type corresponds to Point A or Point B, then TRACS calculates and uses the total cubic-foot miles for the classes within that item as they were incurred. For example, let's assume that two loose parcels were sampled at Point D by the TRACS data collector, and that one parcel (A, say) got on at Point C, and one

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parcel (B) got on at Point B. Let us further assume that each parcel was
assigned 2 cubic-feet after empty space allocation, and that the distance
from Point B to Point C is 100 miles, and the distance from Point C to
Point D is 50 miles. The cubic-foot miles assigned to each parcel are then
as follows:

Parcel A CFMs = 2 cubic-feet x 50 miles = 100 CFMs Parcel B CFMs = 2 cubic-feet x (100 + 50) miles = 300 CFMs

The total CFMs for parcels which would be used in the expansion process would be 400. The cost per cubic-foot mile of the contract would then be applied to the cubic-foot miles to obtain the cost of the parcels used to calculate the distribution keys. Please also refer to my response to FGFSA/USPS-T2-13.

If a parcel originated at Point C and destinated at Point E, it would not be unloaded and thus not sampled by the TRACS data collector. Therefore, none of its CFMs are used in the expansion process.

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## FGFSA/USPS-T2-15.

With respect to intra-BMC highway transportation, please confirm that under TRACS if capacity utilization on the initial leg out from the BMC were to average twice the capacity utilization on the return portion of the trip back to the BMC, then on average the intra-BMC transportation cost that TRACS assigns to mail travelling to the BMC on the return portion of the trip will be twice as great <u>per cubic foot of actual mail</u> as on the initial leg outbound from the BMC. if you do not confirm, please explain fully why not.

## Response:

Confirmed.

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# FGFSA/USPS-T2-16.

a. For Base Year 1996 in this docket, please indicate the TRACS sample design for Intra-BMC highway transportation (in terms of facilities sampled) and the actual number of samples taken at each facility type, including whether the truck was inbound or outbound at facilities other than the BMC.

b. in the TRACS Intra-BMC sample design for Base Year 1996, do trucks outbound from the BMC have the same probability of being sampled as do trucks inbound to the BMC?

c. If an imbalance exists in the frequency of sampling between inbound and outbound legs, please explain how and why this occurs.

d. If an imbalance exists in the frequency of sampling between inbound and outbound legs of intra-BMC highway transportation, please explain whether TRACS makes any "correction" for such imbalance when expanding the sample data to the universe and deriving final estimates used to determine the distribution key for Intra-BMC highway transportation costs. If any such correction is made, please (i) indicate which components of the various programs within TRACS make this adjustment, and (ii) state the adjusting blow-up factors actually used by the TRACS program(s) to correct for any such imbalance in the sample design.

e. Please explain whether the rationale for the TRACS Intra-BMC sample design bears any relationship to the volume of mail that moves outbound from the BMC and the volume of mail that moves inbound to the BMC.

## Response:

a. The sampling percentages by facility type and bound in the TRACS sample

design have not changed. Please refer to USPS-LR-H-78 for the TRACS Sample

Design Executive Summary. For the actual numbers of tests by account (53127

= intra-BMC) and facility type and bound (FACCAT) for FY96 by quarter, please

refer to the table below:

. . . . . . . . .

| FACCAT                               | Quarter 1 | Quarter 2 | Quarter 3  | Quarter 4 |
|--------------------------------------|-----------|-----------|------------|-----------|
| 1 - Test conducted at BMC            | 237       | 232       | 229        | 315       |
| 2 - Test conducted at inbound SCF    | 31        | 31        | 26         | 40        |
| 3 - Test conducted at inbound other  | 6         | 8         | 6          | 11        |
| 4 - Test conducted at outbound SCF   | 97        | 94        | <b>9</b> 9 | 135       |
| 5 - Test conducted at outbound other | 19        | 20        | 19         | 26        |

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- b. No.
- c. The difference in frequency sampling between inbound and outbound legs was designed to achieve sampling precision without overburdening the field.
- d. TRACS expands to the population level, and weights each account/facility typebound (FACCAT) sample by its population occurrence. The sample counts (number of times movement was sampled in TRACS) are first expanded up to the number of times that particular movement occurred in the quarter. If that movement was sampled only once and runs 6 times a week, its sample count will be 72 (Perweek \* 12 weeks in quarter / times sampled). These sample counts per movement are then summed to the account/FACCAT level (variable SAMPCNT). The number of times a movement occurred in the frame is then calculated in a similar manner (FRMCOUNT).

The weighting factor (STRATWT) is calculated by FACCAT as the frame count divided by the sample count, or FRMCOUNT/SMPCOUNT. This weighting factor is then applied to the sampled costs. Please refer to the following table for the weighting factors for FY96:

| FACCAT | Q1 Wt. Factor | Q2 Wt. Factor   | Q3 Wt Factor       | Q4 Wt. Factor |
|--------|---------------|-----------------|--------------------|---------------|
| 1      | 9,702         | 11.2028         | 11.505             | 7.929         |
| 2      | 25.210        | 29.7132         | 28.643             | 20.359        |
| 3      | 106.158       | 63.4681         | · 111.75           | 60.3415       |
| 4      | 31.29         | 29.3232         | 31.045             | 24.2206       |
| 5      | 79.899        | <b>6</b> 5.0361 | <del>6</del> 1.108 | 57.1827       |

Please note that the expansion described above is not a correction for sampling

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error. Rather, these factors expand the sampled day to the number of times the movement occurred in the quarter.

e. The rationale for the TRACS intra-BMC sample design does not currently bear any direct or ongoing relationship to the volume of mail that moves outbound from the BMC and the volume of the mail that moves to the BMC. However, considerations for the amount and variance of the mail incoming and outgoing from the different facility types were taken into account when the TRACS system was designed. This sampling method is successful in promoting efficiency and does not impart bias.

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## FGFSA/USPS-T2-17.

In Docket No. R90-1, the response to FGFSA-USPS-TII-B, at Tr. 1283-84, briefly explains the distinction between the variables TYPE, FACTYPE and FACCAT. As stated there, "For Intra-BMC, FACCAT equals: 1 when FACTYPE is BMC, 2 when FACTYPE is SCF and the trip is inbound, 3 when FACTYPE is OTH and the trip is inbound, 4 when FACTYPE is SCF and the trip is outbound, and 5 when FACTYPE is OTH and the trip is outbound."

a. For the base year in this case, FY 1996, are the above definitions applicable to the TRACS data base? If not, please indicate all changes made to the definition of the variables TYPE, FACTYPE and FACCAT since 1990.

c. (sic)Where in the TRACS data base can there be determined:

i. the actual square feet of floor space occupied by Standard (A) regular rate and Standard (B) parcel post, before the data are blown up or adjusted to any level above that of the trucks that were sampled?

ii. the actual cubic feet of Standard (A) regular rate and Standard (B) parcel post recorded in the TRACS sample, before the data are blown up to any level above that of the trucks that were sampled?

iii. the total cubic feet of Standard (A) regular rate and Standard (B) parcel post (including empty space assigned to each), before the data are blown up to any level above that of the trucks that were sampled; and/or

iv. estimated cubic foot-miles of Standard (A) regular rate and Standard (B) parcel post before the data are blown up to any level above that of the trucks that were sampled.

d. Please provide a non-technical but full explanation of why the TRACS data base cannot provide compilations of the data specified.

## Response:

a. The definition of the variable FACCAT has not changed in TRACS. Please note

that TRACS is not a database, but rather a data collection system.

b. (No part b. in original question)

c. i. Square feet data by rate category cannot be obtained.

ii. TRACS data collectors collect weight information but do not collect actual

cubic feet data. The collected weight data is converted to cubic feet using

density factors (cubic feet per pound) - refer to USPS-LR-H-82, Part 4, TRACS

Highway Estimation Programs, Program HWY1. The cubic feet data is expanded

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to account for empty container space and up to the item type level in the programs HWY1 (for containerized items) and HWY2 (for loose items). In program HWY4, the records within each of the item type databases – one each for containerized items, loose items and pallets (which is created in program HWY3) – are collapsed to produce one record for each unique test / origin / mailcode combination; that is, the cubic feet data is summed up for each unique test / origin / mailcode combination. The three databases are then combined into one data set (TRACSSMN.Z.EXPAND.HIGHWAY.PQ\*96.DATA(FOUR)).

iii. In program HWY10, the last four lines of the program could be modified and the program rerun to sort and sum cubic feet (CUFT) by ACCOUNT and MAILCODE to obtain total cubic feet by mailcode and account.

iv. In program HWY10, the last four lines of the program also could be modified and the program rerun to sort and sum cubic-foot-miles (CFM) by ACCOUNT and MAILCODE to obtain total cubic-foot-miles by mailcode and account.

d. i. The TRACS data collectors record only the percentages of the floor space as occupied by various container and item types (i.e., wheeled containers, pallets, loose items), not by particular rate categories. Weight by rate category within item types is converted to cubic feet by rate category, and those are then expanded to volume within the containers or items, not the square feet.

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### FGFSA/USPS-T2-18.

a. With respect to the 1996 TRACS data base, please confirm that the value assigned to the variable FACCAT distinguishes whether an intra-BMC truck sampled at a non-BMC facility was travelling outbound from or inbound to the BMC. If you do not confirm, please explain whether any other variable in the 1995 TRACS database distinguishes whether the truck was outbound from or inbound to the BMC.

### Response:

Confirmed.

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### FGFSA/USPS-T2-19.

Please refer to LR-H-82, TRACS Estimation Programs and Documentation. For intra-BMC highway transportation, account 53127, please identify the program (or programs) which add empty cube to the basic data on the actual amount of mail that was measured or identified in the sample.

# Response:

| Program<br>name | Description                                                                                                                                                                                                                                                                                               |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HWY1            | Expands sampled cubic feet data for containerized mail,<br>first up to the item level (which accounts for empty space<br>in box-type items and, in the case of sampled sacks, the<br>space taken up by the sacks themselves) and then up to<br>the container level.                                       |
| HWY2            | Expands sampled cubic feet data for loose mail up to the sampled item level.                                                                                                                                                                                                                              |
| HWY5            | For tests in which space utilization for items was recorded<br>as a count (rather than a percentage), sampled data is<br>expanded to reflect the proportion of sampled items to the<br>total number of items recorded in a test.                                                                          |
| HWY6            | Distributes the total item group unloaded capacity to<br>origin/mailcode records for the same TESTID and item<br>group based on the proportion of total cubic feet in the<br>TESTID/item group that the record represents.                                                                                |
| HWY10           | Computes the estimated cubic feet of truck capacity that<br>was empty for the test on all legs and adjusts the cubic<br>feet of mail unloaded to add in the appropriate proportion<br>of empty space on the truck (the cubic feet unloaded<br>divided by the total truck capacity used before unloading). |

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### FGFSA/USPS-T2-20.

Please provide a detailed but non-technical explanation of the procedure by which TRACS assigns empty cube to the different classes of mail on intra-BMC highway transportation. For purposes of your explanation, assume that after leaving the BMC a truck makes stops at facilities A, B and C, and is sampled at facility B. Assume further that from A to B the truck was 50 percent empty, and when it arrived at B it contained only two classes of mail. Starting with the actual volume of mail in the truck and the square feet of floor space occupied by that mail when the truck arrived at facility B, explain how TRACS apportions the empty cube to the classes of mail (please make explicit any further assumptions necessary for a complete explanation).

#### Response:

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If the truck's floor space was 50 percent empty, then the remainder of the floor space was occupied by mail. Let us assume that the truck has a total capacity of 2400 cubic feet. Let us also assume that the remainder of floor space which was occupied by mail was 40 percent wheeled containers and 10 percent loose sacks. For the purpose of this exercise, let us assume that the wheeled containers contained only Standard B (parcel post) mail, and the sacks contained only Standard A (regular rate) mail.

TRACS expands the sampled cubic feet up to the total cubic feet for that container

type. The total cubic feet for the container types are as follows:

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|         | % Floor Space | Total Cubic Feet |
|---------|---------------|------------------|
| Wheeled | 40            | 960              |
| Loose   | 10            | 240              |
| Empty   | 50            | 1200             |

Each rate category's actual cubic feet within a container type is then expanded to the rate category's share of total cubic feet for the container type. Since we only have one

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rate category per container type, the total cubic feet assigned to Standard B (parcel

post) at this point is 960, and the total cubic feet assigned to Standard A (regular rate)

is 240.

The empty space allocation is then as follows:

Cubic feet A (adj.) = Cuft A + (Cuft A/(Cuft A + Cuft B) \* Empty Cuft

In our example:

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Standard A cubic feet =  $240 + (240/(240+960)^{\circ}1200) = 240 + 240 = 480$ Standard B cubic feet =  $240 + (960/(240+960)^{\circ}1200) = 960 + 960 = 1920$ 

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### FGFSA/USPS-T2-21.

This interrogatory posits a hypothetical. Assume that the TRACS data base for intra-BMC highway transportation consists of only two samples taken when each truck was off-loaded. The sampled segments each had the same total cost, and each of the two sampled trucks had the same cubic capacity, 1,200 cubic feet. One truck (Alpha, say) was 100 percent fully loaded (i.e., it had no empty cube), and the load consisted of 90 percent Standard (A) regular rate mail and 10 percent Standard (B) parcel post. The other truck (Beta), was 30 percent full (i.e., it was 70 percent empty), and the load consisted of 10 percent Standard (A) regular rate mail and 20 percent Standard (B) parcel post. In terms of total cubic feet of mail, the situation can be summarized as follows:

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a. Please confirm that if the empty cube were to be computed on the basis of each truck individually, then no empty cube would be assigned to the mail on truck Alpha, and the empty cube on truck Beta would be assigned one-third to Standard (A)regular rate mail and two-thirds to Standard (B) parcel post; i.e., empty capacity assigned to Standard (A) regular rate would equal 300 cubic feet, and empty capacity assigned to Standard (B) parcel post would equal 600 cubic feet.

b. Please confirm that if empty cube is averaged over the total utilization of the two Intra-BMC trucks, then the empty cube assigned to Standard (A) regular rate would equal 708 cubic feet (1180/1500 x 900), and the empty cube assigned to Standard (B) parcel post would equal 192 cubic feet (320/1500 x 900).

c. In terms of the preceding two alternatives for apportioning empty cube, please explain which one best describes the way in which TRACS assigns empty capacity of intra-BMC highway transportation. If neither of the two preceding alternatives provides a good analogy to the way TRACS assigns empty cube, please use the hypothetical to explain how the empty cube would be assigned.

d. Please explain the rationale that underlies the way in which TRACS assigns empty capacity of intra-BMC highway transportation to the different classes and subclasses of mail.

#### Response:

- a. Confirmed.
- b. Confirmed.

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- c. The methodology presented in a. best describes the empty space allocation in TRACS.
- d. Assuming that the two trucks (A and B) are separate routes, there is no valid reason for allocating empty space across the mail classes on two different contracts. The situation does not change even if the two trucks represented two legs of the same round-trip. TRACS treats each route-trip individually, even though together they may represent a round trip. TRACS was designed to provide a snapshot of the incurrence of cubic-foot miles across various route-trips across facilities.

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### FGFSA/USPS-T2-22.

As a hypothetical, consider two identical-size Intra-BMC trucks travelling inbound to the BMC. For simplicity, assume that each truck can hold 10 over-the-road containers. The bed of each truck is fully loaded with over-the-road containers that, essentially, are being returned to the BMC from various facilities served by the BMC. In truck number 1, one container has some Standard (A) mail and exactly one Standard (B) parcel post item is in each of the other nine containers. Truck number 2 also has one container with some Standard (A) mail and it has the same number of Standard (B) parcel post items as truck number 1, but all parcel post items have been loaded into one container, and all other 8 containers in the truck are conspicuously empty. Finally, assume that both trucks happen to be sampled by TRACS upon arrival at the BMC.

a. is it correct that under the TRACS accounting system 90 percent of the cost of the return trip of truck number one, which has one parcel post item in each of 9 containers, would be charged to Standard (B) parcel post? If not, please explain what percentage of the cost of the return segment would be charged to Standard (B) parcel post. if the answer is indeterminate, please explain what information is missing.

b. With respect to truck number 2, assume that the only two containers with mail in it were sampled, and they were found to contain all Standard (A) and Standard (B) parcel post, as specified above. The sampler notes that all the other 8 containers are empty. Under the conditions specified here, would half the cost of the return segment to the BMC be charged to Standard (B) parcel post, or would some of the cost of the return trip be charged to "moving empty equipment" (or to something else)? If the answer is indeterminate, please explain what information is missing.

c. The purpose of the above hypothetical, obviously, is to inquire about whether - or the extent to which - the way that largely empty trucks are loaded can affect the assignment of costs when such a truck happens to be sampled under TRACS. Please give a non-technical description explaining how the way a largely empty truck is loaded can cause the apportionment of cost to vary, and why.

#### Response:

a. Although this hypothetical is extremely unlikely, were it to occur, we do not

confirm. If the TRACS data collector were to treat this as an ordinary test, the

cubic feet (not costs at this stage) allocated to the classes of mail would vary

depending on the wheeled containers selected. The data collector receives a

random start number for the wheeled containers. If the data collector's random

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start number is 2, the data collector would sample the second wheeled container to be offloaded from the vehicle, and every third wheeled container after that. So in this hypothetical, they would sample containers 2, 5, and 8. If Container 8 contained the Standard A mail, then the cubic feet assigned to Standard A would be 33.3% and the cubic feet assigned to Standard B would be 66.6%. If the data collectors random start number was 5, they would sample containers 5 and 8, and then Standard A would be assigned 50% of the cubic feet and Standard B would also be assigned 50% of the cubic feet.

- Again, this hypothetical is highly unlikely, since there is a separate account for moving empty equipment between facilities (53191, Hwy. Transportation of Empty Mail Equipment). However, were it to occur, and the TRACS data collector sampled the two full containers, half of the cubic feet on the return segment would be charged to parcel post.
- c. Regardless of the type of movement and the percentage of empty space on it, how trucks are loaded will affect the allocation of costs to the various classes of mail, as seen in the response to part a. However, sampling random movements over time at different facilities, selecting random wheeled containers from vehicles, selecting representative item types within containers, presents a reliable picture of the way costs are incurred by the various classes of mail across a given year.

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## FGFSA/USPS-T2-23.

Please refer to LR-H-82, Part 5, TRACS Edit Check, Programs and Documentation, PFY 1996, the program TRACS.EDIT.HWY.PQ\*95.CNTL(IMPUTED).

a. For PQ\*96 (i.e., for the four quarters of FY 1996), how many highway records were missing weight information at the time the edit check program was run?

b. What was the number of total highway records for PQ\*96, and what percentage (or what number) of such records were missing weight information prior to the edit check program being run?

c. What was the average weight that was imputed to all Standard A (then 3C) subclass items that were missing weight information? If separate average weights were used for BSPS and (ii) other third-class items, please specify the weights used for each.

d. What was the average weight that was imputed to all Standard B parcel post (then 4CPP) subclass items that were missing weight information?

e. For Standard A (then 3C) and Standard B parcel post (then 4CPP), what basis is used to determine the average weight that is imputed by this program? Please specify (i) the data used in the numerator and the denominator, (ii) the source of the data (e.g., TRACS, RPW, etc.), and (iii) the time period over which the data in the numerator and denominator were gathered.

## Response:

a. QUARTER 196: 0 records missing weight QUARTER 296: 0 records missing weight QUARTER 396: 0 records missing weight QUARTER 496: 0 records missing weight

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Please note that this information can be found in the program log provided in the

library reference at approximately line 41 for each quarter. For example:

NOTE: The data set WORK.GOOD has 13356 observations and 118 variables. NOTE: The data set WORK.BAD has 0 observations and 118 variables.

 D. QUARTER 196: 13356 total item records; 0% missing weight information QUARTER 296: 12824 total item records; 0% missing weight information QUARTER 396: 12501 total item records; 0% missing weight information QUARTER 496: 16335 total item records; 0% missing weight information

Please note that this information can be found in the program log provided in the

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library reference at approximately line 41 for each quarter. For example:

NOTE: The data set WORK.GOOD has 13356 observations and 118 variables. NOTE: The data set WORK.BAD has 0 observations and 118 variables.

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c. No average weights were applied as no records were missing weight

information.

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- No average weights were applied as no records were missing weight information.
- e. No average weights were applied as no records were missing weight information.

### FGFSA/USPS-T2-24.

Please refer to LR-H-82, Part 5, TRACS Edit Check, Programs and Documentation, program TRACS.EDIT.HWY.PQ\*96.CNTL(FLAT), Please provide a list showing the name and description of each of the 124/126 variables contained in the final edited data set available in the output file TRACSSMAN.HIGHWAY.PQ\*96.SURVEY.TEXT.

#### Response:

- 1. \_FREQ\_ SAS system variable from PROC MEANS
- 2. \_TYPE\_ SAS system variable from PROC MEANS
- 3. COLL1 Data collector 1's initials
- 4. COLL2 Data collector 2's initials
- 5. COLL3 Data collector 3's initials
- 6. COLL4 Data collector 4's initials
- 7. CONTNO Container number
- 8. COUNT Count variable
- 9. CTARE Container tare
- 10. CTYPE Containerized item type
- 11. DAY1 Day 1
- 12. DAY2 Day 2
- 13. DAY3 Day 3
- 14. DESCRIP Data collector's description (comment)
- **15.** DIS\_CODE District code
- 16. DUMEXPRE Dummy variable
- 17. DUMOTHER Dummy variable
- 18. DUMSACKS Dummy variable
- 19. EMPTY Percent of truck floor empty
- 20. ENUM Express number
- 21. EXPRESS Express indicator
- 22. FCODE1 Facility code from FORM 1
- 23. FCODE3 Facility code from FORM 3
- 24. FTOTWT Facility total weight
- 25. FTYPE1 Facility type
- 26. FWT Facility weight
- 27. HEXPRESS Express height
- 28. HOTHER Other Height
- 29. HOURS Hours duration of test
- 30. HSACKS Sacks height
- 31. ID Alpha portion of TESTID
- 32. IDESCRIP Item description
- 33. IMPTOTWT Imputed total weight
- 34. IMPWT Total weight
- 35. ITEMNO Item number in test

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| 36.             | MAILCODE | Subclass code                                    |
|-----------------|----------|--------------------------------------------------|
| 37.             | MIN      | Minutes of test duration                         |
| 38.             | MONTH1   | Month 1                                          |
| 39.             | MONTH2   | Month 2                                          |
| 40.             | MONTH3   | Month 3                                          |
| 41.             | NCTYPE   | Noncontainerized item type                       |
| 42.             | NEWSTOP  | New stop indicator                               |
| 43.             | NEXPRESS | Number of loose express pieces                   |
| 44.             | NOFORM3  | No Form 3 Indicator                              |
| 45.             | NOITEMS  | No items indicator                               |
| 46.             | NOTHER   | Number of other items                            |
| 47.             | NPALLETS | Number of pallets                                |
| 48.             | NSACKS   | Number of sacks                                  |
| 49.             | NWHEELED | Number of wheeled containers                     |
| 50.             | OCODE1   | Origin Code 1from pallet                         |
| 51.             | OCODE2   | Origin Code 2 from pallet                        |
| 52.             | OCODE3   | Origin Code 3 from pallet                        |
| 53.             | OCODE4   | Origin Code 4 from pallet                        |
| 54.             | ONUM     | Origin number                                    |
| <b>5</b> 5.     | OTHER    | Percentage of truck that was other (loose) items |
| <b>5</b> 6.     | OUNCES   | Ounces portion of subclass weight                |
| 57.             | P1CODE1  | First mailcode of pallet 1                       |
| 58.             | P1CODE2  | Second mailcode of pallet 1                      |
| 59.             | P1CODE3  | Third mailcode of pallet 1                       |
| <del>6</del> 0. | P1CODE4  | Fourth mailcode of pallet 1                      |
| 61.             | P1FCODE2 | Origin facility code for pallet 1                |
| 62.             | P1HEIGHT | Height of pallet 1                               |
| 63.             | P1LENGTH | Length of pallet 1                               |
| 64.             | P1PERC1  | Percentage of first mailcode of pallet 1         |
| 65.             | P1PERC2  | Percentage of second mailcode of pallet 1        |
| 66.             | P1PERC3  | Percentage of third mailcode of pallet 1         |
| 67.             | P1PERC4  | Percentage of fourth mailcode of pallet 1        |
| 68.             | P1PIECE1 | Number of pieces of first mailcode of pallet 1   |
| 69.             | P1PIECE2 | Number of pieces of second mailcode of pallet 1  |
| 70.             | P1PIECE3 | Number of pieces of third mailcode of pallet 1   |
| 71.             | P1PIECE4 | Number of pieces of fourth mailcode of pallet 1  |
| 72.             | P1WEIGHT | Weight of pallet 1                               |
| 73.             | P1WIDTH  | Width of pallet 1                                |
| 74.             | P2CODE1  | First mailcode of pallet 2                       |
| 75.             | P2CODE2  | Second mailcode of pallet 2                      |
| 76.             | P2CODE3  | Third mailcode of pallet 2                       |
| 77.             | P2CODE4  | Fourth mailcode of pallet 2                      |
| 78.             | P2FCODE2 | Origin facility code for pallet 2                |

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## RESPONSE OF POSTAL SERVICE WITNESS NIETO TO INTERROGATORIES OF FLORIDA GIFT FRUIT SHIPPERS ASSOCIATION

| 79.         | P2HEIGHT   | Height of pallet 2                                          |
|-------------|------------|-------------------------------------------------------------|
| 80.         | P2LENGTH   | Length of pallet 2                                          |
| 81.         | P2PERC1    | Percentage of first mailcode of pallet 2                    |
| 82.         | P2PERC2    | Percentage of second mailcode of pallet 2                   |
| 83.         | P2PERC3    | Percentage of third mailcode of pallet 2                    |
| 84.         | P2PERC4    | Percentage of fourth mailcode of pallet 2                   |
| 85.         | P2PIECE1   | Number of pieces of first mailcode of pallet 2              |
| <b>8</b> 6. | P2PIECE2   | Number of pieces of second mailcode of pallet 2             |
| 87.         | P2PIECE3   | Number of pieces of third mailcode of pallet 2              |
| 88.         | P2PIECE4   | Number of pieces of fourth mailcode of pallet 2             |
| 89.         | P2WEIGHT   | Weight of pallet 2                                          |
| 90.         | P2WIDTH    | Width of pallet 2                                           |
| 91.         | PALLETS    | Percentage of unloaded that was pallets                     |
| 92.         | PERCONT    | Percentage of container filled with items of same item type |
| 93.         | PIECES     | Pieces of mailcode                                          |
| 94.         | POUNDS     | Pounds of mailcode                                          |
| 95.         | RCONNO     | Replacement Container Number                                |
| 96.         | RCONTYPE   | Replacement Container Type                                  |
| 97.         | RDAY Repla | cement Day                                                  |
| 98.         | REMAIN     | Percentage of truck that had mail remaining                 |
| 99.         | REPLACE    | Indicates replacement test                                  |
| 100.        | RESCHED    | Indicates rescheduled test                                  |
| 101.        | RMONTH     | Replacement month                                           |
| 102.        | ROUTENO    | Highway contract route number                               |
| 103.        | RTRIPNO    | Replacement trip number                                     |
| 104.        | RYEAR      | Replacement year                                            |
| 105.        | SACKS      | Percentage of unloaded that was loose sacks                 |
| 106.        | SEALED     | Indicates sealed registered item                            |
| 107.        | SETASIDE   | Setaside number                                             |
| 108.        | SNUM       | Sack number                                                 |
| 109.        | SUM        | Temporary sum variable                                      |
| 110.        | TEST       | Date portion of testid                                      |
| 111.        | TESTDATE   | Test Date                                                   |
| 112.        | TESTID     | Unique code identifying a particular test                   |
| 113.        | TESTID2    | Total weight of item                                        |
| 114.        | TOTALLBS   | Total pounds                                                |
| 115.        | TOTALOZS   | Total ounces                                                |
| 116.        | TOTWT      | Total weight of item                                        |
| 117.        | TRIPNO     | Trip number                                                 |
| 118.        | UNLOADED   | Percentage of truck unloaded                                |
| 119.        | WHEELED    | Percentage of unloaded that was wheeled containers          |
| 120.        | WNUM       | Wheeled container number                                    |
| 121.        | WT         | Total weight of item by subclass                            |

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- 122. YEAR1 Year 1
- 123. YEAR2 Year 2
- 124. YEAR3 Year 3

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### FGFSA/USPS-T2-25

In Docket No. MC96-3, witness Patelunas (USPS-T-5, page 9, revised 8/7/96) testified as follows:

Another set of IOCS-related changes to the Fiscal Year 1995 CRA and the Base Year 1995 consists of refinements in the rules used to assign activity codes for Bulk Small Parcel Service (BSPS), third-class single piece, and First-Class ZIP+4 barcoded flats. The BSPS changes were made in the assignment of tallies for bulk small parcels to correct an overstatement of Parcel Post. Under this modification, bulk small parcels weighing one pound or less are assigned to either First- or third-class. Prior to this change, all bulk small parcel tallies were assigned to parcel post.

a. Please define or explain what the Bulk Small Parcel Service (BSPS) consists of.
b. Please explain how items in the BSPS that were sampled under TRACS during Base Year 1996 were recorded. In you explanation, give explicit attention to instructions given to TRACS samplers and the possibility that BSPS items may have been assigned to parcel post, and not third-class, as they were in IOCS tallies.
c. What assurance is there that TRACS samplers do not record BSPS items as parcel post? Specifically, are any of the edit programs in TRACS capable of checking for and correcting such an error? If so, please explain which program(s) accomplish

### this correction.

#### Response:

a. Please note that these questions pertaining to BSPS suggest that FGFSA has

misunderstood the definition of BSPS. Bulk Small Parcels are a type of Fourth

Class Parcel Post, not Third Class. The problem in IOCS was that some third-

class pieces were mistaken for BSPS.

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Bulk Small Parcels was a proposed parcel post subclass that never became

official. The Bulk Small Parcels study began in PQ3 of FY94, and involved five

parcel mailers endorsing fourth-class Parcel Post weighing between one and five

pounds with a special BSPS endorsement for identification by USPS data

collectors (some mailers were not strict in their interpretation of this weight

range). The resulting information would be used to estimate the costs for the

proposed parcel post subclass to see if small parcels had different cost incurrence patterns than general parcel post. BSPS was incorporated into USPS data collection systems effective PQ1 of FY95 and removed from TRACS with Reclassification. BSPS never became an official subclass of Parcel Post.

 b. BSPS Parcels were separately recorded in TRACS with the mailcode "KK"
 (whereas other Fourth Class Parcel Post is recorded with the mailcode "P" and DBMC Parcel Post is recorded with the mailcode "LL"). TRACS data collectors were given a "text message" (a field memo) notifying them of the Bulk Small Parcels Study. TRACS data collectors were told to record only Parcel Post bearing the BSPS endorsement as BSPS.

The structure of a TRACS test minimizes the potential for misclassification. Because a TRACS test involves the sampling of numerous items (containers and loose pieces) and their contents, mail items are grouped into rate categories prior to weighing. This reduces the likelihood that an individual mailpiece would be misclassified as BSPS, as such a misclassification would typically require grouping a mailpiece with dissimilar items.

c. The CODES data entry software has a pop-up screen which provides data collectors with the minimum and maximum weight limits of the various rate categories so they can verify their piece to ensure that it meets the weight requirements. TRACS records total weight by mailcode. So, if the average weight is less than one pound or greater than five pounds, this all but rules out misclassification.

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### FGFSA/USPS-T2-26.

a. LR-H-82, Part 4 states that in the TRACS program TRACS.EXPAND.HWY.PQ\*96.CNTL (SURVEY) the input file TRACSSMN.HIGHWAY.PQ\*96.SURVEY.TEXT contains a number of observations for each PQ, and the output file TRACSSMN.HIGHWAY.Q\*96.CREATE.SURVEY.DATA likewise contains a number of observations for each PQ. Please define the term "observation" as used here.

b. To provide a concrete illustration, assume that at a destination where a TRACS sample is taken, 4 pallets, 6 wheeled containers and 15 bed-loaded parcels are unloaded. Of these, the TRACS sampler records appropriate data pertaining to 2 pallets, 2 wheeled containers (containing mixed subclasses), and 8 of the bed-loaded parcels. The data recorded by the TRACS sampler at the time this one truck was off-loaded would represent how many observations (as defined in preceding part a)? If the preceding information is not sufficient to determine the number of observations, please specify all missing information and indicate how such information would affect the number of observations for the sample from this particular truck.

#### Response:

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- a. An observation is a SAS term indicating one row in a SAS data set (variables are columns, observations are rows). In the SURVEY.TXT dataset each observation represents one mailcode found in an item, with the rest of the information for that test merged on. Therefore if twenty mailcodes turned up in a TRACS test, there will be twenty observations pertaining to that test in the dataset. Each of the twenty observations will have some unique information pertaining to the mail code (weight, pieces, etc.), and will have some general information characteristic of the entire test (percent of truck unloaded, etc.)
- b. The pallets themselves do not create additional observations for a TRACS test;
   rather the pallet data in included on every observation from the test, as pallet
   data is considered general test information. The loose parcels would each create
   an additional observation. The number of observations generated from the

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wheeled containers depends on the number of different mailcodes that turn up in the items (letter tray, flat tray, sack, loose parcel, etc.) selected from the wheeled containers. Items are selected from wheeled containers using the following rules: 1) Select all Express Mail sacks and all loose Express Mail items. 2) Select at least one item from each type of item present in the container. For example, if a container had sacks (non-Express), envelope trays (also known as letter trays), and flat boxes (also known as flat trays or four-sided plastic trays), select one sack, one envelope tray, and one flat box for sampling. If the container had all envelope trays, just select one envelope tray.

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### RESPONSE OF POSTAL SERVICE WITNESS NIETO TO INTERROGATORIES OF FLORIDA GIFT FRUIT SHIPPERS ASSOCIATION

## FGFSA/USPS-T2-26a.

Please refer to LR-H-82, Part 4, program

TRACS.EXPAND.HWY.PQ\*96.CNTL(SURVEY), which lists and describes the final (48) variables in the SAS dataset containing the cleaned survey data, . Assume that during FY 1996 one of the sampled items from an Intra-BMC highway truck was a wheeled container, 60 percent full, the contents of which consisted of:

i).70 percent parcels (parcel post), or 42 percent of the container;

ii).20 percent bound printed matter, or 12 percent of the container; and

iii).10 percent Special fourth-class, or 6 percent of the container.

a. Would the contents of the container be recorded by the TRACS sampler as only parcel post? If not, how would the contents be entered or recorded (i) in the original data set, or

ii)the input dataset TRACSSMN.HIGHWAY.PQ\*96.SURVEY.TEXT?

b. In the program TRACS.EXPAND.HWY.PQ\*96.CNTL(SURVEY), in the 48 variable SAS dataset comprising the file

TRACSSMAN.HIGHWAY.Q\*96.CREATE.SURVEY.DATA, would the contents of the container be recorded as only parcel post?

c. Unless your answer to the preceding part b is an unqualified affirmative, please indicate (i) which of the 48 output variables show the amount of mail in each of the three subclasses, and (ii) how the original input data pertaining to the contents of the container are transformed to the data contained in the 48 variable SAS dataset TRACSSMAN.HIGHWAY.Q\*96.CREATE.SURVEY.DATA.

d. Which of the variables in the SAS dataset indicates that the container is only 60 percent full?

e. Which of the variables in the SAS dataset

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TRACSSMAN.HIGHWAY.Q\*96.CREATE.SURVEY.DATA indicates (i) the weight, and (ii) the volume of parcel post in the wheeled container?

f. Do any of the input variables in the SAS dataset

TRACSSMAN.HIGHWAY.Q\*96.CREATE.SURVEY.DATA indicate (i) the estimated square feet occupied by parcel posts or (ii) the cubic feet of parcel post? If so, provide the name and description of each such variable.

g. For the parcel post that was in the sampled container, which variables in the SAS dataset TRACSSMAN.HIGHWAY.Q\*96.CREATE.SURVEY.DATA reflect the number of square feet occupied by parcel post? If the number of square feet do not constitute one of the 48 SAS dataset variables, please indicate whether the square feet occupied by parcel post is computed subsequently in one of the other TRACS programs, (ii) if so, in which program, and (iii) how the computation is made, including which of the output variables listed on pp. 2026-2028 are used to compute the square feet occupied by parcel post.

h. For the parcel post that was in the sampled container, which of the 48 output variables reflect the number of cubic feet occupied by parcel post?
If the number of cubic feet do not constitute one of the 48 output variables, please indicate (i) whether the cubic feet occupied by parcel post is computed subsequently in one of the other TRACS programs, (ii) if so, in which program, and (iii) how the computation is made, including which of the output variables are used to compute the cubic feet of parcel post.

#### Response:

- a. Assuming that the parcels, the bound printed matter, and the Special Fourth-Class were all loose items within the wheeled container (i.e., not contained in sacks, etc.), then the data collector would have randomly sampled just one of these parcels from the loose container. The chance that the sampled item would be any of the three aforementioned subclasses would be equal to the items relative proportions of the wheeled container. A TRACS data collector samples one item of each type within the wheeled container. In the above example, if the parcels were loose, the bound printed matter was in a flat tray, and the Special fourth-class was in a sack, then the data collector would have sampled all three, and for each item, recorded the percentage of the contents of the wheeled container are recorded depends on which items the data collector samples. The SURVEY TEXT dataset will show one observation for each different subclass sampled in the wheeled container.
- b. As stated above, how the contents of the container are recorded depends on which pieces the data collector randomly samples from the wheeled container.

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- c. The variables WT, TOTWT, ITEMTYPE, MAILCODE, and PERCONT show what the data collector has recorded from the container. The data is not "transformed".
- d. The data collector does not record the utilization of the wheeled container.
- e. For each subclass recorded by the data collector, the variables WT (subclass) and TOTWT (item) show the weights recorded by the data collector.
- f. Neither square feet nor cubic feet are recorded for the mail found within a wheeled container.
- g. Square feet by rate category is neither recorded nor used.
- h. None. Cubic feet are calculated using density factors in expansion program HWY1.

# FGFSA/USPS-T2-27.

Please refer to LR-H-82, Part 4, program

TRACS.EXPAND.HWY.PQ\*96.CNTL(SURVEY), which lists and describes the 48 output variables in the SAS dataset containing the cleaned survey data, TRACSSMN.HIGHWAY.Q\*96.CREATE.SURVEY.DATA. Assume that one of the sampled items from an Intra-BMC highway truck was a wheeled container, 80 percent full, the contents of which were (i) 90 percent Standard (A) parcels (parcel post), (ii) 10 percent Standard (B) small (under 16 oz.) parcels in a sack (or sacks) placed in the container on top of the parcels.

a. Would the contents of the container be recorded by the TRACS sampler as only parcel post? If not, how would the contents be entered in the original data set?
b. In the program TRACS.EXPAND.HWY.PQ\*96.CNTL(SURVEY), in the 48 variable SAS dataset output, TRACSSMN.HIGHWAY.Q\*96.CREATE.SURVEY.DATA, would the contents of the container be recorded as only parcel post?

c. Unless your answer to the preceding part b is an unqualified affirmative, please indicate (i) which of the 48 variables listed in the above-cited reference would show the appropriate data pertaining to the volume of each of the two subclasses actually recorded in the survey data, and

whether (and how) the original input data are transformed to the data contained in the 48 variable SAS dataset.

# Response:

a. Assuming that the Standard (A) parcels were loose parcels, the data collector

would sample (record the weight and rate category) one loose parcel, and also

record that 90% of the items in the wheeled container were of the same item

type. The data collector would also sample one sack, counting and weighing its

contents by rate category. If multiple sacks were present, the data collector

would record that 10% of the container were items of the same type (sacks).

- b. No.
- c. The relevant variables are MAILCODE, PERCONT, ITEMTYPE, WT, TOTWT.

The data is not "transformed" in any way.

# FGFSA/USPS-T2-28

Assume that part of a TRACS sample consists of two large, loose parcels that were bed loaded in an Intra-BMC truck.

a. In the program TRACS.EXPAND.HWY.PQ\*96.CNTL(SURVEY), the input file TRACSSMN.HIGHWAY.PQ\*96.SURVEY.TEXT, which of the 124/126 input variables record the weight and volume of these two parcels?

b. Which of the 124/126 input variables record the square feet occupied by these two parcels?

c. Which of the 124/126 input variables record the cubic feet of these two parcels?

d. From the program TRACS.EXPAND.HWY.PQ\*96.CNTL(SURVEY), the 48 variable SAS dataset output file

TRACSSMN.HIGHWAY.Q\*96.CREATE.SURVEY.DATA, which output variables indicate (i) the square feet occupied by these two parcels, and (ii) the cubic feet occupied by these two parcels?

e. If the square feet or the cubic feet are not part of either the input data in the file TRACSSMN.HIGHWAY.PQ\*96.SURVEY.TEXT or the output data in the file TRACS.EXPAND.HWY.Q\*96.CREATE.SURVEY.DATA, please indicate where and how these measures are subsequently derived in the TRACS program.

## Response:

a. For each parcel, the variables WT and TOTWT show the weight of the parcels.

The volume of the parcels is not recorded.

b. No variable records the square feet assigned to individual parcels. Only

floorspace percentages by empty, remaining, and unloaded by type (wheeled

containers, pallets, loose items) are recorded.

- c. No variable in the SURVEY.TEXT dataset records cubic feet.
- No variable in CREATE.SURVEY.DATA records the cubic feet or the square feet
   of these two hypothetical parcels.
- e. Square feet are not calculated. Cubic feet are calculated using density factors in expansion program HWY1.

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## FGFSA/USPS-T2-29.

a. Assume that a pallet has a length of 4 feet, a width of 3 feet, and it is sampled upon being unloaded from a truck. Would TRACS compute the floor space occupied by that pallet as 12 square feet, or as something greater than 12 square feet? That is, does TRACS add any margin to allow for the fact that pallets may not fit precisely against each other?

b. Assume that two pallets measuring 4ft. x 3 ft. are stacked one on top of the other; i.e., two-high. Under the TRACS method for entering and computing data, would the average square feet of floor space occupied by each of the two pallets in a highway truck be considered equal to 6 square feet; ie., one half the number of square feet occupied by pallets when they are only one-high? Please explain fully any answer that is not an unqualified affirmative.

## Response:

a. TRACS does not inflate pallet dimensions to account for space between pallets.

Pallet dimensions are recorded only for determining the relative cubic feet of the

mailclasses within the sampled pallets. The TRACS data collector only records

the percent of floorspace occupied by pallets as a group. If there is unusable

space between two pallets in close proximity, the data collector will record the

entire area as occupied by pallets.

b. TRACS does not record absolute square footages. TRACS records the

percentage of floorspace occupied by pallets. The pallets that are sampled are

expanded to the percentage of floorspace occupied by all pallets.

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# FGFSA/USPS-T2-30.

a. In the program TRACS.EXPAND.HWY.PQ\*96.CNTL(SURVEY), the SAS dataset TRACSSMAN-HIGHWAY.Q\*96.CREATE.SURVEY.DATA, which of the 48 variables indicates whether pallets were stacked one-high or two-high?

b. If no variable indicates whether pallets are stacked one-high or two-high, please explain how TRACS computes the average square feet of floor space occupied by palletized mail (i) when pallets are stacked only one-high, and (ii) when pallets are stacked two-high.

## Response:

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a. There is no variable in CREATE.SURVEY.DATA which indicates if pallets are

stacked.

b. The TRACS data collector records the percentage of floorspace occupied by

pallets, not the absolute square feet. The percentage of floorspace occupied by

pallets does not change if additional pallets are stacked in the same amount of

floorspace.

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## FGFSA/USPS-T2-31.

Please refer to LR-H-82, program

TRACS.EXPAND.HWY.PQ\*96.CNTL(HWYI), Under outputs, it is stated that TRACSSMN.EXPAND.HIGHWAY.PQ\*96.DATA(DENSITY) has 41 observations and 2 variables.

a. Please define "observation" as the term is used here and explain what the 41 observations consist of.

**b.** What is the source of these 41 observations? In your answer, please state specifically whether they represent observations and data recorded by TRACS data collectors.

c. What are the 2 variables?

## Response:

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a. An observation is a SAS term indicating one row in a SAS data set (variables are

columns, observations are rows). The 41 observations form a lookup table of

TRACS mailcodes and density.

- b. These 41 observations are hard coded into the SAS program. They are not
- recorded by TRACS data collectors.
- c. The two variables are MAILCODE (TRACS rate category) and DENSITY

(mailcode density).

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## FGFSA/USPS-T2-32

Please refer to LR-H-82, program TRACS.EXPAND.HWY.PQ\*96.CNTL(HWYI), Under outputs, it is stated that TRACSSMN.EXPAND.HIGHWAY.PQ\*96.DATA(CONTCUFT) has 7 observations and 2 variables.

a. Please define "observation" as the term is used here and explain what the 7 observations consist of.

b. What is the source of these 7 observations? In your answer, please state specifically whether they represent observations and data recorded by TRACS data collectors.

c. What are the 2 variables?

### Response:

a. An observation is a SAS term indicating one row in a SAS data set (variables are

columns, observations are rows). The seven observations form a lookup table of

container types and standard cubic feet. The seven container types included are

BMC-OTRs, ERMCs, GPC/GPMCs, hampers, wiretainers, Postal-Paks, and

other.

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- These 7 observations are hard coded in the program. They are the standard cubic feet of each container (setaside) type. They are not recorded by data collectors.
- c. The two variables are SETASIDE (number indicating container type) and
   CONTCUFT (standard cubic feet of container type).

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# FGFSA/USPS-T2-33.

Please refer to LR-H-82, program TRACS.EXPAND.HWY.PQ\*96.CNTL(HWYI), Under outputs, it is stated that TRACSSMN.EXPAND.HIGHWAY.PQ\*96.DATA(ITEMCUFT) has 5 observations and 3 variables.

a. Please define "observation" as the term is used here and explain what the 5 observations consist of.

b. What is the source of these 5 observations? In your answer, please state specifically whether they represent observations and data recorded by TRACS data collectors.

## Response:

a. An observation is a SAS term indicating one row in a SAS data set (variables are

columns, observations are rows). The five observations form a lookup table of

item types and standard cubic feet. The five items included are letter trays, half-

size letter trays, flat trays, small parcel trays, and CON-CONs.

- b. These five observations are hard coded in the program. They contain the
   standard cubic footage of the these item types. They are not recorded by data collectors.
- c. The three variables are CTYPE (item type), NCTYPE (same as item type), and

ITEMCUFT (standard item cubic feet).

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## FGFSA/USPS-T2-34.

Please refer to LR-H-82 program TRACS.EXPAND.HWY.PQ\*96.CNTL(HWYI), Under outputs, it is stated that TRACSSMN.EXPAND.HIGHWAY.PQ\*96.DATA(CONTAINER) has 8,756 observations in PQ4 and 7 variables.

a. Please define "observation" as the term is used here and explain what the 8,756 observations consist of, and how the 8,756 observations are derived from or related to the 16,475 PQ4 observations contained in the input data file.

b. What is the source of these 8,756 observations? In your answer, please state specifically whether they represent observations and data recorded by TRACS data collectors.

c. What are the 7 variables?

### Response:

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a. An observation is a SAS term indicating one row in a SAS data set (variables are

columns, observations are rows). The 8,756 observations in this data are the

containerized mail. They are a subset of the 16,475 overall observations.

- b. These observations represent data from the CREATE.SURVEY.DATA file, which
- comes from the SURVEY.TEXT file, which contains data collected in the field by TRACS data collectors.
- c. The seven variables are TESTID (test identification code), CONTNO (container number), MAILCODE (TRACS rate category), FCODE3 (origin facility code),
   CUFT (cubic feet), \_TYPE\_ (SAS system variable indicating numeric variables),
   and \_FREQ\_ (SAS system variable indicating the number of observations going into the MEANS procedure).

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# FGFSA/USPS-T2-35.

Please refer to LR-H-82 program TRACS.EXPAND.HWY.PQ\*96.CNTL(HWYI),

a. What is the source of data used to arrive at the FY 96 density factors for each mail rate category? In your answer, please specify whether any of these density factors were originally derived from observations and sample data collected by TRACS data collectors during FY 96. If not, what was the source of these density factors?

b. For the new mail rate categories created as a result of reclassification in MC95-1, what is the source of density factors that will be used in the TRACS program for FY 1997?

c. How many container types are there (please specify), and what is the source of "standard cubic feet" (CONTCUFT) for each container type (SETASIDE),

d. How many item types are there (please specify), and what is the source of the standard cubic feet (ITEMCUFT) for each item type (CTYPE)?

e. With respect to lines 191-205, it states that the program calculates the average cubic feet for each mailcode, compares each observation to the average, and prints those observations with cubic feet exceeding 15 times the average for that mailcode. When an observation is 15 times the average for that mailcode, by how many standard deviations is it removed from the average? Also, what does the TRACS program then do with these "outliers" that get printed?

f. The discussion with respect to lines 214-252 contains several references to measured cubic feet. Please define the term "measured cubic feet" as used here. In your answer, please address specifically whether measured cubic feet represents data recorded directly by TRACS data collectors, or whether it is a computed number based on other data recorded by TRACS data collectors. If it is computed, please explain how it is computed.

## Response:

a. The density factors come from the Form 22 density study of PQ492. Please refer

to Docket No. R94-1, USPS-LR-G-127 for a description of the methodology,

data collected, and results underlying the Form 22 Density Study. They are not

derived from TRACS data collected during FY96.

b. Two additional density studies provided densities that were used to estimate

transportation costs for mail classes impacted by classification reform. They are

documented in Docket No. MC95-1, USPS-LR-MCR-13 and Docket No. MC96-2,

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USPS-LR-PRR-5. It is not known at this time which density factors will be used in the FY97 TRACS programs.

- c. There are 7 container types. The standard cubic feet come from the USPS container reference guide "Container Methods".
- d. There are 5 item types. The standard cubic feet come from the USPS container reference guide "Container Methods".
- e. Standard deviations from the average are not calculated. The TRACS program does not delete or manipulate these "outliers"; they are only printed for manual investigation.
- f. The passage in question reads, "For box-type containers, the cubic foot capacity of the items is apportioned to rate categories based on measured cubic feet per rate category (CUFT/TOTCUFT). For items such as bundles, loose parcels, and loose Express items no expansion beyond measured cubic feet is made."
  Measured cubic feet is not directly recorded by the data collector. The data collector records weight by rate category. This weight, when converted using a density factor, yields measured cubic feet.

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## FGFSA/USPS-T2-36.

Please refer to LR-H-82, program TRACS.EXPAND.HWY.PQ\*96.CNTL(HWY1).

a. It is stated that "the objective of the program is to expand the sample containerized mail up to the container level." Please explain whether this program adds any empty cube (e.g., in partially filled containers) to the actual cubic feet that were measured or counted in the sampling process. If this is not what occurs with this program, please explain fully what is meant by the phrase "expand the sample ... up to the container level."

b. Please define and describe the 7 variables contained in the dataset TRACS.EXPAND.HWY.PQ\*96.DATA(CONTAINR).

c. What do the observations in the dataset

TRACS.EXPAND.HWY.PQ\*96.DATA(CONTAINR) consist of; i.e., what information do they contain?

**d.** From the dataset TRACS.EXPAND.HWY.PQ\*96.DATA(CONTAINR), how can one determine the total weight and cubic feet of containerized mail assigned to each frate category at this stage of the expansion process?

## Response:

a. The cubic feet of the items in the container are expanded to represent the total

- cubic feet of the container in proportion to their cubic feet. Actual empty space

within the container itself is not explicitly calculated and applied, but it is

accounted for. For example, let's say that a flat tray contains items representing

two different classes of mail within it. After the recorded weight of each group of

items has been converted to cubic feet by applying the appropriate mailcode

density factor, let us assume that the total cubic feet of items of mailcode A are

0.5 and the total cubic feet of items of mailcode B are 2, for a total of 2.5 cubic

feet of mail. Also, assume that the standard cubic feet of a flat tray is 4. Then,

after this program, the cubic feet of mailcodes A and B are as follows:

CUFT A = (0.5 / 2.5) \* 4 = 0.8 cuft CUFT B = (2 / 2.5) \* 4 = 3.2 cuft

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- b. The seven variables are TESTID (test identification code), CONTNO (container number), MAILCODE (TRACS rate category), FCODE3 (facilty code), CUFT (cubic feet), \_TYPE\_ (SAS system variable indicating numeric variables), and \_FREQ\_ (SAS system variable indicating the number of observations going in to the MEANS procedure).
- c. The observations contain the cube of each subclass in each container.
- The total cubic feet assigned to each rate category at this stage of the expansion process is contained in the variable CUFT. Weights are not included in this dataset.

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FGFSA/USPS-T2-37.

## Please refer to LR-H-82, program

TRACS.EXPAND.HWY.PQ\*96.CNTL(HWYI). Under "action of program," for lines 105-110, it states that the program "merges in standard rate category density factors," and for lines 126-134 it "merges in standard item cubic feet."

a. Please explain the source of the standard rate category density factors contained in or used by this program.

b. Does this TRACS program incorporate and use the different cube-weight relationship results for Intra-BMC, Inter-BMC and DBMC? If not, please explain why these different cube-weight relationships are not used.

c. Does the TRACS program TRACS.EXPAND.HWY.PQ\*96.CNTL(HWYI) contain separate standard rate category density factors for Bulk Small Parcel Service and other third-class mail? If so, please provide those factors.

d. What is the source of the "standard item cubic feet" that are merged in?

e. What are the standard item cubic feet for (i) parcel post, and (ii) BSPS, or bulk small parcels that weigh less than 16 ounces?

## Response:

a. Please refer to my response to FGFSA/USPS-T-2-35.

b. No. TRACS uses a single density for Fourth-Class Zone-rated Parcel Post,

whereas Exhibit USPS-6B separates parcel-post into a finer level of detail

corresponding to the rate categories. Please refer to witness Hatfield's response

to FGFSA/USPS-T-16-6 and to my response to UPS/USPS-T2-1.

c. As previously stated, Bulk Small Parcels are Fourth Class Parcels, not third-

class. TRACS has a separate density for Bulk Small Parcels and separate

densities for third-class rate categories. Please refer to USPS-H-82,

TRACS.EXPAND.HWY.PQ\*96.CNTL(HWY1), Program Log, Lines 20-63 for the

density factors by mailcode used by TRACS.

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d. The standard item cubic footages come from the Container Methods Handbook.

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e. Standard item cubic feet are the cubic footages of container item types (letter

trays, flat trays, etc.), not of subclasses.

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## FGFSA/USPS-T2-38.

Please refer to LR-H-82, program TRACS.EXPAND.HWY.PQ\*96.CNTL(HWY2).

a. Please define the term "loose items" as used by this TRACS program.

b. Are bed-loaded pieces of parcel post considered to be loose items?

c. Are sacks of BSPS (i.e., small, under 16 OZ. parcels) that are loaded (i) on top of bed-loaded parcel post, or (ii) on top of OTR containers considered to be loose items?
 d. From the dataset TRACS.EXPAND.HWY.PQ\*96.DATA(LOOSE), how can one determine the total weight and cubic feet of loose items assigned to each rate category at this stage of the expansion process?

e. Assume that a TRACS sampler has recorded some pieces of parcel post as being bed-loaded on an Intra-BMC truck. How, and in what way, would the weight and cubic feet assigned to those parcels by this expand program differ from the actual weight and cubic feet of those parcels as recorded by the TRACS sampler?

## Response:

a. Loose items are non-containerized pieces.

- b. Yes.
- c. Sacks are a distinct item type and are not loose items. In example (i) the data

collector would consider it part of the loose items on the floor but would sample its contents just like any other item (i.e., letter tray). In (ii), it is difficult to imagine that a sack would be on top of an OTR without actually being in it since OTRs are open. Therefore, the data collector would treat the sack just like any of the other item types within the OTR (other sacks, trays, loose items) and sample the container accordingly.

d. The variable TOTCUFT contains cubic feet of loose items at this stage of the expansion process. The variable TOTWT contains the weight of loose items at this stage of the expansion process.

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 e. As stated in the documentation for expansion program HWY2, " For items such as bundles, loose parcels, and loose Express items no expansion beyond measured cubic feet is made."

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## FGFSA/USPS-T2-39

Assume that there are two identical parcels, with the same weight, dimensions, cube, origin and destination, and that these two parcels are transported in Intra-BMC transportation in the same vehicle on the same route, but on different days, and that both parcels are sampled under TRACS at the same destination. At destination the TRACS data reflects that, for the day 1 trip the truck was 0% empty, and for the day 2 trip the truck was 50% empty.

Please confirm that, in the TRACS program::

a) The computed cubic feet for each of the two parcels will be the same.

b) In the expansion process different factors are taken into account for each parcel to reflect the different empty percentages.

c) The expanded cubic feet for each of the two parcels will be different.

d) The expanded cubic feet of the parcel sampled on day 1 will be less than the expanded cubic feet of the parcel sampled on day 2.

e) The computed cubic foot miles for each of the parcels will be different.

f) The computed cubic foot miles for the parcel sampled on day 1 will be less than the computed cubic foot miles for the parcel sampled on day 2.

g) Fully explain how and why the expanded cubic feet for these two parcels will be different.

h) If you do not fully confirm any of the above, please fully explain.

### Response:

a. If computed cubic feet of the parcels refers to the weight times the density factor, confirmed

confirmed.

b-h. There are a great deal of factors that must be known about these tests before

these statements can be confirmed. For example, the containerization of the

parcel would affect the expanded cubic feet, such as whether the parcel had

been loose in the truck, in a sack in a wheeled container, loose in a container,

and what other proportions of mail were in the container and trucks. The floor

space occupied by the group of items from which the parcels were sampled as a

percentage of the mail unloaded would also need to be known.

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## FGFSA/USPS-T-2-40

When a TRACS test is taken, the data collector records the percentage of floor space that was (a) already empty, (b) unloaded and (c) remaining after unloading.

a) Confirm that these are percentages of square feet of floor space. If you do not confirm, please explain.

b) Confirm that the utilization figures which you identified in response to FGFSA/USPS-T-13-30 are the averages for each quarter of the empty square feet as recorded by the data collectors.

### Response:

a. Confirmed.

b. Confirmed.

### FGFSA/USPS-T-2-41

To what extent are the trailers used in Intra-BMC and Inter-BMC vertically utilized? Are these trailers ever fully vertically utilized?

### Response:

The typical trailer used in Intra-BMC and Inter-BMC transportation is 96" tall. A review of the survey data from the 1,233 FY96 Intra-BMC and 1,467 FY96 Inter-BMC TRACS tests in which mail was unloaded (and thus height measurements were taken inside the truck) has shown that, for the mail unloaded from the truck, the average height of the loaded mail (including wheeled containers which are approximately 72" tall) is approximately 65" for Intra-BMC, and approximately 54" for Inter-BMC. The higher vertical utilization for Intra-BMC is due to a higher occurrence of wheeled containers relative to sacks, pallets, or bedloaded mail. There were four Intra-BMC TRACS tests in which a portion of the truck was vertically used up to 96", and two Intra-BMC TRACS tests in which the entire truck was vertically used up to 96". There was only one Inter-BMC TRACS tests in which a portion of the truck was vertically used up to 96".

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## FGFSA/USPS-T-2-44

a) Do you agree that, under TRACS, the cost of a route is allocated to individual segments of a route? Please explain any disagreement.

b) Is this allocation of costs to individual segments of a route simply a division of the joint cost of providing capacity over the entire route? Please explain any negative response.

## Response:

(a) I do not agree. Please refer to my response to FGFSA/USPS-T-2-13.

(b) Please refer to my response to FGFSA/USPS-T-2-13.

## FGFSA/USPS-T-2-45

Refer to your response to FGFSA/USPS-T16-15. There you state: The cost of a cubicfoot mile is determined for the whole contract, not for each specific leg. And The purchased capacity of a truck is a resource purchased for all the types of mail which use it, and empty space on a truck reflects the requirements of all the mail on that particular contract route.

a) Explain why TRACS divides the joint cost of the route into segment costs and assigns complete responsibility for individual segments to the mail on that segment.
 b) Explain why the joint cost of the entire route should not be allocated to all mail

using the route on that day.

c) Explain why TRACS assigns responsibility for empty space on a particular segment of a route to the mail that was on the truck over that segment, rather than assign the empty space to the mail that caused the truck to be dispatched on the day when the sample was taken.

d) Do you agree that it would be proper to average the empty space along each segment of the total route over all of the mail utilizing the truck on that day?

### Response:

(a) Not applicable. Again, please refer to my response to FGFSA/USPS-T-2-13.

(b) The cost per cubic foot mile reflects the costs of the entire contract. The cost per

cubic foot mile is applied to all the cubic foot miles sampled by TRACS on that contract

during the quarter. TRACS cannot sample all the mail on the contract during the entire

year, so it must sample selected trips, segments, and days on a contract, producing a

snapshot of the classes of mail which utilize the transportation resource, cubic-foot

miles.

(c) TRACS samples only some destinations on a contract-route-trip, and not likely on the same day. TRACS data collectors are trained to record and measure what they observe, not to speculate as to what specific subclass of mail "caused" a truck to be dispatched from a downstream facility which they are not located at. It is doubtful that

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even the dispatcher at that facility could identify a container which "caused" a truck to be dispatched, let alone a specific subclass. There are so many factors both at the downstream and upstream facilities related to mail processing and transportation requirements that to even say that a specific subclass or even a group of mail caused a specific truck to be dispatched is speculative, at best. Instead, TRACS estimates the utilization of the purchased transportation resource, cubic-foot miles, by the different classes and subclasses. By allocating the empty costs of the space to the mail on the segment which we sample, and by sampling different segments on different contracts over a period of time, the distribution keys will reflect that certain classes of mail (for whatever reason) travel on trips or segments which tend to be emptier.

(d) I do not agree. Please refer to my answer to part (c).

## FGFSA/USPS-T-2-46

Your response to FGFSA/USPS-T16015 characterized TRACS as a measurement system

a) Explain what is measured by the allocation of total route cost to individual segments of the route.

b) Explain whether the measurement of individual segment costs is an accounting measure, an economic measure, or some other type of measure. Please include definitions of your terms.

## Response:

a) and b) Not applicable. Please refer to my response to FGFSA/USPS-T-2-13.

## FGFSA/USPS-T-2-47

a) Confirm that, under TRACS, the distribution key is developed through the assignment of joint costs to individual segments of the route. If you do not confirm, please explain.

b) Do you agree that a reasonable distribution key would reflect actual utilization of the Intra-BMC capacity over the entire route? Please explain any negative response.
 c) Do you agree that distribution keys developed under a and b above would be significantly different?

### Response:

a) Not confirmed. Please refer to my response to FGFSA/USPS-T-2-13.

b) I do not agree. If TRACS sampled every route-trip-segment under a contract,

then we could reflect the actual utilization of the intra-BMC capacity over the entire

route. The distribution key would then reflect actual utilization over the entire route.

However, I do not feel that to sample every route-trip-segment on a contract is

reasonable.

c) I have not done any analyses on this subject.

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### FGFSA/USPS-T2-48

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Assume that there are two identical parcel post parcels (each parcel being 1 ft x 2 ft x 1 ft), and each parcel having a weight of 20 lbs.. Two of these parcels are placed in each of two trailers (40 ft. x 8 ft. x 7 ft.), for Intra-BMC transportation, and that both parcels are sampled at the place of unloading in the TRACS program. In trailer No. 1, the two parcels are placed on the floor of the trailer, side by side. In trailer No. 2, the two parcels are placed on the floor of the trailer, one on top of the other. No other mail is placed on top of the parcels in either trailer.

a) Explain the computation to record the actual cubic feet of each parcel.

b) Explain how the cubic feet of each parcel is expanded under the TRACS programs.

c) How is the fact that the two parcels are stacked one on top of the other, recorded in the TRACS sample data?

d) If the one trailer is 10% empty at the time of the TRACS sample, how does this affect the expanded cubic feet?

e) If the one trailer is 50% empty at the time of the TRACS sample, how does this affect the expanded cubic feet?

f) Will the cubic feet of the two parcels be the same under each a) and b) above? If not, explain why there is a difference.

### **Response to FGFSA/USPS-T2-48:**

In order to provide an adequate response, we have made several simplifying

assumptions:

-- All mail was loaded onto the truck at the stop preceding the test;

-- All mail was unloaded from the truck at the time of testing; and,

- The two loose parcels comprise all mail in the item group "Other" (the other groups

are "Wheeled", "Pallets", "Sacks" and "Express")

a) The formula for calculating cubic feet based on recorded sample weights can be found in HWY 1, PQ196, on line 73 (and in similar locations for other quarters):

(1) CUFT = WT \* DENSITY, where DENSITY is a cubic feet-per-lb. factor for each rate category.

In the case of a 20 lb. parcel, we have:

CUFT = 20 lbs. \* 0.14253 (density factor for mailcode P) = 2.8506.

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#### RESPONSE OF POSTAL SERVICE WITNESS NIETO TO INTERROGATORIES OF FLORIDA GIFT FRUIT SHIPPERS ASSOCIATION

b) Please note that the order of the calculations shown below is not exactly the same as found in the TRACS programs; we have presented them this way for purposes of simplicity.

The first step in expansion is to calculate cubic feet from sampled weights, as shown above. Since we are dealing with loose parcels, there is no need for any expansion up to the sampled item level (as there would be for mail found in box-type containers or sacks).

Next, the cubic feet of the parcels is expanded to match the utilization proportions of the particular group in the truck which corresponds to the sampled parcels. Loose parcels would be included in the group OTHER. This equation can be found in HWY 6, PQ196, line 50:

(2) CUFT = (CUFT/GRPCUFT) \* OTHER,

where CUFT has been calculated above in (1).

GRPCUFT is the cubic foot sum for each item group on each truck, and OTHER is the cubic feet calculated by expanding the percentages of floor space occupied by each item group of mail up to the truck's capacity.

To calculate the value of OTHER (Note: this is a combination of more than one equation from TRACS programs):

 (3) OTHER = (CAPACITY \* (% of floor space occupied by loose items) / TOTAL) \* UNLOADED,

where CAPACITY is the total cubic-foot capacity of the truck (40 \* 8 \* 7 = 2240 cu. ft.), the percentages of floor space are recorded by TRACS data collectors,

TOTAL is the sum of the cubic feet unloaded for each of the 5 item groups, and

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### RESPONSE OF POSTAL SERVICE WITNESS NIETO TO INTERROGATORIES OF FLORIDA GIFT FRUIT SHIPPERS ASSOCIATION

UNLOADED is the total cubic feet unloaded from the truck. (Note: Since we are assuming that all mail is unloaded at the time of the test, TOTAL and UNLOADED take on the same value.)

Assuming that if the two parcels are stacked, the floor space occupied is 1% (see response below to part c.). Then, OTHER =  $2240 \times 0.01 = 22.4$  cu. ft. Thus, since GRPCUFT = 2.8506 + 2.8506 = 5.7012, the cubic foot sum of the two parcels, then for each parcel, CUFT =  $(2.8506/5.7012) \times 22.4 = 11.2$  cu. ft.

c) The difference would be found in the way that the TRACS data collector records the percentage of floor space taken up by each item group. If the parcels were stacked, a data collector would likely record that they take up 1% of the floor space. For comparison purposes, we will assume that the parcels side by side would be recorded as having taken up 2% of the floor space.

d) If a truck has empty space on it, then TRACS does one last expansion to the cubic feet to allocate the empty space across all the mail found on the truck. In this example, we use the percentage given in the question. The equations for allocating the empty space can be found in HWY10, PQ196, lines 36-41, which will result in the final, expanded cubic feet data:

(4) EMPTY = CAPACITY \* Percentage of truck that is empty

Here, EMPTY = 2240 \* 0.10 = 224 cu. ft. of empty space

(5) CUFT = CUFT + (CUFT/(CAPACITY - EMPTY)) \* EMPTY

Thus, CUFT = 11.2 + (11.2/(2240-224)) \* 224 = 12.4 cu. ft.

• e) The process and equations used to expand TRACS data and allocate empty space are identical to those described above, with the exception of a different amount of empty space calculated in (5):

(4) EMPTY = 2240 \* 0.50 = 1120 cu. ft. of empty space

(5) CUFT = 11.2 + (11.2/(2240-1120)) + 1120 = 22.4 cu. ft.

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### RESPONSE OF POSTAL SERVICE WITNESS NIETO TO INTERROGATORIES OF FLORIDA GIFT FRUIT SHIPPERS ASSOCIATION

f) No. As described above in part d., TRACS data collectors would record different percentages of floor space occupied by the parcels in the two scenarios, which would necessarily vary the output of (4), and thus the result of the subsequent equations as well.

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### FGFSA/USPS-T2-49

Please confirm that the amounts shown for PERCONT in the percentage of the container filled with items of the same item type. If you do not confirm, please provide the correct terminology.

a) Is the item type the same as mailcode? If not, please explain.

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b) Confirm that the cubic feet occupied by the sampled mail is expanded to the container level in EXPAND(HWY1) If not, where does this expansion occur?
c) In the expansion to the container level, how is the amount shown as PERCONT

taken into account?

d) If the PERCONT is shown to be 55, will only 55% of the standard cubic feet of the container be taken into account? If not, please explain.

### Response to FGFSA/USPS-T2-49:

Confirmed with clarification. PERCONT is percentage of the container filled with items of the same item type, in whole numbers rather than decimal percentages. PERCONT may be recorded either relatively (i.e., sum of PERCONT within an item always adds up to 100%), or absolutely (i.e., sum of PERCONT within an item can falls short of 100% by the percentage of the item that was empty). Due to subsequent normalization of cubic footages in the expansion to container size, this distinction is irrelevant since all relative proportions are preserved. PERCONT will be missing if the DCT recorded the distribution of item types within the container by quantities rather than percentages.

a) Not confirmed. TRACS distinguishes numerous item types including envelope trays, half size envelope trays, flat trays, small parcel trays, CON-CONs, sacks, and loose mail pieces. When an item (such as an envelope tray) is selected for sampling, the Data Collection Technician (DCT) takes all mail from within that item and groups it by TRACS mailcode category (usually related to rate category for a class or subclass of mail) for weighing and piece counting.

b) Confirmed.

c) In cases where the DCT recorded the distribution of items found within a container in terms of percentages (rather than quantities of each itemtype), the variable

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PERCONT is used in distributing the cubic feet of the container to the mailcodes found within the sampled item of each item type found in the container.

Note that it does not matter whether the data collector records PERCONT as the *percentage of the container* filled by each itemtype (in which case PERCONT will not add up to 100 if the container is not full), or as the percentage of the full portion of the container for each itemtype (in which case PERCONT will add up to 100 regardless of empty space) because it is only the relative proportions that matter, as everything is normalized to add up to the size of the container in line 295. This is also why it is irrelevant that PERCONT is a whole number rather than a decimal percentage. While all cubic footages are overstated by a factor of 100 after the calculation in line 278, the relative proportions are maintained and the cubic footages are normalized to add up to the size of the container for the calculation in line 278.

d) No. Please refer to my response above in FGFSA/USPS-T2-49 (c).

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## FGFSA/USPS-T2-50

Please refer to the qtr 1 records for TESTID 09306AG. Please confirm:

- a) This sampling occurred at a BMC on an inbound movement.
- b) The sample from container no. 1 shows:
  - i. The PERCONT was 55
- ii. 1 piece of mailcode P, having a weight of 7.1875 pounds
- iii. The calculated cubic feet of the sample is 1.02444 cu. Ft.
- iv. The expanded cubic feet, in EXPAND(HWY1), is 110.610.
- c) The sample from container no 2 shows:
- i. the PERCONT was 75.
- ii. 1 piece of mailcode P, having a weight of 1.3125 pounds
- iii. The calculated cubic feet of the sample is 0.18707 cu. Ft.
- iv. The expanded cubic feet, in EXPAND(HWY1) is 110.610
- d) The sample from container no. 5 shows:
- i. The PERCONT was 60.
- ii. A piece of mailcode P, having a weight of 5.6875 pounds.
- iii. The calculated cubic feet of the sample is 0.81065 cu. Ft..
- iv. The expanded cubic feet, in EXPAND(HWY1) IS 110.610.

e) The combined expanded cubic feet for the three containers (1, 2 &5) is 331.220 cu.ft.

f) The combined cubic feet was further expanded, in EXPAND(HWY6), to a total of 1,620 cu. Ft.

i. explain why the 331.20 cu. Ft. was expanded to 1,620 cu. Ft, which is an expansion factor of 4.891.

g) 1,620 cu. Ft. is the amount taken into account for these samples, after converting the cu. Ft. into cubic foot miles, in the determination of the distribution key.

- h) The sample from container no. 3 shows:
- i. The PERCONT was 70.
- ii. 1 piece of mailcode M, having a weight of 0.25 pounds.
- iii. The calculated cubic feet of the sample is 0.01415 cu. Ft.
- iv. The expanded cubic feet, in EXPAND(HWY1), IS 110.61.
- 1) The sample from container no. 4 shows:
- i. The PERCONT was 80.
- ii. 1 piece of mailcode M, having a weight of 0.75 pounds.
- iii. The calculated cubic feet of the sample is 0.04244 cu. Ft.
- iv. The expanded cubic feet, in EXPAND(HWY1) is 110.61.

j) The combined expanded cubic feet for the two containers (3 & 4) is 221.220.

k) The combined cubic feet was further expanded, in EXPAND(HWY6) to a total of 1,080 cu. Ft.

i. Explain why the 221.220 cu. Ft. was expanded to 1,080 cu. Ft., which is an expansion factor of 4.882.

1,080 cu. Ft. is the amount taken into account for these sample, after converting the cu. Ft. into cubic foot miles, in the determination of the distribution key.

m) Explain why the expansion factor used for mailcode P in different from the expansion factor used for mailcode M.

#### Response to FGFSA/USPS-T2-50:

- a) Confirmed.
- b) i) Confirmed.
  - ii) Confirmed.
  - iii) Confirmed.
  - iv) Confirmed.
- c) i) Confirmed.
  - ii) Confirmed.
  - iii) Confirmed.
  - iv) Confirmed.
- d) i) Confirmed.
  - ii) Confirmed.
  - iii) Confirmed.
  - iv) Confirmed.

e) Not confirmed. The combined cubic feet of 3 containers each 110.61 cubic feet is 331.83 cubic feet, not 331.22 cubic feet.

f) Confirmed.

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i) It was recorded that the entire 2,700 cubic foot truck was full of wheeled containers, which were all unloaded. Five containers were selected for sampling. For each container sampled, a data collection technician selected one item of each item type for sampling. All five containers contained only loose items, so one loose item was sampled from each container. The loose items sampled from containers 1, 2, and 5 were all mailcode 'P'; thus the combined 331.83 ft<sup>3</sup> (110.61 ft<sup>3</sup> times 3 containers) of these three containers was assigned to mailcode 'P'. The loose items sampled from containers 3 and 4 were both mailcode 'M'; thus the combined 221.22 ft<sup>3</sup> of these two containers was assigned to mailcode 'P'. The total cubic footage of all five sampled containers is 553.05. Since only wheeled containers were found on the truck, the mail found on the sampled containers is expanded to the entire 2,700 cubic feet of the truck. This is done in line 44-53, which, for wheeled containers, sets CUFT = (CUFT/GRPCUFT) \* WHEELED. Inserting the appropriate numbers gives: CUFT = (331.83 / 553.05) \* 2700. (WHEELED is equal to 2,700 because 100% of the truck was occupied by wheeled containers.

g) Confirmed with clarification. 1,620 expanded cubic feet for mailcode 'P', multiplied by the miles traveled by these wheeled containers, multiplied by the cost per cubic foot mile of the contract, is what is used in determining the distribution key.

- h) i) Confirmed.
  - ii) Confirmed.
  - iii) Confirmed.
  - iv) Confirmed.
- i) i) Confirmed.
  - ii) Confirmed.
    - iii) Confirmed.
    - iv) Confirmed.

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j) Confirmed.

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k) Confirmed. For an explanation please refer to my above response to FGFSA/USPS-T2-50 (f) (i).

 Confirmed with clarification. 1,080 expanded cubic feet for mailcode 'M', multiplied by the miles traveled by these wheeled containers, multiplied by the cost per cubic foot mile of the contract, is what is used in determining the distribution key.

m) The "expansion factor" for mailcode 'P' is not different from the expansion for mailcode 'M'. Your calculation of the cubic feet of the three containers assigned to mailcode 'P', which you state to be 331.22 in question (e), and 331.20 in question (f), is slightly inaccurate. Using the correct cubic feet of 331.83 yields the same "expansion factor" for both mailcodes.

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### FGFSA/USPS-T2-51

Please refer to the qtr 1 records for TESTID 09336BE. Please confirm:

- a) This sampling occurred at a BMC on an inbound movement. And the vehicle was 70% empty.
- b) Three containers were sampled, each having a piece of mailcode P.
- c) The combined weights of the 3 sampled pieces was 16.6875 pounds.
- d) The combined calculated cubic feet of the sampled pieces was 0.99772 cu. Ft.
- e) The cubic feet for the samples was expanded, in EXPAND(HWY1), to 48.640 cu.
   Ft. for each sample, and, in EXPAND(HWY4) combined in the total of 145.920 cu. Ft.
- f) The combined cubic feet was further expanded, in EXPAND(HWY10) to a total of 1,885 cu. Ft.
- g) The total of 1,885, after being converted to cubic foot miles, is the amount taken into account in the determination of the distribution key.

#### Response to FGFSA/USPS-T2-51:

a) Confirmed.

b) Confirmed with clarification: One loose item was sampled from each of the three containers, and no other types of items (such as sacks or trays) were in the container.
 In each case the loose item selected for sampling was a piece of mailcode P.

- c) Confirmed.
- d) Not confirmed. The combined calculated cubic feet of the first two parcels is

0.99772. The total calculated cubic feet for the three sampled parcels is 2.37849.

e) Confirmed.

f) Not confirmed. In program EXPAND(HWY6), the cubic feet of the items and mailcodes in the group is expanded to represent the cubic feet occupied by the same group of items in the truck. For this test, wheeled containers represented all of the unloaded mail, or 30% of the floor space. The 30% is converted into cubic feet of capacity (2400\*.30), or 810 cubic feet. The 145.92 cubic feet is expanded to represent all items in wheeled containers, or up to 810 cubic feet at this point. In

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EXPAND(HWY9), the data set containing the cubic feet information is assigned to either USPS.LASTLEG or to both USPS.CUBELEG and USPS.LASTLEG. USPS.CUBELEG contains groups of items which were loaded onto the vehicle prior to one stop before the test destination. In this test, these wheeled containers were loaded onto the truck two facilities prior to the destination. There is one record in the USPS.CUBELEG database representing the segment of the origin to the stop prior to the destination, and one record in USPS.LASTLEG representing the segment from the last stop to the final destination where the containers where unloaded. In EXPAND(HWY10), empty space is assigned separately to these databases. For the USPS.CUBELEG segment, a proportion of the average empty space (EMPTYAVG) for all trips corresponding to the ACCOUNT-FACCAT group is assigned, as follows:

CUFT=CUFT+(CUFT/(CAPACITY-EMPTY))\*EMPTY CUFT=810 + (810/(2700-1489.90))\*1489.90 = <u>1807.29</u>

where EMPTY is calculated as EMPTY=(CAPACITY\*EMPTYAVG)/100.

For the USPS.LASTLEG, the equation is the same as above, except EMPTYAVG is replaced by EMPTY, the actual empty space observed by the data collector. The CUFT for USPS.LASTLEG is then:

CUFT=810 + (810/(2700-1890))\*1890 = 2700.00

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Please note that these total CUFT are not combined. Miles are first assigned to the segments separately, and then the CFMs are combined.

g) Not confirmed. As discussed in part f., the CFMs as arrived at are the amount which cost per cubic foot mile is applied to in order to calculate the distribution key.

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### RESPONSE OF POSTAL SERVICE WITNESS NIETO TO INTERROGATORIES OF FLORIDA GIFT FRUIT SHIPPERS ASSOCIATION

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## FGFSA/USPS-T2-52

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Please refer to the qtr I records for TESTID 09336JM. Please confirm:

- a) This sampling occurred at a BMC on an inbound movement.
- b) The sampling included a piece if mailcode U having a weight of 0.5 pounds.
- c) The sample mailcode U had a calculated cubic feet of 0.04870.
- d) When expanded in EXPAND(HWY1) this sample is shown to have cubic feet of 0.006.
  - i. explain why the calculated cubic feet is greater than the expanded cubic feet.
- e) When further expanded in EXPAND(HWY6) this sample is shown to have cubic feet of 0.06.
- f) The expansion of cubic feet from 0.006 to 0.06 reflects an expansion factor of 10.
- g) The sampling included 183 pieces of mailcode M having a weight of 8.125 pounds.
- h) The sampled mailcode M had a calculated cubic feet of 0.45974.
- i) When expanded in EXPAND(HWY1) this sample is shown to have cubic feet of 49.340.
- j) When further expanded in EXPAND(HWY6) this sample is shown to have cubic feet of 541.54.
- k) The expansion from 49.340 to 541.54 reflects an expansion factor of 10.97

### Response to FGFSA/USPS-T2-52:

- a) Confirmed.
- b) Confirmed. 'U' was one of three mailcodes found in the flat tray sampled from the fourth container.
- c) Confirmed.
- d) Confirmed.

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i) It appears that the data collector recorded 2 flat trays and 85% loose
 parcels, which is an unanticipated combination of a number of items and a
 percentage. This resulted in the cubic feet of flat trays being interpreted as taking
 up only 2% of the container. Normalization to the cubic feet of the container

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### RESPONSE OF POSTAL SERVICE WITNESS NIETO TO INTERROGATORIES OF FLORIDA GIFT FRUIT SHIPPERS ASSOCIATION

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resulted in the reduction of the cubic feet of these flat trays to 2% of the cubic feet of the container. Properly accounting for instances when data collectors recorded such unanticipated combinations has a small impact on the distribution keys. Re-running PQ 1, FY 1996 with this corrected resulted in no changes to the distribution keys more significant than the third decimal place. Library Reference H-288, filed on October 1, 1997, shows the results of that analysis.

e) Confirmed.

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f) Confirmed.

g) Confirmed. Container #2 (An ERMC, dimensions 49" x 29" x 70") was 20% full
and contained nothing but sacks. The sampled sack contained 183 pieces of mailcode
'M', which in sum weighed 8.125 lbs.

h) Confirmed.

i) Confirmed, assuming "this sample is shown to have a cubic feet of 49.340" refers to the sample of mailcode 'M' from container #2. As 'M' was the only mailcode found in the sack sampled from container #2, and container #2 contained only sacks, mailcode 'M' is assigned the entire 49.340 ft<sup>3</sup> of the container.

j) Confirmed.

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k) Confirmed that 541.54 / 49.34 equals approximately 10.97. It is only appropriate to call this an "expansion factor" if it is understood that this "expansion factor" is based on numerous elements including the size of the truck, the portion of the truck containing wheeled containers, and the mix of wheeled containers unloaded from the truck.

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### FGFSA/USPS-T2-53

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Please refer to the qtr 1 records for TESTID 70786RJ;

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- a) The number 9 is recorded as SETASIDE. Explain what this refers to.
- b) The sample data is recorded and expanded as follows:

| Mailcode | Freq | Calc   | Expanded |                         |
|----------|------|--------|----------|-------------------------|
|          |      | cu.ft. | cu.ft.   |                         |
| S        | 1    | 0.056  | 480.     | EXPAND(HWY1) AND (HWY6) |
| S        | 3    | 3.353  | 1,112.80 | (HWY6)                  |
| Q        | 2    | 0.239  | 79.83    | (HWY6)                  |
| Ρ        | 1    | 1.470  | 487.83   | (HWY6)                  |
| J        | 2    | 2.512  | 240.     | (HWY6)                  |

c) Explain why the expansion factor for each mailcode is different.

### Response to FGFSA/USPS-T2-53:

 a) "SETASIDE" refers to various containerized and non containerized item types that are "set aside" for sampling as a truck is unloaded, and does not represent a quantity or any other value used in mathematical calculations. The primary "SETASIDE" codes are shown below:

- 1 BMC-OTR
- 2 ERMC
- 3 GPC/GPMC
- 4 HAMPER
- 5 WIRETAINER

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- 6, 10 POSTAL PAK
- 7 OTHER CONTAINER
- 8-9 NON-CONTAINERIZED

The significance of the number '9' is that the item in question was non-containerized, i.e. a loose bedloaded item.

b) FGFSA has not posed a question with this subpart.

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c) The "expansion factor" from calculated cubic feet to cubic feet expanded to the truck level will vary between floorspace utilization categories (WHEELED, SACKS, PALLETS, EXPRESS, OTHER), but not within those categories. For example, in the

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table in part b) of this question, we have mailcode 'S' appearing twice. The first time it is sampled from a wheeled container, and the second time it is sampled as a loose item. Because the cubic feet of mailcodes are expanded up to their container level, and the container type is not always the same, there may be a difference in the expansion factor for mailcodes in different container types. These containers are then expanded to the cubic feet of their floorspace utilization categories (WHEELED, SACKS, PALLETS, EXPRESS, OTHER), and there will be different expansion factors for each of these categories. Any slight difference observed within the same category can be attributed to rounding error.

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## FGFSA/USPS-T2-54

Please provide, for each quarter in FY 1996, the TRACS data for account 53127, bound 1, account 53127, bound 2, and account 53131 showing for each mailcode the total number of pieces sampled, the weight of those pieces and the calculated cubic feet of those pieces.

## Response to FGFSA/USPS-T2-54:

Please refer to LR-H-288, filed October 1, 1997 for this information.

### FGFSA/USPS-T2-55

Please refer to Library Reference H-84. On CD 4 for PQ1 there can be accessed the file named: TRACSSMN.Z.HIGHWAY.PG\*96.SURVEY.TEXT which is on the CD as \RATECLAS\TRACS\HIGHWAY\SURVEY\PQ\*96\_\_\_SU.DAT. However for PQs 2, 3 & 4, 1996, these files exist in the HIGHWAY directory, but not in the SURVEY directory, at least not in the format expected by the SAS programs. Please provide format directions to access these files for the three postal quarter, or provide whatever instructions or information necessary to do so.

### Response to FGFSA/USPS-T2-55:

The three files referenced above were inadvertently left in their native mainframe

EBCDIC format as opposed to PC ASCII format. The SAS modules SAS/ACCESS and

SAS/CONNECT would be required to read these files on a PC. Please see the attached

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floppy disk, LR-H-288, for the compressed "ZIP" file SURVEY96.ZIP, which, once

"unzipped", will produce these three files in ASCII format.

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Response of United States Postal Service Witness Nieto to Interrogatories of Florida Gift Fruit Shippers Association (Redirected from Witness Bradley) 3334

> FGFSA/USPS-T-13-11 Page 1 of 1

### FGFSA/USPS-T-13-11

Provide the volume profile - pieces, weight and cubic feet - of each class and subclass of mail using the purchased capacity, by type of Contract Route for the fiscal year covered by your analysis.

### Response to FGFSA/USPS-T-13-11.

This information is not collected nor does it exist. Please refer to Docket No. R90-1, USPS Witness Rogerson's Response to FGFSA-USPS-T-11-26, Tr. 5 / p. 1297. Total piece and weight volume information for the classes and subclasses of mail is available from the Revenue, Pieces, and Weight System (RPW) in USPS-T-1, p. 8-15.

TRACS was developed in response to a need to provide estimates of the purchased transportation costs for each of the different contract types to be distributed to the various classes and subclasses of mail. It is my understanding the prior to the introduction of TRACS, purchased transportation costs were distributed on assumptions and speculation rather that observation. In R90-1, the Commission deemed TRACS "a major improvement" compared to the previous method of distributing costs to the various subclasses of mail. (PRC Op. R90-1, III-154-162.)

3335 Response of United States Postal Service Witness Nieto to Interrogatories of Florida Gift Fruit Shippers Association (Redirected from Witness Bradley)

> FGFSA/USPS-T-13-17 Page 1 of 1

#### FGFSA/USPS-T-13-17

Quantify - pieces, weight and cube - added to the highway transportation network as a result of the efforts of the Postal Service to divert First Class Mail, as well as other preferential mail. Quantify by type of surface transportation - Intra SCF, Inter SCF, Intra BMC and Inter BMC.

#### Response to FGFSA/USPS-T-13-17.

See response to FGFSA/USPS-T-13-11; volume information on the mail which is actually transported on the various types of surface transportation is not collected. Assuming that "divert" in this interrogatory refers to diverting mail from the air to the ground, a comparison of the distribution keys of air and highway might indicate if there was an increase in the percentage of highway costs of First-Class Mail and a decrease in the costs of First-Class Mail on air transportation, but this comparison is not particularly helpful because of the myriad of other factors that affect the costs distributed to one particular class of mail. For example, volume growth in one class relative to another class of mail would also contribute to a higher percentage of costs distributed to a particular class of mail, and it would be impossible to separate these effects from those of diversion of the mail. TRACS reflects all the effects that lead to higher or lower distribution keys, but does not speculate on the cause of these differences.

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> FGFSA/USPS-T-13-20 Page 1 of 1

## FGFSA/USPS-T-13-20

Provide the actual mail volumes transported in each of the 5 contract types listed in your Table 3 in 1990 and 1996.

## Response to FGFSA/USPS-T-13-20.

Please see response to FGFSA/USPS-T-13-11.

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FGFSA/USPS-T-13-25 Page 1 of 1

# FGFSA/USPS-T13-25.

Where there is an imbalance between the out-bound mail volume and the in-bound mail volume, a portion of the capacity on the in-bound, or backhaul, movement will be empty. Do you believe that an empty backhaul is merely a part of the cost of the out-bound haul? (a) Do you believe that, if the out-bound haul varies with volume, that the backhaul similarly varies with volume and is attributable to the same volume changes that caused the changes in the costs of the out-bound haul? Please explain your answer. (b) Has there been a change in the volume of mail for the in-bound haul (that is, for Intra BMC transportation, the haul to the BMC) due to the changes in the pattern of mail entry points to take advantage of destination entry discounts? If so, quantify the change.

# Response to FGFSA/USPS-T13-25b.

As discussed in FGFSA/USPS-T-13-11, information on the total volume of mail traveling

on any type of transportation does not exist. However, it is my understanding that Billing

Determinants, which are filed annually at the Postal Rate Commission do provide

information on the volume of the different rate categories of the classes and subclasses

of mail (such as intra-BMC, inter-BMC, DBMC for parcel post) and comparing the current

volume of each of these rate categories as a percentage of the total for the subclass to

the volumes of the rate categories in the subclass prior to the introduction of dropshipping

may provide insight into this question.

Response of United States Postal Service Witness Nieto to Interrogatories of Florida Gift Fruit Shippers Association (Redirected from Witness Bradley) 3338

> FGFSA/USPS-T-13-30 Page 1 of 1

#### FGFSA/USPS-T13-30.

In Docket No. R80-1, the Postal Service said that excess capacity is caused by a complex set of factors, including irregularity of demand, inflexibilities in the supply of transportation and intermediate stops on routes. (USPS-T-6, pp. 17-18, cited at ¶ 0408 in the Op. & RD.)

a. To your knowledge, does the Postal Service continue to have unused capacity on its highway trucks much of the time? Please explain any negative answer.

#### Response to FGFSA/USPS-T13-30.

a. TRACS utilization figures (USPS-LR-H-82, pp.2398, 2402, 2406, 2410) show that

on average there is empty space on all types of movements. However, I have not

examined the frequency with which empty space occurs.

Response of United States Postal Service Witness Nieto to Interrogatories of Florida Gift Fruit Shippers Association (Redirected from Witness Hatfield)

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### FGFSA/USPS-T16-12.

In Docket No. 96-3, the response to OCA/USPS-39(2), under Data Collection, stated that "[t]he following .... were added to TRACS since FY 93: LL- Fourth class BSPS (Bulk Small Parcels)

- a. Please define Fourth-class BSPS as used in the TRACS data collection system.
- b. Explain how Fourth-class BSPS differs from third-class BSPS, and how TRACS data collectors distinguish between the two.
- c. Provide references to all instructions given to TRACS data collectors regarding criteria and definitions pertinent to entering data under the code "LL - Fourth-class BSPS." If the TRACS instructions are not on file as a library reference, please provide.

#### Response to FGFSA/USPS-T16-12.

a. Bulk small parcels was a proposed parcel post subclass that never became official. The bulk small parcels study began in PQ3 of FY94, and involved five parcel mailers endorsing Fourth-class Parcel Post weighing between one and five pounds with a special BSPS insignia for identification by USPS data collectors (some mailers were lenient in their adherence to this weight range). The resulting information was to have been used to help estimate the costs for a subset of smaller parcels. BSPS was incorporated into USPS data collection systems effective PQ1 of FY95. The data were too sporadic and insufficient to conclusions to be drawn about the relative costs of such parcels. BSPS was removed from TRACS with Classification Reform I.

b. Bulk Small Parcels were only a type of Fourth-Class Parcel Post, not Third
 Class. Data collectors never had to distinguish Third-class BSPS because Third-class
 BSPS never existed.

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c. TRACS data collectors were notified of the Bulk Small Parcels study through a "text message" (i.e., a field memo), which is no longer available. The text message instructed data collectors to classify Fourth-class parcels bearing the BSPS insignia under the Fourth-class BSPS mail code added to the CODES data collection software in the FY95 update. The CODES software also had a built-in check which allowed only those Fourth-Class parcels weighing between one and five pounds to be entered as Bulk Small Parcels. No other aspects of data collection / data entry were affected by the Bulk Small Parcels study.

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# FGFSA/USPS-T16-13.

Please refer to LR-H-82, program TRACS.EXPAND.HWY.PQ\*95.CNTL(HWY6).

- a. Explain how and to what extent this program "adjust[s] measured cubic feet to match utilization proportions." In your response, please define the term "utilization proportions" as used here. In your answer, explain whether utilization proportions refers to capacity of the truck or something else.
- Please provide a plain language, non-technical explanation of how this program "expands the cubic feet to match the utilization proportions." Explain fully what is meant by the term "expands."
- c. Assume that 25 percent of the capacity of an OTR container was taken up by a single subclass of mail, and the remainder of the container is empty. By how much would this program expand the cubic feet of mail in that subclass? If the information given here is not sufficient to provide an answer, please provide indicate all additional information that is required.
- d. Assume (i) that 60 percent of the capacity of an OTR container was taken up by two subclasses, (ii) that two-fifths of the mail in the container was Subclass 1, (iii) the remaining three-fifths was Subclass 2, and (iv) and the other 40 percent of the container is empty. By how much would this program expand the cubic feet of mail in each subclass? If the information given here is not sufficient to provide an answer, please provide indicate all additional information that is required.
- e. What is the rationale for assigning empty capacity in containers in proportion to the mail that is actually in the container? That is, why is mail in a container charged for mail not in the container in proportion to mail in the container?

### Response to FGFSA/USPS-T16-13.

a. and b. The adjustment of measured cubic feet to match utilization proportions

means the expansion of sampled containers to the entire group of like containers. This is

best described by example. When a TRACS test is taken, the data collector records the

percentage of the truck floorspace that was already empty, the percentage that was

unloaded, and the percentage of the truck that remained full after unloading. Unloaded

mail is further broken out into categories "WHEELED", "PALLETS", "SACKS", "OTHER",

FGFSA/USPS-T16-13 Page 2 of 5

and "EXPRESS". So a data collector might hypothetically record:

EMPTY: 25%

REMAINING: 25%

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UNLOADED: 50% (25% wheeled, 20% pallets, 5% sacks, 0% other, 0% Express).

After converting these utilization proportions to cubic feet (in a 2400 cubic foot truck):

| EMPTY:    | 600 cubic feet  |                                        |
|-----------|-----------------|----------------------------------------|
| REMAINING | 600 cubic feet  |                                        |
| UNLOADED: | 1200 cubic feet | (600 cubic feet of wheeled containers, |
|           |                 | 480 cubic feet of pallets, and         |
|           |                 | 120 cubic feet of sacks).              |

Note that two dimensional floorspace percentages are converted to three dimensional cubic footages. Thus, the empty space from each item group to the ceiling is distributed to that item group.

The unloaded mail in this example might hypothetically be nine ERMC's (Eastern Region Mail Containers), four pallets, and a pile of bedloaded sacks. Suppose that the data collector sampled four of the nine ERMC's. An ERMC is approximately 50 cubic feet in

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Response of United States Postal Service Witness Nieto to Interrogatories of Florida Gift Fruit Shippers Association (Redirected from Witness Hatfield) 3343

actual size. Suppose the first two sampled ERMC's held only sub-class A; the third

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sampled ERMC held only sub-class B, and the contents of the fourth sampled ERMC were 50% sub-class A and 50% sub-class C. Thus the following cubic feet would be assigned to the sampled mail after the sampled mail was expanded to the container level:

|        | А              | В              | С             |
|--------|----------------|----------------|---------------|
| ERMC 1 | 50 ft^3 (100%) |                |               |
| ERMC 2 | 50 ft^3 (100%) |                |               |
| ERMC 3 |                | 50 ft^3 (100%) |               |
| ERMC 4 | 25 ft^3 (50%)  | · · ·          | 25 ft^3 (50%) |
| Total  | 125 ft^3       | 50 ft^3        | 25 ft^3       |

At this point, program HWY6 adjusts measured cubic feet to match utilization proportions. The utilization proportion from above, for wheeled containers, is 600 cubic feet. The four sampled ERMC's only account for 200 actual cubic feet (125 to A, 50 to B, and 25 to C). The adjustment expands from 200 to 600, thereby distributing the cubic feet of the nonsampled wheeled containers to the mail found in the wheeled containers, and distributing the empty space above the wheeled containers to the mail found in the wheeled containers.

Lines 44-54 in program HWY6 distribute the 600 cubic feet of the truck that are occupied by wheeled containers, to the mail codes based on the 125/50/25 ratio. The new cubic footages for mailcodes A, B, and C are 375, 150, and 75, respectively, which add up to the 600 cubic feet of the truck that are distributed to wheeled containers based on the

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Response of United States Postal Service Witness Nieto to Interrogatories of Florida Gift Fruit Shippers Association (Redirected from Witness Hatfield)

percentage of the truck floorspace covered by wheeled containers. The same process is

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done for pallets, sacks, loose Express Mail, and loose other, so that in the end the entire 1200 cubic feet "unloaded" from the truck is distributed to the mailcodes sampled.

c. Program HWY6 does not expand mail within containers to the container level. Program HWY6 expands sampled containers to the entire group of like containers (wheeled, sack, pallet, etc.) Sampled containerized mail is expanded up to the container level in program HWY1. In your hypothetical, if an OTR contained only one sub-class, program HWY1 would expand distribute the entire cubic feet of the OTR to that one subclass.

d. Program HWY6 does not expand mail within containers to the container level. Program HWY6 expands sampled containers to the entire group of like containers (wheeled, sack, pallet, etc.) Sampled containerized mail is expanded up to the container level in program HWY1. In your hypothetical, which purported an OTR 40% empty, 24% subclass 1, and 36% subclass 2, these subclasses would be expanded in program HWY1 to the container level, distributing 40% of the cubic feet of the OTR to subclass 1, and 60% of the cubic feet of the OTR to subclass 2. Note that these percentages are your sub-class proportions percentages within the filled portion of the OTR.

e. Please refer to my response to FGFSA/USPS-T-16-14. As discussed in the example of the wiretainer, the mail in the container all contributes to the wiretainer being filled to its load capacity of 75% of the cubic feet. No other mail can be loaded into the container because of the mail that is already in there. Therefore, that mail must bear the

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full costs of that container. Also, in a case where there was some mail which was not

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ready for dispatch that resulted in a less than full container being loaded onto a truck rather than being held until the mail was ready, it is likely that the mail in the container had to be dispatched to meet its service standards. Even if you were to assume that the cost of the empty space in the container was caused by mail <u>not</u> in the container, it would be infeasible and speculative to determine exactly what subclasses and amount of mail had not been ready for dispatch at that time. TRACS is a measurement system – data collectors are trained in measuring and recording proportions of mail in the truck. They do not speculate on the past in the mail processing facility.

Response of United States Postal Service Witness Nieto to Interrogatories of Florida Gift Fruit Shippers Association (Redirected from Witness Hatfield) 3346

> FGFSA/USPS-T16-14 Page 1 of 2

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#### FGFSA/USPS-T16-14.

- a. Please list each type of container, along with the cubic capacity, that the Postal Service uses for each Intra-BMC and Inter-BMC highway transportation.
- b. For each container type specified in response to preceding part a, indicate whether loading of the container is customarily confined to one subclass, even when the container is only partially full.
- c. If any containers are customarily restricted to one subclass, regardless of whether the container is only partially full, please explain the rationale for limiting to one subclass what can be put into a single container.

### Response to FGFSA/USPS-T6-14

a. These are containers which may be used for inter-facility transportation:

|            |                 | Cubic Feet        |  |
|------------|-----------------|-------------------|--|
| Container  | Weight Capacity | <b>Dimensions</b> |  |
| BMC-OTR    | 1500 lbs.       | 110.61            |  |
| ERMC       | 1200 lbs.       | 49.34             |  |
| GPC/GPMC   | 1200 lbs.       | 48.65             |  |
| HAMPER     | 800 lbs.        | 30.96             |  |
| WIRETAINER | 2000 lbs.       | 33.33             |  |
| POSTAL PAK | 2200 lbs.       | 80                |  |

Hampers are generally not used for transportation to or from BMCs, however, there is a

possibility that they can be found on inter-facility transportation. Hampers are also not to

be loaded with full letter or flat trays. Please refer to LR-H-133, Handbook PO-502,

Container Methods Handbook for more information on containers and container loading

and unloading.

**b.** and **c.** It is my understanding that there are no restrictions for the containers listed in part a. regarding a single subclass occupying a particular type of container. However, shape and containerization of the mail does affect the mix of mail within any container.

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# FGFSA/USPS-T16-14 Page 2 of 2

This results from different mail processing streams within the facility for different shapes of mail. For example, loose parcels and sacks are processed through the facility separately, and there are separate runouts from each of these processing streams which load into separate containers. The containers can then be unloaded directly into their respective processing streams at the receiving facility. A dispatch close-out time would likely necessitate loading one of these half-full containers onto a truck. Other reasons for loading a partially empty container would be safety issues. For example, a wiretainer can only be loaded three-quarters full of NMOs, sacks, or bundles of circulars because the weight of these types to mail leads to inefficient handling and a greater risk of personal injury.

Response of United States Postal Service Witness Nieto to Interrogatories of Florida Gift Fruit Shippers Association (Redirected from Witness Hatfield)

> FGFSA/USPS-T16-15 Page 1 of 2

#### FGFSA/USPS-T16-15.

Explain the purpose, as well as the underlying rationale, for expanding the cubic feet occupied by mail in the TRACS sample up to the cubic capacity of the truck. If a causal relationship is asserted to exist between mail actually on a particular truck and empty capacity on that truck, please explain fully. If any principles of economics underlie the stated purpose or rationale, please list and describe each one fully. Finally, if any generally accepted accounting principles underlie the stated purpose or rationale, please list and describe each one fully.

#### Response to FGFSA/USPS-T16-15

Because surface transportation capacity is jointly determined for all classes of mail using that transportation, determining the causality of every contract, trip, and leg of highway purchased transportation is not only infeasible, but would be highly speculative. The cost of a cubic-foot mile is determined for the whole contract, not for each specific leg. All the route trips, stops, and capacity are jointly determined by all the classes of mail which use the transportation, therefore the cost per cubic-foot mile of the contract is also determined by the joint requirements. Please refer to Witness Bradley's responses to FGFSA/USPS-T13-25a, 27d, and 30c.

TRACS is designed to provide statistically reliable estimates of the use of purchased transportation by the classes and subclasses of mail. The purchased capacity of a truck is a resource purchased for all the types of mail which use it, and empty space on a truck reflects the requirements of all the mail on that particular contract route. When there is empty space on a truck, the mail which caused the truck to be dispatched at that particular time (rather than holding the truck until it was full) bears the costs of the truck. Service standards and mail processing requirements (such as producing a steady flow of Response of United States Postal Service Witness Nieto to Interrogatories of Florida Gift Fruit Shippers Association (Redirected from Witness Hatfield)

> FGFSA/USPS-T16-15 Page 2 of 2

mail across the day) of the mail traveling on the truck contribute to the empty space on vehicles. As discussed in my response to FGFSA/USPS-T16-13e, TRACS produces a snapshot in time of what classes of mail are found on the various types of contracts, and does not speculate on the causality of empty space on a truck which may be caused by a variety of different factors.

TRACS is a measurement system, not an accounting system. My background is not in accounting, nor does my testimony address the applicability of generally accepted accounting principles to TRACS.

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### RESPONSE OF POSTAL SERVICE WITNESS NIETO TO INTERROGATORIES 3350 OF THE McGRAW-HILL COMPANIES

MH/USPS-T2-3. For BY 1996 and TYAR 1998, please state your best estimate of the percentage of utilization of overall capacity in the Postal Service's domestic purchased highway transportation system, and explain fully how you arrived at that estimate (including cross-references to other sources), and whether your estimate is based on floor space, cubic space, or some other measure.

#### Response to MH/USPS-T2-3.

As part of TRACS, data collectors estimate the amount of empty floor space in a truck

at the time a TRACS test is taken. However, since these tests can take place at any

stop along a trip, the estimates reflect only the average utilization on the system at any

given time across all different contracts, trips, and segments. Please refer to my

response to FGFSA/USPS-T2-12, part b. for the average highway capacity utilization

figures for FY96.

MH/USPS-T2-4. Please explain fully (with cross-references to sources) how (a) the cost of hauling empty equipment is distributed among subclasses, and (b) how unused space in loads containing more than one subclass of mail is distributed among those (or other) subclasses.

### Response to MH/USPS-T2-4.

(a) There are two kinds of empty equipment costs. The first is the cost of highway

and rail movements dedicated to the transportation of Mail Transport Equipment. The

treatment of these costs is described in Library Reference H-1, pp. 14-5 through 14-8.

When empty containers are carried in highway and rail vehicles, these costs are treated

the same as empty space costs in TRACS.

(b) Please refer to my response to FGFSA/USPS-T2-20 for a discussion of the

allocation of empty space in TRACS.

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# RESPONSE OF POSTAL SERVICE WITNESS NIETO TO INTERROGATORIES 3352 OF THE McGRAW-HILL COMPANIES

MH/USPS-T2-5. With reference to your testimony on p. 2:

(a) Please explain fully the parameters that determine the amount to be paid under purchased highway contracts (e.g., per mile, per trip, per year, etc.).
(b) Please state whether route information for all destinations on all trips under all highway contracts is available in NASS, and whether route costs for all highway contracts are listed in the accounting files. If not, why not?

(c) Please explain fully how random selection of mail on randomly selected contract route destination-days is likely to provide an accurate forecast of costs. How are seasonal fluctuations accounted for?

#### Response to MH/USPS-T2-5.

- (a) Redirected to witness Bradley.
- (b) Redirected to the Postal Service.
- (c) TRACS does not forecast costs, nor does it develop accrued costs in any

account. TRACS develops a distribution key which distributes the accrued costs of the

various types of highway transportation to the various subclasses of mail. Because

TRACS samples a random selection of mail on randomly selected highway movements

over the course of each postal quarter, it produces a snapshot of the relative

proportions of the classes of mail which use the various highway transportation

services.

# RESPONSE OF POSTAL SERVICE WITNESS NIETO TO INTERROGATORIES<sup>3353</sup> OF THE McGRAW-HILL COMPANIES

MH/USPS-T2-6. With reference to your testimony on p. 3:

(a) Please explain fully the parameters that determine the amount to be paid for freight rail transportation.

(b) Please state whether information for all rail movements of mail are included in RMIS. If not, why not?

(c) Please explain fully how random selection of mail on randomly selected rail vans is likely to provide an accurate forecast of costs. How are seasonal fluctuations accounted for?

### Response to MH/USPS-T2-6.

- (a) Redirected to the Postal Service.
- (b) Redirected to the Postal Service.
- (c) TRACS does not forecast costs, nor does it develop accrued costs in any

account. TRACS develops a distribution key which distributes the accrued costs of

freight rail service to the various subclasses of mail. Because TRACS samples a

random selection of mail on randomly selected rail vans over the course of each postal -

quarter, it produces a snapshot of the relative proportions of the classes of mail which

use freight rail service.

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# RESPONSE OF POSTAL SERVICE WITNESS NIETO TO INTERROGATORIES <sup>3354</sup> OF THE McGRAW-HILL COMPANIES

MH/USPS-T2-7. With reference to your testimony on p. 4:

(a) Please explain fully the parameters that determine the amount to be paid under domestic air transportation.

(b) Please explain fully how random selection of mail on randomly selected flight days is likely to provide an accurate forecast of costs.

#### Response to MH/USPS-T2-7.

(a) Redirected to the Postal Service.

(b) TRACS does not forecast costs, nor does it develop accrued costs in any

account. TRACS develops a distribution key which distributes the accrued costs of

passenger and network air service to the various subclasses of mail. Because TRACS

samples a random selection of mail on randomly selected flight-days over the course of

each postal quarter, it produces a snapshot of the relative proportions of the classes of

mail which use domestic and network air service.

### RESPONSE OF POSTAL SERVICE WITNESS NIETO TO INTERROGATORIES 3355 OF THE McGRAW-HILL COMPANIES

MH/USPS-T2-8. With reference to your testimony on p. 7:

(a) Please explain fully the parameters that determine the amount to be paid for passenger rail service.

(b) Please explain fully how random selection of mail on randomly selected trainsegment days is likely to provide an accurate forecast of costs.

#### Response to MH/USPS-T2-8.

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(a) Redirected to the Postal Service.

(b) TRACS does not forecast costs, nor does it develop accrued costs in any

account. TRACS develops a distribution key which distributes the accrued costs of

passenger rail service to the various subclasses of mail. Because TRACS samples a

random selection of mail on randomly selected train-segment days over the course of

each postal quarter, it produces a snapshot of the mail which uses passenger rail

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# RESPONSE OF POSTAL SERVICE WITNESS NIETO TO INTERROGATORIES <sup>3356</sup> OF THE McGRAW-HILL COMPANIES

MH/USPS-T2-9. With reference to your testimony on p. 6, lines 3-6: "Previously, the Eagle and Western Network distribution keys were calculated on a cubic-foot mile basis. Consistent with the incremental cost methodology proposed in this docket, the Eagle and Network distribution keys are now calculated on a pound-mile basis". (a) Please confirm that the distribution keys for purchased highway transportation, freight rail transportation, and commercial air transportation are based on cubic-foot miles. To the extent you confirm, please explain why the distribution keys are not calculated on a pound-mile basis, and how this affects the accuracy of the cost distributions.

(b) Please explain to the extent which, and the reasons why, the distribution key for passenger rail service is based on square-foot miles (as indicated in your testimony at p. 7 line 12) rather than cubic-foot miles or pound-miles. Please explain how this affects the accuracy of the cost distributions.

#### Response to MH/USPS-T2-9.

(a) Confirmed for highway and freight rail, not confirmed for commercial air

transportation. Cubic-foot miles continues to be the cost driver for highway and freight

rail transportation, not pound-miles. Commercial air costs continue to be distributed on

a pound-mile basis.

(b) The Postal Service pays for passenger rail service on a square-foot mile basis,

therefore the distribution of these costs is based on square-feet miles rather than cubic-

foot miles or pound-miles. It is more accurate to distribute the costs of a particular mode

of transportation on the basis of cost incurrence than on some other basis.

### RESPONSE OF POSTAL SERVICE WITNESS NIETO TO INTERROGATORY OF THE OFFICE OF THE CONSUMER ADVOCATE

OCA/USPS-T2-1. Please refer to pages 21 and 25 of library reference H-89. These pages describe data recoding that was performed for the city and rural carrier systems because of implementation of MC95-1 rate categories on July 1, 1996. Some third-class single piece mail was randomly recoded as third-class bulk rate to achieve consistency between PQ 4 volumes for FY 1995 and FY 1996.

- a. Please explain whether it was necessary to randomly recode any of the TRACS data to adjust for implementation of the MC95-1 rate categories.
- b. Please explain whether it was necessary to randomly recode any of the TRACS data to adjust it to conform with data from other sources or with TRACS data for other time periods.
- c. If any random recoding process was implemented, please describe completely. Include the specific rules for random recoding, the programs used to randomly recode the data, the number of tallies affected by recoding, and the justification for the recoding used.
- d. If random recoding was not used, please explain why it was not needed to account for the changes implemented with the MC95-1 rate categories.

#### Response:

a. No, it was not necessary to randomly recode any TRACS data to adjust for

implementation of MC95-1 rate categories.

b. No changes were made to the TRACS data to make it conform to data from any

other data system or to TRACS data from any other time period.

c. No random recoding was performed.

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d. There were no data problems in the TRACS data that would necessitate random recoding.

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# RESPONSE OF POSTAL SERVICE WITNESS NIETO TO INTERROGATORIES 3358 OF THE OFFICE OF THE CONSUMER ADVOCATE

OCA/USPS-T12-50. Please refer to your response (September 2, 1997) to POIR No. 2, question 1.

- a. Attachment 1 presents nominal Standard (B) Library rate (LR) unit costs. Show the derivation of the Segment 14 unit costs for each year, FY 1990 through FY 1996.
  - i. For each figure used in the derivation, provide a citation to source documents used and furnish copies of such documents if they are not already on file with the Commission.
  - ii. State which postal data systems generated the information used to derive the segment 14 unit costs.
- b. Present the same information requested in part a. (including subparts i. and ii.) of this interrogatory for each of the remaining cost segments in Attachment 1 (for LR mail).
- c. In the last paragraph of your response, you conclude that: "Library rate costs, like Classroom, suffer from some instability due to the small volume and the nature of the IOCS sampling procedure." Please address the same issues, i.e.,
  - i. "the small volume [of LR mail] and the nature of the . . . sampling procedure" with respect to the data systems noted in subpart a.ii. of the instant interrogatory (for segment 14);
  - ii. the number of tallies involved in generating segment 14 costs for LR mail;
  - iii. whether tallies "occurr[ed] in proportion to volume" in segment 14 data collection;
  - iv. provide "tallies per dollar of unit cost" for segment 14 costs.

# Response to OCA/USPS-T12-50.

- a. Answered by witness Degen.
- b. Answered by witness Degen.
- c. i. For segment 14 costs, the Transportation Cost System (TRACS) is

used to allocate transportation costs to the various classes and

subclasses of mail for the following components: Commercial Air, Network

Air, Freight Rail, Passenger Rail, and Highway (Intra-SCF, Inter-SCF,

Intra-BMC, and Inter-BMC). TRACS develops distribution keys to reflect

the proportions of the subclasses of mail using that transportation. TRACS

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# RESPONSE OF POSTAL SERVICE WITNESS NIETO TO INTERROGATORIES 3359 OF THE OFFICE OF THE CONSUMER ADVOCATE

samples various movements of transportation, and then takes random

samples of mail from that movement. Low volume in a particular subclass

would result in increased variance in the distribution keys since it is likely

that fewer movements and fewer containers sampled would contain

Library Rate mail.

ii. Answered by witness Degen.

iii. Answered by witness Degen.

iv. Answered by witness Degen.

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**UPS/USPS-T2-1.** Referring to page 2 of your testimony, and Library Reference H-82 at page 4, please provide a complete description of the methodology, data collected, and results underlying the "Form 22 Density Study conducted in PQ4 of FY92" to establish density factors for different mailcodes.

(a) Please explain why the cube-density relationships estimated by USPS witness Hatfield (USPS-T-16 at pages 12 to 14), are not applied in connection with parcel post observations in place of the linear relationship assumed.

# Response:

Please refer to Docket No. R94-1, USPS-LR-G-127 for a description of the

methodology, data collected, and results underlying the Form 22 Density Study.

(a) As Witness Hatfield explains in his response to FGFSA/USPS-T-16-6, the Form

22 Density Study collects loaded density (as mail travels) rather than intrinsic density

(actual cubic feet of a single piece of parcel post). TRACS uses the loaded density to

reflect the way mail travels on the transportation, such that the cubic feet of space

allocated to a particular class of mail reflects the empty space inherent in loading mail

into containers.

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**UPS/USPS-T2-2.** Referring to Library Reference H-82, Exhibit 2, page 3, please define the meaning of the terms "inbound" and "outbound" with respect to the location of the sampling test and the identification of mail sampled.

(a) What mail is sampled at an "outbound" test? Is it the mail offloaded at the destination facility or the mail unloaded at the originating facility?

(b) How are the sampling sites for "outbound" tests determined?

(c) How are "inbound" vs. "outbound" tests distinguished in the TRACS databases?

### **Response:**

These definitions apply only to intra-SCF and intra-BMC contracts. For intra-SCF

contracts, a specific contract route-trip is defined as inbound when the final destination

(last stop) is an SCF. Otherwise, it is considered outbound. For intra-BMC contracts, a

specific contract route-trip is defined as inbound when the final destination (last stop) is

a BMC. For both of these contracts, any stop on an inbound or outbound route-trip is

eligible for sampling. The designation of a route-trip as inbound or outbound does not in

anyway affect the identification of the mail sampled.

(a) The mail sampled for all highway tests is the mail offloaded at the destination facility.

(b) Each of the inbound and outbound route-trips are further divided into route-trip segments (stops). For example, a route-trip that travels from an AO to another AO to an SCF would have two segments. One would be AO-AO, and the other would be AO-SCF. The route-trip-segments are then grouped by the destination facility type and

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#### RESPONSE OF POSTAL SERVICE WITNESS NIETO TO INTERROGATORIES 3362 OF UNITED PARCEL SERVICE

bound, and sampled randomly according to their bound and destination facility type sampling percentages. Please refer to USPS-LR-H-78, p.3 for the highway sampling percentages.

(c) The variable BOUND takes a value of 1 for inbound movements and 2 for outbound movements.

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# RESPONSE OF POSTAL SERVICE WITNESS NIETO TO INTERROGATORIES 3363 OF UNITED PARCEL SERVICE

**UPS/USPS-T2-3**. Referring to the TRACS highway expansion process described at page 4 of Library Reference H-82 [sic], please provide explicit formulas detailing each step of the process, from weight measurement of sampled pieces through expansion at the level of total highway cubic foot miles.

# **Response:**

Assuming you are asking for formulas detailing each step of the TRACS highway

expansion process described at page 4 of LR-H-78, please refer to the SAS program

code and accompanying documentation found in LR-H-82, "TRACS Highway

Distribution Key Development Programs and Documentation", beginning at Volume IV,

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p. 1.

tan Tan<u>a</u>n sa sa **UPS/USPS-T2-4.** Referring to the TRACS freight rail expansion process described at page 5 of Library Reference H-82 [sic], please provide explicit formulas detailing each step of the process, from weight measurement of sampled pieces through expansion at the level of total freight rail cubic foot miles.

# Response:

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Assuming you are asking for formulas detailing each step of the TRACS freight rail

expansion process described at page 5 of LR-H-78, please refer to the SAS program

code and accompanying documentation found in LR-H-83, "TRACS Rail Distribution

Key Development Programs and Documentation", beginning at Volume I, p. 302.

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**UPS/USPS-T2-5.** Referring to the TRACS commercial air expansion process described at page 7 of Library Reference H-82 [sic], please provide explicit formulas detailing each step of the process, from weight measurement of sampled pieces through expansion at the level of all pound-miles flown on commercial air.

#### **Response:**

Assuming you are asking for formulas detailing each step of the TRACS commercial air

expansion process described at page 7 of LR-H-78, please refer to the SAS program

code and accompanying documentation found in LR-H-79, "TRACS Air Distribution Key

Development Programs and Documentation", beginning at Volume IV, p. 384.

**UPS/USPS-T2-6.** Referring to the TRACS expansion process for the Eagle and Western networks described at page 8 of Library Reference H-82 [sic], please provide explicit formulas detailing each step of the process, from weight measurement of sampled pieces through expansion at the level of all network pound-miles.

### Response:

Assuming you are asking for formulas detailing each step of the TRACS Eagle and

Western Networks expansion process described at page 8 of LR-H-78, please refer to

the SAS program code and accompanying documentation found in LR-H-81, "TRACS

Eagle Distribution Key Development Programs and Documentation", beginning at

Volume I, p. 374.

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**UPS/USPS-T2-7.** Referring to the TRACS Amtrak expansion process described at page 10 of Library Reference H-82 [sic], please provide explicit formulas detailing each step of the process, from weight measurement of sampled pieces through expansion at the level of all Amtrak movements.

### Response:

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Assuming you are asking for formulas detailing each step of the TRACS Amtrak

expansion process described at page 10 of LR-H-78, please refer to the SAS program

code and accompanying documentation found in LR-H-81, "TRACS Eagle Distribution

Key Development Programs and Documentation", beginning at Volume II, p. 716.

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#### RESPONSE OF POSTAL SERVICE WITNESS NIETO TO INTERROGATORIES 3368 OF UNITED PARCEL SERVICE

**UPS/USPS-T2-8**. For the most recent FY 1996 accounting period, please provide all Forms 1H-Highway, 1R-Rail, 1A-Air, and 2 (surface), or their equivalent in hard copy form, from the TRACS system.

#### Response:

The TRACS system is no longer a paper-based "forms" system. Data collectors enter data via laptop using the Computerized On-Site Data Entry Software (CODES). All data entered by the data collectors is contained in the following files submitted in electronic format as part of LR-H-84, "TRACS Data Files and Programs in Machine-Readable Format". A hard copy equivalent of these files can be obtained by opening these files in a text editor and printing them: <u>ORIGINAL FILENAME</u> <u>LR-H-64 CD-ROM NUMBER AND FILENAME</u> TRACSSMN.Z.AIP1.CODES.PQ196.TEST #4: \RATECLAS\TRACS\AIR1\CODES\PQ196.TES TRACSSMN.Z.AIR1.CODES.P0296.TEST #4: \RATECLAS\TRACS\AIR1\CODES\P0296.TES

| TRACSSMN.Z.AIR1.CODES.PQ296.TEST | #4:         | \RATECLAS\TRACS\AIR1\CODES\PQ296.TES |
|----------------------------------|-------------|--------------------------------------|
| TRACSSMN.Z.AIR1.CODES.PQ396.TEST | ₩4:         | \RATECLAS\TRACS\AIR1\CODES\PQ396.TES |
| TRACSSMN.Z.AIR1.CODES.PQ496.TEST | #4:         | \RATECLAS\TRACS\AIR1\CODES\PQ496.TES |
| TRACSSMN.Z.AIR3.CODES.PQ196.TEXT | #4:         | \RATECLAS\TRACS\AIR3\CODES\PQ196.TEX |
| TRACSSMN.Z.AIR3.CODES.PQ296.TEXT | #4:         | \RATECLAS\TRACS\AIR3\CODES\P0296.TEX |
| TRACSSMN.2.AIR3.CODES.PQ396.TEXT | #4:         | \RATECLAS\TRACS\AIR3\CODES\PQ396.TEX |
| TRACSSMN.2.AIR3.CODES.PQ496.TEXT | #4:         | \RATECLAS\TRACS\AIR3\CODES\PQ496.TEX |
| TRACSSMN.Z.AMTI.CODES.PQ196.TEST | #4:         | \RATECLAS\TRACS\AMT1\PQ196.TES       |
| TRACSSMN.2.AMT1.CODES.PQ296.TEST | #4:         | \RATECLAS\TRACS\AMT1\PQ296.TES       |
| TRACSSMN.Z.AMT1.CODES.PQ396.TEST | #4:         | \RATECLAS\TRACS\AMT1\PQ396.TES       |
| TRACSSMN.Z.AMT1.CODES.PQ496.TEST | #4:         | \RATECLAS\TRACS\AMT1\PQ496.TES       |
| TRACSSMN.Z.AMT2.CODES.PQ196.TEXT | #4:         | \RATECLAS\TRACS\AMT2\CODES_PQ.TEX    |
| TRACSSMN.Z.AMT2.CODES.PQ296.TEXT | <b>#</b> 4: | \RATECLAS\TRACS\AMT2\PQ296.TEX       |
| TRACSSMN.Z.AMT2.CODES.PQ396.TEXT | #4:         | \RATECLAS\TRACS\AMT2\PQ396.TEX       |
| TRACSSMN.Z.AMT2.CODES.PQ496.TEXT | #4:         | \RATECLAS\TRACS\AMT2\PQ496.TEX       |

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#### RESPONSE OF POSTAL SERVICE WITNESS NIETO TO INTERROGATORIES 3 OF UNITED PARCEL SERVICE

TRACSSMN.Z.AMT3.CODES.PQ196.TEXT #4: \RATECLAS\TRACS\AMT3\CODES\_PQ.TEX TRACSSMN.Z.AMT3.CODES.P0296.TEXT #4: \RATECLAS\TRACS\AMT3\P0296.TEX TRACSSMN.Z.AMT3.CODES.PO396.TEXT #4: \RATECLAS\TRACS\AMT3\PO396.TEX TRACSSMN.Z.AMT3.CODES.PO496.TEXT #4: \RATECLAS\TRACS\AMT3\PO496.TEX TRACSSMN.2.HWY1.CODES.PQ196.TEST #4: \RATECLAS\TRACS\HWY1\CODES\PQ196.TES TRACSSMN.Z.HWY1.CODES.PQ296.TEST #4: \RATECLAS\TRACS\HWY1\CODES\PQ296.TES TRACSSMN.Z.HWY1.CODES.PQ396.TEST #4: \RATECLAS\TRACS\HWY1\CODES\PQ396.TES TRACSSMN.Z.HWY1.CODES.PQ496.TEST #4: \RATECLAS\TRACS\HWY1\CODES\PQ496.TES TRACSSMN.Z.HWY2.CODES.PQ196.TEXT #4: \RATECLAS\TRACS\HWY2\PQ196.TEX TRACSSMN.Z.HWY2.CODES.P0296.TEXT #4: \RATECLAS\TRACS\HWY2\P0296.TEX TRACSSMN.Z.HWY2.CODES.P0396.TEXT #4: \RATECLAS\TRACS\HWY2\P0396.TEX TRACSSMN.Z.HWY2.CODES.P0496.TEXT #4: \RATECLAS\TRACS\HWY2\P0496.TEX TRACSSMN.Z.HWY3.CODES.PQ196.TEXT #4: \RATECLAS\TRACS\HWY3\PQ196.TEX TRACSSMN.Z.HWY3.CODES.PO296.TEXT #4: \RATECLAS\TRACS\HWY3\PO296.TEX TRACSSMN.Z.HWY3.CODES.PO396.TEXT #4: \RATECLAS\TRACS\HWY3\PQ396.TEX TRACSSMN.Z.HWY3.CODES.P0496.TEXT #4: \RATECLAS\TRACS\HWY3\P0496.TEX TRACSSMN.2.RAIL1.CODES.P0196.TEST #4: \RATECLAS\TRACS\RAIL1\CODES\P0196.TES TRACSSMN.2.RAIL1.CODES.PQ296.TEST #4: \RATECLAS\TRACS\RAIL1\CODES\PQ296.TES TRACSSMN.Z.RAIL1.CODES.P0396.TEST #4: \RATECLAS\TRACS\RAIL1\CODES\P0396.TES TRACSSMN.2.RAIL1.CODES.PQ496.TEST #4: \RATECLAS\TRACS\RAIL1\CODES\PQ496.TES TRACSSMN.2.RAIL2.CODES.P0196.TEXT #4: \RATECLAS\TRACS\RAIL2\CODES\P0196.TEX TRACSSMN.Z.RAIL2.CODES.P0296.TEXT#4: \RATECLAS\TRACS\RAIL2\CODES\P0296.TEX TRACSSMN.Z.RAIL2.CODES.PQ396.TEXT #4: \RATECLAS\TRACS\RAIL2\CODES\PQ396.TEX TRACSSMN.Z.RAIL2.CODES.PQ496.TEXT #4: \RATECLAS\TRACS\RAIL2\CODES\PQ496.TEX TRACSSMN.Z.RAIL3.CODES.PQ196.TEXT#4: \RATECLAS\TRACS\RAIL3\CODES\PQ196.TEX TRACSSMN.Z.RAIL3.CODES.PQ296.TEXT#4: \RATECLAS\TRACS\RAIL3\CODES\PQ296.TEX TRACSSMN.Z.RAIL3.CODES.PQ396.TEXT #4: \RATECLAS\TRACS\RAIL3\CODES\PQ396.TEX TRACSSMN.Z.RAIL3.CODES.PQ496.TEXT #4: \RATECLAS\TRACS\RAIL3\CODES\PQ496.TEX

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**UPS/USPS-T2-9.** Please confirm that a 2400 cubic foot trailer bedloaded with parcels one foot deep would have the same TRACS From [sic] 2 (surface) capacity utilization (100%) and expanded cubic feet assigned to parcels (2400) as the same trailer bedloaded with parcels to a height of five feet. Please explain any nonconfirmation.

(a) If instead of bedloading, the original parcels are stacked to a height of five feet in the nose of the trailer and the trailer is 45 feet in length, please confirm that the TRACS Form 2 (surface) capacity utilization is 20 percent, but that the expanded cubic feet assigned to parcels remains at 2400.

# Response:

Confirmed. The "Form 2" (surface) variables do not directly record utilization, but record

floorspace percentages (percent empty, percent remaining after unloading, and percent

unloaded). A fully bedloaded truck would have an empty floorspace percentage of 0

(thus a floorspace utilization of 100%) regardless of the height of the bedloaded mail.

The amount of expanded cubic feet assigned to the parcels is 2400 (the entire truck) in

both cases because in both cases there is nothing on the truck except parcels. Note

that because the sampling unit is based on route-trip-segments, the assignment of the

entire capacity of the truck to parcels is for only that particular leg of the route.

(a) Confirmed. Assuming there are only parcels on the truck, they are assigned the entire cubic feet of the truck regardless of capacity utilization. Note that it is unlikely that a truck would be fully bedloaded with parcels.

UPS/USPS-T2-12. Please refer to page 3 of LR-H-78.

- (a) Explain why contracts would be active in the Highway Pay Master File and not contained in NASS.
- (b) List for FY96, by postal quarter, the number of contracts and type (Intra-SCF, Inter-SCF, etc.) listed in the Highway Pay Master File and not contained in NASS.

# Response to UPS/USPS-T2-12:

Please note that the following answer refers specifically to the extracts from the

Highway Pay Master File and NASS which are taken on a specific day for the purposes

of developing the TRACS sample frame. I have not conducted a comprehensive study

of this for all highway contracts over an extended period of time.

(a) Emergency and exceptional contracts which had activity in the period prior to

sample selection would not be contained in NASS since they are not scheduled

movements is one example. Also, since these extract represent a snapshot of live

databases, there may be information in one which has not yet been updated in the

other.

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(b) The table below lists those contracts which were active in the Highway PayMaster File and were not in NASS at the time of sample selection:

| Account   | <u>Q1</u> | 02   | <u>Q3</u> | <u>Q4</u> |
|-----------|-----------|------|-----------|-----------|
| Intra-SCF | 4341      | 4230 | 3997      | 3796      |
| Inter-SCF | 112       | 115  | 91        | 95        |
| Intra-BMC | 3         | 4    | 5         | 8         |
| Inter-BMC | 0         | 0    | 0         | 1         |

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### RESPONSE OF POSTAL SERVICE WITNESS NIETO TO INTERROGATORIES 3372 OF UNITED PARCEL SERVICE

## UPS/USPS-T2-13. Please refer to page 3 of LR-H-78.

- (a) Explain why contracts would be contained in NASS but not listed as active in the Highway Pay Master File.
- (b) List for FY96, by postal quarter, the number of contracts and type (Intra-SCF, Inter-SCF, etc.) contained in NASS but not listed as active in the Highway Pay Master File.

# Response to UPS/USPS-T2-13:

Please note that the following answer refers specifically to the extracts from the

Highway Pay Master File and NASS which are taken on a specific day for the purposes

of developing the TRACS sample frame. I have not conducted a comprehensive study

of this for all highway contracts over an extended period of time.

(a) There are several reasons in which this might occur. A new contract may not yet

have had any payments against it and thus would not show activity in the Highway Pay

Master File. A terminated contract may reflect that in the Highway Pay Master File and

not yet have been deleted from NASS. Again, since these extract represent a snapshot

of live databases, there may be information in one which has not yet been updated in

the other.

(b) The table below lists the number of contract route-trips by postal quarter. This information is not available at the contract level or by account type:

<u>Q1</u> <u>Q2</u> <u>Q3</u> <u>Q4</u> Route-Trips 48,071 49,749 52,701 53,950
UPS/USPS-T2-15. Please refer to your response to FGFSA/USPS-T13-30, and your reference therein to LR-H-82, pp. 2398, 2402, 2406, 2410, concerning TRACS utilization figures. For each OBS number (1-16), for each of the pages referenced in LR-H-82, identify which Contract Type and Destination Facility Type the OBS number pertains to in Exhibit 2 of LR-H-78.

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#### Response to UPS/USPS-T2-15:

Please refer to the table below. These are applicable to all pages referred to.

OBS Acct. Test Taken At: 53121 Inbound SCF 1 2 53121 Inbound Other 3 53121 Outbound SCF 53121 Outbound Other (a.m.) 4 53121 Outbound Other (p.m.) 5 53124 BMC 6 53124 SCF 7 8 53124 Other 9 53127 BMC 10 53127 Inbound SCF 11 53127 Inbound Other 12 53127 Outbound SCF 13 53127 Outbound Other 14 53131 BMC 15 53131 SCF 16 53131 Other

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**UPS/USPS-T2-16.** Please refer to LR-H-78, Exhibit 2. For each Contract Type and Destination Facility Type shown, identify the:

- (a) origin facility(ies)
- (b) destination facility(ies)
- (c) facility location where the TRACs sample is taken

### Response to UPS/USPS-T2-16:

Partial objection filed September 22, 1997. The TRACS sample facility location

corresponds to the variable FCODE1, and the sample facility type corresponds to

FTYPE1 in the survey data. The variable FCODE3 provides the origin facility of the

particular sampled item or container of mail.

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UPS/USPS-T2-17. In reference to your testimony at page 2, please provide a detailed account of the information contained in the National Air and Surface System (NASS) concerning transportation routes and costs, including a definition of the sample frame elements (e.g., contract routes) used by TRACS, and a listing and definition of all data items associated with each such element in NASS.

#### Response to UPS/USPS-T2-17:

Partial objection filed September 22, 1997.

Please refer first to LR-H-82, Volume 1, TRACS Highway Sample Selection Programs and Documentation, program HWY1. This program reads in data from

LAXSTN.PS272D13, a temporary file which contains all NASS planned route records

available on the date on which the file was created, and extracts all records pertaining

to each highway mode. Each record represents one segment on one trip on each

contract route. The variables used from this file are listed and described beginning on p.

9, and these variables are read into HWY1 in lines 91-100 of p. 23 (for PQ 1, FY 96

program code for other quarters may be found in similar locations). NASS does not

provide any cost data for highway routes. Please note that the NASS information used

later for sampling (along with information on individual segments) may be found in LR-

H-84 in the files TRACSSMN.Z.INTRASCF.EXPAND\*6.TEXT and

# TRACSSMN.Z.OTHERHWY.EXPAND\*6.TEXT.

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Please refer next to LR-H-80, Volume 1, Amtrak Sample Selection Programs and Documentation, program AMTRAK1. This program also reads in data from LAXSTN.PS272D13 and extracts all records for which ROUTE = AMT . The variables used from this file are listed and described beginning on p. 8, and these variables are read into AMTRAK1 in lines 26-29 of p. 17 (for PQ 1, FY 96 program code for other

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quarters may be found in similar locations). As with highway routes, NASS does not provide any Amtrak cost data. Please note that the NASS data used later for sampling can be found either within the hard-coded data, the sample Amtrak data in the files TRACSSMN.Z.AMTRAK.SURVEY.PQ\*96.TEXT (in LR-H-84) or the actual Amtrak schedule, which is publicly available information.

Please refer lastly to LR-H-81, Volume 1, Eagle Sample Selection Programs and Documentation, program EAGLE1. This program reads in data from

LAXSTN.TEST.PS272D13, which contains NASS planned route records for the Eagle network. The variables used from this file are listed and described beginning on p. 15, and these variables are read into EAGLE1 in lines 12-23 on p. 15 (for PQ 1, FY 96 program code for other quarters may be found in similar locations). As above, NASS does not provide any cost data for Eagle flights. Please note that this information may also be found (along with daily volume and individual leg data) in LR-H-84 in the files TRACSSMN.Z.LAUTEST.ST476VAL.FYQT960\*.

**UPS/USPS-T2-18.** In reference to your testimony at page 3, please provide a detailed account of the information contained in the Rail Management Information System (RMIS) concerning rail movements and costs thereof, including a definition of the sample frame elements (e.g., rail movements) used by TRACS, and a listing and definition of all data items associated with each element in RMIS.

#### Response to UPS/USPS-T2-18:

Partial objection filed September 22, 1997.

Please refer to LR-83, Volume 2, Rail Sample Selection Programs and Documentation, program RAIL1. This program reads in data from LABV.ST380D01, a temporary test file containing historical RMIS pay data for all rail movements, and extracts all rail movements occurring in the 12 weeks prior to the date of sample selection. Each record represents an origin-destination-day, the primary sampling unit a movement of one rail van on a particular day from liable origin to final destination. The variables used from this file are listed and described beginning on p. 7, and these variables are read into RAIL1 in lines 19-63 of p. 19 (for PQ 1, FY 96 program code for other quarters may be found in similar locations). Please note that the RMISdata used for sampling can be found in LR-H-84 in the files

TRACSSMN.Z.RAIL\*96.EXPAND.TEXT, which contains summary information for all origin-destination pairs in the frame.

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UPS/USPS-T2-19. In reference to your testimony at page 4, please provide a detailed account of the information contained in the Air Contract Support System (ACSS) and the Official Airline Guide (OAG) concerning flights, including a definition of the sample frame elements used by TRACS (e.g., flight-days), and definition of all data items associated with each such element in ACSS and OAG.

#### Response to UPS/USPS-T2-19:

Partial objection filed September 22, 1997.

Please refer first to LR-H-79, Volume 1, Air Sample Selection Programs and

Documentation, program ACSS1. This program reads in data from

LAU.TEST.ST476TCR.WK9\*\*\*, which contains one weeks worth of ACSS volume,

payment accrual and mileage data for one leg on a unique dispatch-day combination. The variables used from this file are listed and described beginning on p. 7, and these variables are read into ACSS1 in lines 3-42 on p. 18 (for one week in PQ 1, FY 96 program code for other weeks may be found in similar locations). Please note that this information may also be found (along with daily volume data for individual legs) in LR-H-84 in the files TRACSSMN.Z.AIRWK\*\*2.FY96.TEXT.

ACSS data is also utilized for the Eagle network (please refer to LR-H-81, Eagle Estimation Programs and Documentation, program ACSS2). The program ACSS2 reads in data from TRACSSMN.Z.LAUTEST.ST476VAL.FYQT960\*, which are provided in LR-H-84. These files contain one quarters worth of ACSS volume, payment accrual and mileage data for one leg on a unique dispatch-day combination. The variables used from this file are listed and described on pp. 379-81, and these variables are read into ACSS2 in lines 2-38 and 50-73 on p. 385 (for PQ 1, FY 96 program code for other quarters may be found in similar locations).

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OAG data is used for the commercial air network (please refer to LR-H-79, Volume 3, Air Sample Selection Programs and Documentation, program OAG). The program OAG reads in data from LAUV.TEST.ST570D01, which contains OAG data, including specific flight numbers, departure and arrival times, and aircraft types. The variables used from this file are listed and described on p. 1519, and these variables are read into the program OAG in lines 3-14 on p. 1534 (for PQ 1, FY 96 program code for other quarters may be found in similar locations). Please note that this information may also be found (along with flight-leg-level volume data for individual legs) in LR-H-84 in the files TRACSSMN.Z.AIRWK\*\*2.FY96.TEXT or by subscribing to OAG.

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**UPS/USPS-T2-20.** In reference to your testimony at page 5, please provide a detailed account of the information contained in the National Air and Surface System (NASS) concerning network city-days, including a definition of the sample frame elements (e.g., city-days) used by TRACS, and a listing and definition of all data items associated with each such element in NASS.

#### Response to UPS/USPS-T2-20:

Partial objection filed September 22, 1997.

Please refer to my response above in UPS/USPS-T2-17.

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**UPS/USPS-T2-21.** In reference to your testimony at page 7, please identify the data source used to select Amtrak train segment-days and costs thereof, including a definition of the sample frame elements (e.g., train segment-days) used by TRACS, and a listing and definition of all data items associated with such elements in this data source or available related data bases as NASS.

#### Response to UPS/USPS-T2-21:

Partial objection filed September 22, 1997.

In the selection of segment-days for Amtrak sampling, every segment (round-trip

pair) is sampled on at least one random day, hence segment-day, the primary sampling

unit. Two data sources are used in to build the Amtrak sample frame. The first source is

NASS (please refer to my response above in UPS/USPS-T2-17), and the second is

hard-coded data, which can be found in LR-H-84 in the program code for

TRACS.DESIGN(AMTRAK1). The hard-coded variables are also listed and described in

LR-H-80, Volume 1, Amtrak Sample Design Programs and Documentation, on p. 8.

**UPS/USPS-T2-22.** In reference to your response to FGFSA/USPS-T16-13, at page 2 of 5, please describe in detail how two dimensional floorspace percentages are converted to three dimensional cubic footages. Are the actual interior freights of each truck or van recorded for this purpose, or is a standard height applied, and if so, what standard height(s) are used for each category of truck or van?

# Response to UPS/USPS-T2-22:

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The floorspace percentage is multiplied by the specified minimum vehicle cube for the

contract. For example, if the percentage of the floor space of a 2400 cubic-foot truck

occupied by wheeled containers is 20, the cubic feet assigned to wheeled containers

will be 480 cubic feet.

**UPS/USPS-T2-23.** In reference to your testimony at page 2, please describe how highway contract costs factor into the development of total highway cubic-foot miles for the different classes and sub-classes of mail:

(a) Are costs for sampled routes including in the expansion process, and if so, how are the costs for the specific segment and destination-day sample determined?

(b) How and at what level of aggregation are total costs for sampled routes combined in developing proportions for the different mailcodes?

# Response to UPS/USPS-T2-23:

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(a) and (b). Please refer to my response to FGFSA/USPS-T2-13.

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UPS/USPS-T2-24. In reference to your testimony at page 2, and LR-H-78, at pages 2 to 3, please provide a complete listing of all contract highway routes in effect for the last accounting period of FY 1996, including the following information for each route:

HCRID number

Trip route specifications for each trip route, including

- Origin and destination of each segment
- Highway mileage of each segment
- Minimum truck capacity in cubic feet
- Schedule, including number of days of operation and arrival/departure times
- Annual cost of service

Identification of contract type (Intra-SCF, Inter-SCF, etc.)

## Response to UPS/USPS-T2-24:

Partial objection filed September 22, 1997.

The requested information can be found in the following files already submitted under

LR-H-84:

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| Original Mainframe File Name            | LR-H-84 CD-ROM Number and Path              |
|-----------------------------------------|---------------------------------------------|
| TRACSSMN.Z.INTRASCF.EXPAND46.TEXT       | #4: \RATECLAS\TRACS\INTRASCF\EXPAND46.TEX   |
| TRACSSMN.Z.OTHERHWY.EXPAND46.TEXT       | #4: \RATECLAS\TRACS\OTHERHWY\EXPAND46.TEX   |
| TRACSSMN, Z.HIGHWAY, MILES, PQ496, TEXT | #4: \RATECLAS\TRACS\HIGHWAY\MILES\PQ496.TEX |
| TRACSSMN.Z.DIVTMO.LOOKUP.Q496.TEXT      | #4: \RATECLAS\TRACS\DIVTMO\LOOKUP\Q496.TEX  |

Please refer to documentation for program

TRACS.EXPAND.HWY.PQ496.CNTL(FRAME), LR-H-82, p. 38, and documentation for

program TRACS.EXPAND.HWY.PQ496.CNTL(HWY10), LR-H-82, p. 441.

UPS/USPS-T2-25. Please refer to LR-H-78, Exhibit 2.

- (a) Please explain the rationale for the different sampling percentages allocated to each facility type by type of highway contract.
- (b) For each mailcode and highway contract type, please provide BY96 distribution keys in total and computed separately, for Inbound and Outbound destination facility types.

# Response to UPS/USPS-T2-25:

- (a) Please refer to my response to FGFSA/USPS-T2-16, parts (c) and (e).
- (b) TRACS does not compute annual distribution keys nor does it compute separate

Inbound and Outbound distribution keys, as these are not used in the development of

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transportation costs.

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**UPS/USPS-T2-26.** Your testimony at pages 8 and 9 refers to Table 2, but no reference is made to Table 1. Please explain the apparent omission of Table 1.

# Response to UPS/USPS-T2-26:

Table 1 was intentionally removed from an early draft of my testimony, and Table 2 was

not renamed.

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**UPS/USPS-T2-27.** Please refer to LR-H-82. Provide a detailed description of the facility type, classes of mail processed, and the activities performed for IMPs.

## Response to UPS/USPS-T2-27:

'IMP' is short for 'IMPC', or International Mail Processing Center. International Mail Processing Centers are typically a portion of or an annex to an AMC/AMF (Air Mail Center / Air Mail Facility). International Mail Processing Centers process International Mail. Regarding the frequency table of NASS facility types contained in the output of program TRACS.DESIGN(HWY1), TRACS highway sampling is stratified into three facility types: 'BMC', 'SCF', and 'OTH' (for other). 'IMP' facilities fall into the 'other' category and are treated as such in TRACS.

**UPS/USPS-T2-28.** Please refer to LR-H-82, DMM section E652, Exhibit 1.5, and line 17, page 2, of your testimony.

- (a) Provide a detailed definition of miles traveled on line 17, page 2, of your testimony.
- (b) For each Facility Parent Post Office pair shown in Exhibit 1.5 in DMM section E652, provide:
  - The miles traveled as defined in (a) above for mail that was loaded at the BMC/ASF (Facility) and unloaded at the Parent Post office for each pair shown;
  - (ii) The miles that would be used for TRACS samples for calculating cubic-foot-miles for mail loaded and unloaded between these facility pairs;
    - (iii) The highway miles between these facility pairs;
    - (iv) The Great Circle Distance (in miles) between these facility pairs.
- (c) Please explain any differences in miles for each facility pair as provided in (b)(i), (b)(ii) and (b)(iii) above.
- (d) For each Facility and Parent Office shown in Exhibit 1.5 in DMM section E652, provide the name, 3 or 5 digit NASS facility code, and 3 digit alpha type.

### **Response to UPS/USPS-T2-28:**

(a) The miles traveled as described in my testimony refer to the actual highway
 miles traveled by the sampled contract route-trip, rather than Great Circle Distance
 (GCD) miles.

- (b) (i) Objection filed September 29, 1997.
  - (ii) TRACS uses the actual highway miles between any facility pair which is sampled in order to calculate cubic-foot-miles. These miles can be found in LR-H-84, in the files:

# TRACSSMN.Z.HIGHWAY.MILES.PQ196.TEXT TRACSSMN.Z.HIGHWAY.MILES.PQ296.TEXT TRACSSMN.Z.HIGHWAY.MILES.PQ396.TEXT TRACSSMN.Z.HIGHWAY.MILES.PQ496.TEXT

Please note that the origin and destination information has been encrypted in order to ensure that these match up with the origin and destination information on the survey data so that the programs run correctly.

- (iii) Objection filed September 29, 1997.
- (iv) Objection filed September 29, 1997.

(c) The difference between actual highway miles and GCD miles reflects the fact that GCD miles reflect the minimum distance between two points (essentially, a curved line) and not the actual route which a vehicle must follow to reach a facility.

(d) Objection filed September 29, 1997.

UPS/USPS-T2-29. Please refer to LR-H-82, pages 5 and 11.

- (a) Are there TRACS sample segments where the calculation of GCD between origin (OCODE) and destination (DCODE) is:
  - (i) 0?
  - (ii) Less than 1?

Please explain any no answer.

- (b) Please describe the process/estimation procedures for determining DIST for a sample segment, and provide actual examples when
  - (i) GCD = 0
  - (ii) GCD = <1
  - (iii) A DIST value other then the calculated GCD is used.

Response to UPS/USPS-T2-29:

a) (i) Yes. When the same latitude and longitude is listed for two facilities (i.e., they are in such close geographic proximity that there is no measurable difference in their degrees and minutes), the trigonometrically calculated GCD miles will equal zero. All facilities that are co-located (e.g., the Southern Maryland/Washington D.C. BMC and the Southern Maryland GMF) will show a trigonometrically calculated GCD of zero. Most facility pairs within the same metropolitan area will also have a trigonometrically calculated GCD of zero. Most facility pairs within the same metropolitan area will also have a trigonometrically calculated GCD of zero. Most facility and longitude coordinates in the Postal Service's databases. Note that in the TRACS highway mode, GCD miles are only used in sample selection; actual highway miles are used in the expansion process. Furthermore, in the Intra-SCF mode, which includes most highly localized movements, miles are not used at all.

- (ii) No. I found no cases of observations with GCD miles less than 1, other than those which were zero, as discussed in part (i).
- b) (i) Please note that this response refers only to the calculation of DIST in the sample selection programs. Actual highway miles are use in the expansion

process. If the trigonometrically calculated great circle distance between two facilities is zero, DIST is set to 26 miles, the average distance between local facilities.

(ii) Not applicable.

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(iii) Please see above response to UPS/USPS-T2-29 (a) (i).

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**UPS/USPS-T2-30.** Please refer to LR-H-82, part 4, page 8. Please confirm that the PERCONT variable in the data file TRACSSSMN.Z.HIGHWAY.PQ\*96.SURVEY.TEXT, which is described as Percentage of container filled with items of same item type, contains percents expressed as whole numbers. For example, if a container was filled with 50% of items of the same item type, the variable for that observation would contain 50.

Response to UPS/USPS-T2-30:

Confirmed.

UPS/USPS-T2-31. Please refer to LR-H-82, part 4, pages 152-199, and to the SAS program code line 278 at page 164 for PQ 1 FY96, the SAS program code line 278 on page 174 at PQ 2 FY96, the SAS program code line 278 on page 184 at PQ 3 FY96, and the SAS program code line 238 at page 194 at PQ 4 FY96.

- (a) Please confirm that the purpose of the SAS code lines referenced above is to set the value of the CUFT variable equal to the CUFT variable divided by the TOTCUFT variable multiplied by the cubic feet of the container filled with items of same item type.
- (b) Please confirm that the SAS code referenced above calculates the cubic feet of the container filled with items of same item type by multiplying the PERCONT and CONTCUFT variables.
- (c) Please confirm that multiplying the PERCONT and CONTCUFT variables does not equal the cubic feet of the container filled with items of same item type because the PERCONT variable expresses percents as whole numbers rather than decimals.
- (d) Please confirm that multiplying the PERCONT and CONTCUFT variables and dividing by 100 is the correct calculation of cubic feet of the container filled with items of same item type.

### Response to UPS/USPS-T2-31:

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- a) Not confirmed. The purpose of the SAS code lines referenced above is to weight the cubic feet of the mailcodes found within an item based upon the portion of the container filled with items of the same item type.
- b) Not confirmed. The SAS code referenced above calculates the weighted cubic feet by multiplying PERCONT and CONTCUFT.
- c) Confirmed. Please see explanation following confirmation of UPS/USPS-T2-31
  (d).
- d) Confirmed with clarification. For most containers, relative proportions are maintained and all cubic footages are normalized to add up to the size of the container, and it is not incorrect to multiply by a whole percent rather than a decimal percent. This normalization occurs as follows in line 295:

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CUFT = (CUFT / SMCONTCF) \* CONTCUFT where CONTCUFT is the cubic feet of the container.

However, it has been brought to our attention recently that there are unanticipated instances when a data collection technician records the usage of a container for some item types as a percentage of the container and for some as the number of items within the same container. In these rare cases, the correction is required. Please refer to LR-H-288 for the distribution keys for PQ1 recomputed with the correction. Please refer also to my response to FGFSA/USPS-T2-52.

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UPS/USPS-T2-32. Please refer to page 4 of LR-H-82, and to the National Air and Surface System (NASS) Report Users Guide (Handbook PO-503) dated 10/3/83.

- (a) Please confirm that the file LAXSTN.PS272D13 (a temporary file which contains all NASS planned route records available as of a certain date) was created for each Postal Quarter in 1996. If not confirmed, please explain.
- (b) For what dates were these four files created?
- (c) Please provide the following reports in hard copy and in machinereadable format with effective dates as requested in (b) above, for all transaction codes:
  - (i) LAT274P2 (Surface Master)
    - (a) for all AMC/AMFs
    - (b) for all BMCs
    - (c) for all PLDs
  - (ii) LAT277P1 (Intra-Area Transportation Report)
    - (a) for all AMC/AMFs
    - (b) for all BMCs
    - (c) for all PLDs
  - (iii) LAT420P1 (Transportation Master by Key with Dispatch Hooks) for all origin-destination pairs where either is an AMC/AMF
  - (iv) LAT421P1 (Transportation Master by Key without Dispatch Hooks) for all origin-destination pairs where either is an AMC/AMF
  - (v) LAT488P1 (Airport Transportation Requirements) for all AMC/AMFs
  - (vi) LAT500P1 (Surface Transportation Master List) for the area of administrative responsibility that includes Chicago, IL

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 If any of these reports (as identified in the NASS Report Users Guide) no longer exists, please identify and provide the information that the report would have provided.

## Response to USPS/USPS-T2-32:

a) Confirmed, with clarification. The file LAXSTN.PS272D13 represents only a snapshot of NASS planned route records from which the sample was drawn for each PQ of FY 96.

b) <u>PQ Date \*</u>

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- 1 8/14/95
- 2 11/7/95
- **3 1/30**/96
- 4 4/22/96

\* Date up to which changes have been included in data

c) Objection filed September 29, 1997.

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UPS/USPS-T2-33. Please refer to LR-H-78, at page 11, identifying TRACS mailcodes.

- (a) Confirm that mailcode LL comprises all DBMC Parcel Post mail.
- (b) In your opinion, how reliable are TRACS proportions for mailcode LL relative to Parcel Post mailcodes in total (mailcodes KK, LL, and P combined)? Please include in your answer a discussion of the reliability of identification of DBMC rated parcels as distinguished from other parcels at the different destination facilities.

### Response to UPS/USPS-T2-33:

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- a) Not confirmed. Mailcode LL comprises all DBMC endorsed parcel post mail which was sampled in TRACS.
- b) To the extent which these parcels have been properly endorsed, the identification of these parcels will be as reliable as any other parcels. However, combining the mailcodes KK, LL, and P results in a lower variance since the variance calculation for the combined mailcodes will reflect more samples.

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UPS/USPS-T2-34. Please refer to LR-H-82, part 1, page 6 and to the data file ACR94.COSTCFM.FLAT.TEXT.

- (a) Please provide a machine-readable copy of the data file ACR94.COSTCFM.FLAT.TEXT.
- (b) Please describe the method used to calculate the COSTCFM variable.
- (c) Does a cubic foot, defined with respect to the COSTCFM variable, represent a cubic foot of <u>actual</u> mail or a cubic foot of vehicle <u>capacity</u>? For example, if a truck with 2,400 cubic foot capacity contained 1,200 cubic feet of mail, would the COSTCFM variable be based upon 1,200 cubic feet of mail actually moved or 2,400 cubic feet of capacity of the vehicle?

### Response to UPS/USPS-T2-34:

- a) Please refer to LR-H-288, which contains this file on the accompanying floppy disk.
- b) The COSTCFM variable for each is calculated as the annual cost of a highway contract divided by the annual CFMs of the contract.
- c) CFMs are based on the minimum cubic capacities specified for the vehicles on the contract. In your example, the relevant number is the 2,400 cubic feet of capacity of the vehicle.

UPS/USPS-T2-35. In reference to the TRACS software TRACS.EXPAND.HIGHWAY.CNTL (HWY11), please explain the logic of the capacity utilization weighting factors applied to intra-SCF observations by facility category (FACCAT) at lines 144 to 147. Why is a similar adjustment not applied to the other highway account codes?

### Response to UPS/USPS-T2-35:

Assuming you are referring to lines 33-83 in HWY11, the capacity utilization weighting factors calculation is simply the allocation of empty space to intra-SCF accounts. Empty space allocation is performed in HWY10 for all modes since the tests have not yet been separated into their respective accounts. For intra-SCF, the capacity utilization weighting factors overwrites the previous empty space allocation. The intra-SCF empty space is allocated differently because intra-SCF is a cubic-foot based distribution key rather than a cubic-foot mile based distribution key. The only difference in empty space allocation between intra-SCF and the other modes is that for intra-SCF, the average empty space by FACCAT is applied to the average percentage of unloaded mail for the FACCAT. The cost of the sampled cubic feet is multiplied by the expanded percentage (UNLOAD2) for the FACCAT prior to the aggregation of cubic feet by mailcode. For a description of the empty space allocation for the other modes of highway transportation, please refer to my response to FGFSA/USPS-T2-20.

UPS/USPS-T2-36. Please refer to the TRACS software TRACS.EXPAND. HIGHWAY.CNTL (HWY11).

- (a) Please confirm that the costs for the observed movements of unloaded mail for a given account category (e.g., intra-SCF) and destination facility category (FACCAT, e.g. inbound SCF or BMC) are expanded to the sample frame of all transportation segments by account and distribution facility category including segments with zero capacity utilization or zero unloading of mail at the destination facility.
- (b) Please confirm that this expansion is performed at the FACCAT level, prior to combining expanded costs by FACCAT to determine mailcode distribution keys at the account category level.
- (c) Please explain any nonconfirmation, and the rationale for charging the costs of moves with zero capacity utilization or unloading of mail to the nonzero observations at the FACCAT level instead of at the level of all observations by account category.

# Response to UPS/USPS-T2-36:

- a) Not confirmed. Highway costs are calculated by applying cost-per-cubic-foot-mile to cubic-foot-miles of sampled mail. This calculated cost is weighted to reflect how many times the sampled route-trip occurred in the quarter (variable STRATWT) at the FACCAT level. Those sampled segments "with zero capacity utilization or zero unloading of mail at the destination facility" produce no sampled cubic feet of mail for inclusion in the development of the distribution key.
- b) Confirmed only for the weighting factor described in part a) above. STRATWT is applied at the FACCAT level.
- c) Not applicable; see response to part a) above.

**UPS/USPS-T2-37.** Please describe in detail how TRACS will affect (and be affected by) the PMPC network.

### Response to UPS/USPS-T2-37:

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TRACS will not in any way affect the PMPC network. It is my understanding that none of the PMPC network contract costs will be included under purchased transportation accounts and thus will not affect TRACS. However, to the extent that there is less Priority Mail traveling on purchased transportation routes, the TRACS distribution keys should reflect a lower proportion of Priority Mail.

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UPS/USPS-T2-38. Please refer to LR-H-82, part 1, pages 1-56, TRACS.DESIGN(HWY1) (PQ 1 FY96 and PQ 4 FY96).

- (a) Please confirm that this program calculates great circle distance (GCD) for the sample frame. If not confirmed, please explain.
- (b) Please confirm that the program should be able to calculate GCD for all the observations in the sample frame. If not confirmed, please explain.
- (c) Please explain and provide an example of how the program calculates GCD for NASS codes that are not listed in the LATLON.LOOKUP.TEXT data file.
- (d) Please explain and provide an example of how the program calculates GCD for NASS codes that are not listed in the LATLON.LOOKUP.TEXT data file or hard coded into the program with a DATA...; CARDS; statement.
- (e) Please explain the INVESTIGATED BY PW PERSONNEL comment on line 488 of page 33.

## Response to UPS/USPS-T2-38:

- a) Confirmed. Calculation of GCD miles for the sample frame is one of the numerous tasks performed by TRACS.DESIGN(HWY1).
- b) Not confirmed. Please refer to response to UPS/USPS-T2-29 (a) (i).
- c) For NASS facility codes not contained in the LATLON.LOOKUP.TEXT file,
- additional facility latitude/longitude records are hard-coded into the TRACS.DESIGN(HWY1) program using a DATA...; CARDS; statement.
- d) For facility codes that still do not match either the original

LATLON.LOOKUP.TEXT file or the hard-coded additions, the three-digit zip code equivalent is matched against the list of hard-coded facility updates. USPS analysts rerun program HWY1, adding hard-coded records as necessary, until there are no facilities without a latitude and longitude match.

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e) The original list of hard-coded additions was created by Price Waterhouse personnel.

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UPS/USPS-T2-39. Please refer to LR-H-82, part 1, page 35, and to lines 558-560 of the source program TRACS.DESIGN(HWY1) (PQ 1 FY96).

- (a) Please explain why the IF -- THEN statement sets distance equal to 26.
- (b) Please explain why and how ODIS is the basis for setting distance equal to 26.

# Response to UPS/USPS-T2-39:

- a) Please see above response to UPS/USPS-T2-29 (b) (i).
- b) At the conception of TRACS, ODIS was used to determine the average distance between local facilities.

**UPS/USPS-T2-40.** Please refer to LR-H-82, part 4, page 164, and to lines 280-296 of the source program TRACS.EXPAND.HWY.PQ196.CNTL (HWY1).

- (a) Please confirm the SMCONTCF variable represents the cubic feet utilized by all the items in a container. If not confirmed, please explain.
- (b) Please confirm that the CONTCUFT variable represents the cubic feet of a container. If not confirmed, please explain.
- (c) Please confirm that dividing the SMCONTCF variable by the CONTCUFT variable provides a good estimate of the utilization of a container. If not confirmed, please explain.
- (d) Please confirm that the SMCONTCF variable should never be greater than the CONTCUFT variable. If not confirmed, please explain.
- (e) Please confirm that the SMCONTCF variable is greater than the CONTCUFT variable in the data set FORM3S at line 294 in 3,439 out of 8,522 observations. Please explain your response and how to correct this.
- (f) Please confirm that your responses are also applicable to PQ 2 FY
  96, PQ 3 FY 96, PQ 4 FY96. If not confirmed, please explain.
- (g) Are your responses also applicable to the Air, Amtrak, Eagle, and Rail TRACS programs? Please explain.

### Response to UPS/USPS-T2-40:

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a) Confirmed for sampled containers in which the DCT records the distribution of items found within a container in terms of quantities of each item type. Not confirmed for sampled containers in which the DCT records the distribution of items found within a container in terms of percentages. SMCONTCF is only the sum of the weighted cubes of the sampled items. The weighting variable PERCONT is based on whole numbers, not decimal percentages. Thus one would expect that SMCONTCF is 100 times the estimated total cube of all items

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in the container. However, the DCT may record PERCONT relatively (i.e., the sum of PERCONT across all items in a container will equal 100), or absolutely (i.e., the sum of PERCONT across all items in a container will not equal 100 unless the container is full). In the former case, SMCONTCF does not necessarily bear any relationship to the total cube of the all items in a container, and reflects only the sum of the weighted cubes, used as the denominator when normalizing them back to the size of the container.

- b) Confirmed.
- c) Confirmed for sampled containers in which the DCT records the distribution of items found within a container in terms which the quantities of each item type. Not confirmed for sampled containers in which the DCT records the distribution of items found within a container in terms of percentages. Please refer to my discussion of SMCONTCF in above response to UPS/USPS-T2-40.
- d) Not confirmed. Please refer to discussion of SMCONTCF in above response to UPS/USPS-T2-40.
- confirmed. No correction is needed as discussed in UPS/USPS-T2-40.
- f) Confirmed.
- g) Confirmed for Amtrak and Rail. Air and Eagle do not use wheeled containers.

UPS/USPS-T2-41. Please refer to LR-H-82, part 4, page 164, and to line 275 of the source program TRACS.EXPAND.HWY.PQ196.CNTL (HWY1).

- (a) Please confirm that the intention of the above referenced line of code is to set the data set FORM3S equal to the data set HIT. If not confirmed, please explain.
- (b) Please confirm that the code does not set the data set FORM3S equal to the data set HIT. If not confirmed, please explain.
- (c) Please confirm that the correct line of code should read DATA FORM3S; SET HIT; and will set the data set FORM3S equal to the data set HIT. If not confirmed, please explain how to correct this.
- (d) Please confirm that your responses are also applicable to PQ 2 FY 96, PQ 3 FY 96, PQ 4 FY96. If not confirmed, please explain.
- (e) Are your responses also applicable to the Air, Amtrak, Eagle, and Rail TRACS programs? Please explain.

### Response to UPS/USPS-T2-41:

- a) Not confirmed. In consideration of the numerous occurrences in HWY1 where two data sets are merged and matching records are directed into a data set called HIT, which is subsequently the source for continued processing, one might expect that in this particular section of code, data set HIT would be the basis for continued processing as well. However, in this case, data set HIT is deliberately not used. This data set HIT is the result of an unused data step, remnant from a previous version of program HWY1, and contains inconsistent data for variable TOTCUFT (see your statement in UPS/USPS-T2-43 (c). Lines 254-274 of HWY1, which culminate in the creation of data set HIT, have no affect on the program, as FORM3S is deliberately not overwritten with data set HIT.
- b) Confirmed.

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 Not confirmed. No correction is necessary. Please see response above to UPS/USPS-T2-41(a).

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d) Confirmed.

e) Not confirmed for Air or Eagle. Neither Air nor Eagle works with cubic feet data, so there exists no code in either the Air or Eagle programs which is similar to that which is described in this question.
UPS/USPS-T2-42. Please refer to LR-H-82, part 4, page 164, and to lines 265-267 of the source program TRACS.EXPAND.HWY.PQ196.CNTL (HWY1).

- Please confirm that the intention of the above referenced line of code is to calculate the TOTCUFT variable in the data set TOTAL2.
   If not confirmed, please explain.
- (b) Please confirm that the TOTCUFT variable in the data set TOTAL2 should be equal to the total cubic feet of a sampled item. For example, for all items of CTYPE equal to F (flat tray), TOTCUFT should equal 1.49 (the cubic footage of a flat tray). If not confirmed, please explain.
- (c) Please confirm that the TOTCUFT variable in the data set TOTAL2 is equal to the total cubic feet of a sampled item. For example, for all items of CTYPE equal to F (flat tray) TOTCUFT equals 1.49 (the cubic footage of a flat tray). If not confirmed, please explain.
- (d) Please confirm that your responses are also applicable to PQ 2 FY 96, PQ 3 FY 96, PQ 4 FY96. If not confirmed, please explain.
- (e) Are your responses also applicable to the Air, Amtrak, Eagle, and Rail TRACS programs? Please explain.

#### Response to UPS/USPS-T2-42:

- a) Confirmed with clarification. The "calculation" of the TOTCUFT variable is the use of a PROC MEANS to sum the variable CUFT across each unique TESTID-CONTNO-CTYPE group.
- b) Confirmed.
  - c) Confirmed.
  - d) Confirmed.
  - Not confirmed for Air or Eagle. Neither Air nor Eagle works with cubic feet data, so there exists no code in either the Air or Eagle programs which is similar to that which is described in this question.

**UPS/USPS-T2-43.** Please refer to LR-H-82, part 4, page 164, and page 164 of part 4 of library reference to lines 269-274 of the source program TRACS.EXPAND.HWY.PQ196.CNTL (HWY1).

- (a) Please confirm that the intention of the above referenced lines of code is to create the HIT data set by merging the FORM3S data set and the TOTAL2 data set. If not confirmed, please explain.
- (b) Please confirm that the TOTCUFT variable in the data set HIT should be equal to the total cubic feet of a sampled item. For example, all items of CTYPE equal to F (flat tray) TOTCUFT should equal 1.49 (the cubic footage of a flat tray). If not confirmed, please explain.
- (c) Please confirm that the TOTCUFT variable in the data set HIT does not equal the total cubic feet of a sampled itern. For example, the TOTCUFT variable only equals 1.49 in 608 of 1,873 observations with CTYPE equal to F (flat tray). Please explain your response. If confirmed, please explain how to correct the above referenced code.
- (d) Please confirm that your responses are also applicable to PQ 2 FY 96, PQ 3 FY 96, PQ 4 FY96. If not confirmed, please explain.
- (e) Are your responses also applicable to the Air, Amtrak, Eagle, and Rail TRACS programs? Please explain.

## Response to UPS/USPS-T2-43:

- a) Confirmed. Please note that data set HIT is not subsequently used.
- b) Not confirmed. Due to the fact that the variable TOTCUFT existed in both data sets being merged to create data set HIT, it cannot be relied upon that the variable TOTCUFT in data set HIT will always equal the variable TOTCUFT from data set TOTAL2, which does contain the correct total cubic feet of each sampled item.
  - c) Confirmed. This is because the variable TOTCUFT exists in both data sets being merged. No correction is necessary, as data set HIT is not subsequently used.
  - d) Confirmed.

e) Not confirmed for Air or Eagle. Neither Air nor Eagle works with cubic feet data, so there exists no code in either the Air or Eagle programs which is similar to that which is described in this question.

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**UPS/USPS-T2-44.** Please refer to LR-H-82, part 4, page 162, and to the FORM3S data set at line 144 of the source program TRACS.EXPAND.HWY.PQ196.CNTL (HWY1).

- (a) Please confirm that the WT variable represents the actual weight of a particular class of mail in an item (a flat tray, for example). If not confirmed, please explain.
- (b) Please confirm that TOTWT represents the total weight of an item (tare weight plus actual mail weight). If not confirmed, please explain.
- (c) Please confirm that the tare weight of an item should be greater than zero. If not confirmed, please explain.
- (d) Please confirm that the TOTWT variable should always be greater than the WT variable. If not confirmed, please explain.
- (e) Why does the WT variable equal the TOTWT variable in 1,725 out of 8,522 observations in the FORM3S data set referenced above? How can this be corrected?
- (f) Please confirm that your responses are also applicable to PQ 2 FY 96, PQ 3 FY 96, PQ 4 FY96. If not confirmed, please explain.
- (g) Are your responses also applicable to the Air, Amtrak, Eagle, and Rail TRACS programs? Please explain.

### Response to UPS/USPS-T2-44:

- a) Confirmed.
- b) Confirmed.
- c) Not confirmed. Certain item types, such as 'L' and 'B', reflect loose items and have no tare weight.
- d) Not confirmed. Please refer to explanation in above response to UPS/USPS-T2-44 (c).
- e) Please refer to explanation in above response to UPS/USPS-T2-44 (c). No
   'correction' is needed.

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- f) Confirmed.
- g) Yes. Loose items are found on all transportation modes.

**UPS/USPS-T2-45.** Please refer to part 4 of Library Reference H-82; specifically refer to the TRACSSMN.Z.HIGHWAY.PQ196.SURVEY.TEXT data file and the TRACSSMN.Z.HIGHWAY.PQ196.SAMPLE.DATA data file.

- (a) Please explain the extent to which TRACS tests the SURVEY and SAMPLE data to insure no logical inconsistencies exist, such as a sample where the cubic feet of mail exceeds the cubic feet of the vehicles capacity.
- (b) Please confirm the vehicle cubic foot capacity for the following samples (TESTID, CAPACITY): 77046RX, 45; 77756JL, 48; 70066XC, 22; 73066IA, 45; 70706UW, 28; 77056JZ, 45; 73076UN, 45. If not confirmed, please explain.
- (c) Please confirm the cubic footage of the sampled pallets
   ([P1HEIGHT \* P1LENGTH \* P1WIDTH / 1728] + P2HEIGHT \*
   P1LENGTH \* P1WIDTH / 1728]) for the following samples
   (TESTID, Cubic Footage of Sampled Pallets): 77046RX, 133;
   77756JL, 126; 70066XC, 78; 73066IA, 70; 70706UW, 48; 77056JZ,
   62; 73076UN, 47. If not confirmed, please explain.
- (d) If (b) and (c) are confirmed, please explain how the cubic footage of sampled pallets on a vehicle can be greater than the cubic footage of the vehicles capacity.
- (e) Please confirm that your responses are also applicable to PQ 2 FY 96, PQ 3 FY 96, and PQ 4 FY96. If not confirmed, please explain.
- (f) Are your responses also applicable to other parts of TRACS? Please explain.

Response to UPS/USPS-T2-45:

a) A recent review of the data has shown that there are a small number of contracts

where the NASS minimum vehicle capacity is specified in linear feet (such as 45 or 48)

rather than cubic feet (2,700 or 3,000). This could lead to apparent logical

inconsistencies in truck utilization before the data is normalized. The relative

proportions of the mail found within the truck are not compromised.

- b) Confirmed.
- c) Confirmed.
- d) Please see above response to interrogatory UPS/USPS-T2-45 (a).
- e) Confirmed.
- f) No. Only the TRACS highway modes use a NASS minimum cubic foot capacity specification.

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UPS/USPS-T2-46. Please refer to USPS Library Reference H-82 (TRACS Highway Sample Design Programs and Documentation). Please provide machine readable input and output files, as shown on pages 6-8, by quarter for FY 96 for Motor Vehicle Service (MVS) containing similar information as the following Highway Contract Route TRACS files including but not limited to these files:

- (a) LAXSTN.PS272D13;
- (b) TRACSSMN.NASS\*\*\*\*.FY96.TEXT.

#### Response to UPS/USPS-T2-46:

Not applicable. MVS is not a part of TRACS. TRACS neither uses MVS data as inputs

nor outputs any results regarding the Motor Vehicle Service.

**UPS/USPS-T2-49.** Please provide the height of storage space for each vehicle cubic foot capacity in the TRACS highway sample. For example, provide the height of storage space for all vehicles with a 2700 cubic foot capacity.

#### Response to UPS/USPS-T2-49:

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Highway contracts specify only the total cubic foot capacity required (for example,

2,700). The typical trailer storage space height, though, is 8 feet.

 UPS/USPS-T2-50. Please refer to your response to FGFSA/USPS-T2-41.
 (A) Please explain how you estimated average height of loaded mail as 65 for Intra-BMC and 54 for Inter-BMC.

(B) Please provide the same estimates for average height of loaded mail for Intra-SCF, Inter-SCF, Intra-BMC, and Inter-BMC for each postal guarter in FY96.

(C) Are two pallets containing mail ever stacked one on top of another? If so, how often does this occur?

(D) If two pallets (three feet high each) were stacked one on top of another, what would TRACS record as the pallet height?

(E) Please explain how you estimate that wheeled containers are approximately 72 tall.

#### Response to UPS/USPS-T2-50:

(A) The following SAS code was used to make this estimation, after merging account

number and capacity onto the survey data by TESTID:

```
PROC SORT DATA=SURVEY; BY TESTID;
DATA SURVEY; SET SURVEY; BY TESTID; IF FIRST.TESTID;
IF UNLOADED=0 THEN DELETE;
AVG_HT=(HSACKS*SACKS+HEXPRESS*EXPRESS+HOTHER*OTHER+WHEELED*72+
        (PIHEIGHT+P2HEIGHT)/(1+(PIHEIGHT*P2HEIGHT NE 0))*PALLETS)/
        (SACKS+EXPRESS+OTHER+WHEELED+PALLETS);
        XX=UNLOADED*CAPACITY;
        IF AVG_HT GT 96 THEN DELETE;
PROC SORT; BY ACCOUNT;
PROC MEANS; BY ACCOUNT; VAR AVG_HT; WEIGHT XX;
```

(B) Please refer to the SAS code provided in above response to UPS/USPS-T2-50(a) to make these calculations.

(C) TRACS does not record whether or not pallets are stacked.

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(D) A TRACS DCT records the dimensions of the one or two pallets that are sampled. TRACS only uses these dimensions to weight the relative proportions of mailcodes found on the two sampled pallets. TRACS does not capture the height of stacked pallets. TRACS would only record the floor space occupied by pallets regardless of how high they were stacked.

(E) It is general knowledge that wheeled containers are approximately six feet tall.

UPS/USPS-T20-5. For the Base Year, what was the total of cubic foot miles (CFM) that moved via Highway Contract Routes (HCR) for:

- (a) First Class Mail;
- (b) Priority Mail;
- (c) Express Mail;
- (d) all other mail (please specify).

## Response to UPS/USPS-T20-5.

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This information is not available. Please refer to my response to FGFSA/USPS-T13-11.

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UPS/USPS-T20-7. For the Base Year, on segments where both VSD and HCR are available, what was the total of CFM that moved by HCR for:

- (a) First Class Mail;
- (b) Priority Mail;
- (c) Express Mail;
- (d) all other mail (please specify).

## Response to UPS/USPS-T20-7.

This information is not available. Please refer to the above response to UPS/USPS-

T20-5.

**UPS/USPS-T20-8.** For the Base Year, on segments where both VSD and HCR are available, what percentage of HCR segments are available under:

- (a) intra-SCF contracts;
- (b) inter-SCF contracts;
- (c) intra-BMC contracts;
- (d) inter-BMC contracts;
- (e) all other contracts (please specify).

### Response to UPS/USPS-T20-8.

This question is unclear. All contracts are by definition purchased transportation and

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thus HCR segments.

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**UPS/USPS-T20-18.** For the Base Year, what percentage of annual HCR CFM involved an AMC/AMF as either the origin service point or destination service point?

## Response to UPS/USPS-T20-18.

This information in not available. Please refer to my response to UPS/USPS-T20-5.

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CHAIRMAN GLEIMAN: Then let's move ahead with the 1 2 library references. BY MS. REYNOLDS: 3 At this point, Ms. Nieto, I am showing you two 4 0 copies of each of two library references. They are Library 5 Reference H-85 and H-104. 6 Are you familiar with these library references? 7 Α Yes, I am. 8 Could you briefly describe your role in the 9 0 creation of each of these library references? 10 These library references were created by me or А 11 under my direct supervision. 12 Are you prepared to respond to questions 13 0 14 concerning them? Α Yes, I am. 15 CHAIRMAN GLEIMAN: As has been our practice, I am 16 going to reserve the rights of the parties to object in 17 writing to these library references being entered into 18 19 evidence. But if someone has a comment now that they would like to make, I will entertain the comments. 20 Yes, sir. 21 MR. LEVY: Thank you, Your Honor. David Levy for 22 the Alliance of Nonprofit Mailers. 23 My only comment, because -- at this point is I 24 don't think we had notice that this witness was going to 25

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sponsor these two library references and we would like to have an opportunity to review them and if we believe cross-examination is appropriate, do so at a time when we have a chance to do so.

5 CHAIRMAN GLEIMAN: That is going to be our 6 standing order. This may become more than a 10-month case 7 before it is all over, but we will make sure that everyone's 8 rights are protected with regard to additional 9 cross-examination and/or discovery with respect to late 10 entered library references.

Mr. Wells, did you have a comment at this point? MR. WELLS: Yes, Mr. Chairman. The witness also provided library reference H-288 in response to an interrogatory. What will be the status of that library reference?

16 CHAIRMAN GLEIMAN: I don't recall the 17 interrogatory that you are making reference to and whether 18 there were excerpts from the library reference which were 19 attached to the answer or whether the library reference was 20 submitted in its entirety. I would be delighted to have 21 either your assistance or that of Postal Service counsel.

To the extent that actual pages were incorporated into the response and if that response has been designated, then it would wind up as part of the designated written cross-examination.

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MS. REYNOLDS: Is my understanding correct that if 1 the library reference was created solely in response to the 2 3 interrogatory that it would be incorporated by reference once the interrogatory were designated into the record? 4 CHAIRMAN GLEIMAN: Yes. 5 MS. REYNOLDS: I'll have to check back and make 6 sure that you've designated that interrogatory response. 7 MR. WELLS: The interrogatory was P-2-54 and the 8 response was please refer to Library Reference H-288 filed 9 October 1, 1997. 10 MS. REYNOLDS: Then it is my understanding that 11 that's going to be incorporated by reference into the 12 record? 13 CHAIRMAN GLEIMAN: I think the understanding is 14 correct at this point. 1·5 MR. WELLS: I just needed the clarification and, 16 Mr. Chairman, before we leave designated written cross I do 17 have one additional item of written cross that was delivered 18 to me this morning for this witness. 19 CHAIRMAN GLEIMAN: If we could dispense with the 20 library references and then we'll come back to the written 21 22 cross. MS. REYNOLDS: That's all we have as far as 23 24 library references, Mr. Chairman. CHAIRMAN GLEIMAN: If you would please provide 25

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1 copies of the library references to the reporter, I'll direct that they be accepted into evidence but not 2 transcribed into the record. 3 [Library References H-85 and H-104 4 were marked for identification and 5 received into evidence.] 6 CHAIRMAN GLEIMAN: Mr. Wells, you indicated you 7 had some additional designated written cross examination? 8 MR. WELLS: Yes, Mr. Chairman. This morning the 9 10 Postal Service provided me with the response to FGFSA USPS-T-2-12, which was one to which they had filed an 11 12 objection and how have filed the response. BY MR. WELLS: 13 I'll hand a copy of this to the witness and ask if 14 0 that response was prepared by you or under your direction 15 and supervision. 16 17 Α Yes, it was. MR. WELLS: Mr. Chairman, I hand two copies --18 CHAIRMAN GLEIMAN: If these questions were asked 19 20 of you today, your answers would be the same? 21 THE WITNESS: Yes, they would. 22 MR. WELLS: And two copies to the reporter, and ask that they be received as further written 23 cross-examination of the Florida Gift Fruit Shippers 24 25 Association.

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CHAIRMAN GLEIMAN: The two copies of the additional designated written cross examination will be given to the reporter, and I direct that they be accepted into evidence and transcribed into the record at this point. [Additional Designation of Written Cross-Examination of Norma Beatriz Nieto was received into evidence and transcribed into the record.] .... 

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# RESPONSE OF POSTAL SERVICE WITNESS NIETO TO INTERROGATORIES 3428 OF FLORIDA GIFT FRUIT SHIPPERS ASSOCIATION

## FGFSA/USPS-T2-12.

Please confirm that TRACS data are used to estimate on a quarterly basis the percentage of capacity utilized with respect to the four different highway accounts.

a. Confirm that the TRACS data for the highway capacity utilization factors for FY 1995 is accurately reflected in the following table.

#### (TABLE WAS OMITTED)

- b. Provide a similar table showing the highway capacity utilization factors for FY96.
- c. Provide comparable capacity utilization data for each of the FYs from 1990 through 1994.

#### Response to FGFSA/USPS-T2-12.

- a. Answer filed September 18, 1997.
- b. Answer filed September 18, 1997.
- c. Please refer to the attached table on the following page.

## OF FLORIDA GIFT FRUIT SHIPPERS ASSOCIATION RESPONSE OF POSTAL SERVICE WITNESS NIETO TO INTERROGATORIES

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# **S1-ST-S9SU/AS3D3 of senoges9**

Attachment 1

# TRACS Historical Highway Capacity Utilization Factors FY90-FY94

| × .          | ************************************** |                          |                  | 1 0 0 C661 Ad |               |                            | FY 1992               |               |                   |               | F661 Y3       |               |                   |                          | FY 1990        | 1             |                                    |
|--------------|----------------------------------------|--------------------------|------------------|---------------|---------------|----------------------------|-----------------------|---------------|-------------------|---------------|---------------|---------------|-------------------|--------------------------|----------------|---------------|------------------------------------|
| ъQq          | 6D9                                    | PQ2                      | PQ1              | POd           | PQ3           | 605                        | PQ1                   | PQ4           | 603               | ZOd           | 604           | PQ4           | PQ3               | P02                      | PQ1            | 1.104         |                                    |
| %C'6C        | 36.0%                                  | 38'4%                    | %+`E+            | 38'0%         | %E BE         | <b>%</b> #'96              | *1.21                 | <b>%9</b> °6C | XC 96             | %L'17         | %9°E#         | 39.5%         | %1.54             | <b>%</b> 6`0 <b>&gt;</b> | %L'7¥          | %1`61         | Intra-SCF                          |
|              |                                        |                          | AU 07            |               | AF 07         |                            | /42 <b>4</b> /        | 1.00          | 76C UP            | 766 V/        | 764 V3        | /08 C/        | 76. 31            | 780 37                   | 768 27         | 713 82        | 3A becolonov ree i<br>302 horindal |
| 966.94       | %1'GÞ                                  | %.*'Z>                   | 46.0F            | 4CC 0+        | %L 75         | MCU.04                     | ACC.0+                | MAL'RC        | AFC.UF            | 96.0°0        | 707 8L        | 101 ST        | 702 83            | 700 316<br>94.6°C⊨       | 700 915        | 702.06        | settO britodni                     |
| SLO'50       | ML (160                                | 700 0F                   | 763 03<br>ML/114 | AL CF         | 711-63        | 713 67                     | 710 33                | 762 CF        | 70 07<br>M.0'70   | 792 65        | 765 65        | 767 07        | 76 YF             | 761 67<br>N 6100         | %9.95          | 760.95        | Outbound SCF                       |
| 766 07       | 76U 96                                 | 783 86<br>M.O.S.F        |                  | 148 66        | 766 86        | 761 01                     | 717 67                | 762 07        | 76°C5             | 760 17        | 768 77        | 765 76        | 767 07            | %7 6C                    | 45.6%          | 768.19        | (.m.a) actio bruodtuo              |
| %9'¥C        | 55.6%                                  | 32'4%                    | 52'6%            | 30.9%         | %6'0C         | %/'SC                      | %5'90                 | %1.6Z         | %E'1E             | 34'5%         | %8°1C         | 54'8%         | %L'72             | %6'EE                    | %E'0E          |               | (.m.q) tento bruodtuo              |
| ****         | <b>%</b> 2°09                          | % <b>*</b> '9 <b>*</b>   | <b>%/</b> `9Þ    | %Z '99        | %2'09         | %L'8≯                      | <b>%</b> 9`9 <b>}</b> | %1'25         | %Z'9#             | <b>%</b> 2'09 | <b>%8'2</b> # | \$1.53        | <b>%9</b> °E9     | %0'2 <b>+</b>            | %9 <i>`</i> ¥9 | <b>%6</b> '99 | inter-SCF                          |
|              |                                        |                          |                  |               |               |                            |                       |               |                   |               |               |               |                   |                          |                |               | Test Conducted At                  |
| %†'87        | 63.3%                                  | 45.3%                    | %6.36            | %9 ZL         | %6'}>         | %L'9¥                      | %9'99                 | %8'67         | %8'5#             | 63.2%         | %8.8>         | %8'89         | %9'09             | %5'2*                    | % <b>*</b> '29 | %8'+9         | BMC                                |
| %0.81        | %L'6¥                                  | %6'09                    | %9.88            | \$0.0%        | %9'65         | %0'09                      | %L'8F                 | 87.74         | %0'67             | %0'19         | %9'ZS         | %6'61         | %9'09             | %9'79                    | %2'55          | %0'29         | 105                                |
| %8.9C        | %9 <sup>.</sup> 20                     | %0'97                    | %1'97            | %0'97         | %2'89         | %S'67                      | 36.3%                 | %2"++         | %8'Z <del>)</del> | %0'8¥         | %6'L¥         | %/'/£         | %9`6 <del>}</del> | %8'0 <del>1</del>        | %9'0¥          | %6'C          | ieuro                              |
| <b>%9'79</b> | <b>%</b> 6729                          | <b>%0</b> '99            | <b>%9</b> '99    | \$6.53        | <b>%</b> †'89 | <b>%</b> †' <del>1</del> 9 | %2'99                 | \$1.28        | %9`99             | <b>%</b> 2'99 | <b>%</b> 9'29 | \$075         | <b>%</b> 8'19     | %1°29                    | <b>%</b> 9`09  | <b>92'5%</b>  | Jutta-BMC                          |
|              |                                        |                          |                  |               |               |                            |                       | 1             |                   |               |               |               |                   |                          |                |               | Test Conducted At                  |
| 45.5%        | <b>%8.01</b>                           | <b>%</b> 0'7 <b>&gt;</b> | 43.0%            | %6 11         | %1'01         | %C.0ħ                      | %†'Z†                 | %S'6C         | %2`07             | 45.5%         | 43.1%         | 38'0%         | %6°.28            | %1.77                    | 43'2%          | %1.54         | BMC                                |
| %Z'0Z        | %8'65                                  | %8°25                    | %9'19            | %6'69         | <b>%</b> 8.18 | %7'99                      | %8'55                 | %7'69         | %8'09             | %1 69         | %1 19         | %0.65         | %2'59             | %9'89                    | %2'99          | %0.03%        | Inbound SCF                        |
| %0.88        | %2'59                                  | 45.3%                    | 46'34            | %7.83         | %0'09         | \$1.08                     | %2'19                 | %6.82         | %8'05             | 85'3%         | 63.5%         | %1.15         | %2.81             | %1'1#                    | %£.82          | %6'09         |                                    |
| %0'89        | %9'92                                  | %2'12                    | %2'29            | %0°02         | %6.08         | %6'94                      | %1.62                 | %Z'ZL         | %*'04             | %9'2/         | %Z'6/         | %*'9/         | %8'59             | %9°£/                    | %L'#/          | %9'7/         |                                    |
| %9.99        | %£'69                                  | %0.13                    | %9'95            | %Z'9          | %L'6¥         | %£'89                      | %.*` <b>*</b> *       | 965.94        | %A'6C             | %.C'0C        | %9'0b         | 4.6.64        | %A'00             | 947'90                   | \$40°60        | ×0.0+         |                                    |
| %2'89        | <b>%2</b> '89                          | <b>%</b> 9'92            | <b>%</b> 9`99    | <b>%8</b> 77  | %G`9L         | <b>%</b> 2°12              | <b>%</b> 0`69         | %9'99         | <b>%</b> 2°12     | <b>%6</b> 742 | <b>%</b> 0'72 | <b>%Z</b> '99 | %F12              | <b>%</b> 2°7 <b>%</b>    | <b>%</b> 8'82  | %9`9Z         | Inter-BINC<br>Test Conducted At:   |
| 1.2.00       | /00 00                                 |                          | /00 00           |               | AU 12         | AL 13                      | <b>XII U</b> 3        | 172 03        | 742 (3            | 780 03        | 790 03        | 762 03        | 794 99            | 788 83                   | 762 62         | 702 62        | BMC                                |
| 760 GZ       | AFE.00                                 | 205 CT                   | ML0.00           | 741 72        | 20 BAC        | %G GL                      | 768 69                | 960 99        | %1°+2             | %21Z          | %Z 29         | %1 59         | %0°62             | %6'69                    | %Z*Z           | %6'89         | SCF                                |
| %9 UZ        | %6 59                                  | 76 28                    | %5 EL            | %8°C8         | %7 78         | %9'8/                      | %0.89                 | %8'02         | %¥ 82             | %6 68         | %1.87         | 63.7%         | %0°92             | %0'05                    | <b>%*</b> .68  | %6'+8         | Other                              |
|              |                                        |                          |                  |               |               |                            |                       | [             |                   |               |               |               |                   |                          |                |               | 1                                  |

\* Only PQ1 available for FY90.

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1 CHAIRMAN GLEIMAN: Is there anyone else? 2 Five participants have requested oral cross 3 examination of this witness: The Alliance of Nonprofit 4 Mailers, and American Business Press, the Florida Gift Fruit 5 Shippers Association, McGraw-Hill Companies, Incorporated, and the Office of the Consumer Advocate. Does any other 6 7 participant wish to cross examine this witness? If no one else wishes to cross examine this 8 witness, then Mr. Levy, Mr. Thomas? 9 10 Mr. Levy, you can begin MR. LEVY: Thank you, Your Honor. 11 CHAIRMAN GLEIMAN: But only -- but only -- you can 12 begin, but only if you don't call me Your Honor. 13 14 MR. LEVY: I won't call you Your Lordship 15 either --CHAIRMAN GLEIMAN: I'm definitely not Your 16 17 Lordship. MR. LEVY: May I raise a housekeeping matter off 18 the record for a second? 19 [Discussion off the record.] 20 CROSS EXAMINATION 21 22 BY MR. LEVY: 0 Good morning, Ms. Nieto. My name is David Levy. 23 I will be cross-examining for the Alliance of Nonprofit 24 mailers. 25

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l Α Good morning. 2 Now, part of your testimony describes the TRACS 0 3 cost system; is that correct? 4 Α That's correct. 5 0 And in this case the Postal Service is using TRACS 6 to distribute the costs of purchased transportation by rate 7 category; is that correct? That's correct, for certain accounts, yes. 8 Α 9 And I want to focus on highway transportation. 0 That's those tractor-trailers that are full of mail or 10 partially full of mail. 11 12 Α Okay. 13 I want to make a simple example to illustrate my 0 point. I am going to draw on the easel next to the 14 1·5 · Commission's bench a very simple route that shuttles between two points. One of them is a bulk mail center and the other 16 is a sectional center facility. And the truck goes from the 17 18 bulk mail center to the SCF and then it goes back. For convenience, may we refer to the first leq 19 from the BMC to the SCF as the outbound leg? 20 21 Α Yes. And may we refer to the return leg as the inbound 22 Q 23 leg for convenience? Α 24 Yes. 25 MR. LEVY: And, Mr. Chairman, what I propose to do

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with this and two other drawings is, at the end of the 1 2 cross-examination, I will reduce them by hand to 8-1/2-by-11, obtain the consent of Postal Service counsel 3 4 that they are faithful reductions and then photocopy them. 5 May I mark this as a cross-examination exhibit? 6 CHAIRMAN GLEIMAN: Please do. 7 MR. LEVY: And I apologize, I have forgotten the 8 numbering convention. 9 CHAIRMAN GLEIMAN: Well, let's see, how do we I forget my numbering convention sometimes too. This 10 mark? 11 is the Alliance of Nonprofit Mailers dash, or whatever --12 MS. REYNOLDS: Mr. Chairman, the Postal Service 13 would like to reserve our right to object to their admission 14 into the record, depending on how simple they remain. 15 MR. LEVY: Fair enough. 16 CHAIRMAN GLEIMAN: Certainly. I take it. 17 Ms. Reynolds, that you weren't in the room when we did 18 nonresident surcharges in the special service case? 19 MS. REYNOLDS: No, sir. 20 CHAIRMAN GLEIMAN: It got pretty dicey up there 21 with the drawings and I think that Mr. Levy is going to be a 22 much better artist than I was. 23 XE, back to the -- 1. 24 [Cross-Examination Exhibit No. 25 ANM/USPS-XE-1 was marked for

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| 1  | identification.]                                             |
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| 2  | MR. LEVY: Thank you, Your Honor. I mean,                     |
| 3  | Mr. Chairman.                                                |
| 4  | BY MR. LEVY:                                                 |
| 5  | Q Now, the TRACS system would distribute the costs           |
| 6  | of each leg or Trip, with a capital "T" separately; is that  |
| 7  | correct?                                                     |
| 8  | A TRACS doesn't really distribute the costs to a             |
| 9  | specific leg. Rather, the cubic foot miles on each of those  |
| 10 | Trips, assuming that both were sampled, would be             |
| 11 | incorporated into the distribution key.                      |
| 12 | Q Well, let's assume that on the two separate legs,          |
| 13 | there is a different level of capacity utilization in the    |
| 14 | truck. That is, there is more empty air in one than in the   |
| 15 | other. Do you follow that assumption?                        |
| 16 | A Yes.                                                       |
| 17 | Q TRACS has a method for assigning the cost of that          |
| 18 | empty space to the mail that's on the particular leg; isn't  |
| 19 | that correct?                                                |
| 20 | A Yes. We assign empty space to the mail which was           |
| 21 | sampled on that leg, yes.                                    |
| 22 | Q And it's done separately by leg, isn't it?                 |
| 23 | A It's done separately in that TRACS wouldn't                |
| 24 | necessarily sample both the inbound and outbound movement of |
| 25 | the same route trip.                                         |
|    |                                                              |
|    |                                                              |

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1 CHAIRMAN GLEIMAN: Mr. Levy, could I ask you to 2 pull the floor mic a little closer to you? Thank you. BY MR. LEVY: 3 When TRACS distributes the cost of the empty space 4 0 in a truck, you distribute it solely to the mail that is in 5 the truck in that leg, right? 6 That's correct. 7 Α Now, I want to raise a slightly different issue. 8 0 9 The distribution key used by TRACS could differ depending on 10 whether two containers of mail are stacked one above the other or sitting side by side on the floor of a truck; isn't 11 that true? 12 The cubic foot miles which would be taken into the 13 А distribution key would differ, yes. 14 Because it measures cubic -- it measures the 15 0 16 footage on the floor, as -- is that correct? Α Yes, that's correct. 17 Now, I want to raise another issue and I will go 18 0 to a second chart, which I hope is also simple. 19 CHAIRMAN GLEIMAN: By the way, if any other party 20 21 wants to use an easel and some paper to make some drawing on for cross-examination, if they would let us know in advance 22 we do have supplies such as that here. It would perhaps 23 24 save folks from having to lug extra materials. MR. LEVY: This figure I will mark as 25

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| 1  | ANM/USPS-XE-2.                                               |
|----|--------------------------------------------------------------|
| 2  | [Cross-Examination Exhibit No.                               |
| 3  | ANM/USPS-XE-2 was marked for                                 |
| 4  | identification.]                                             |
| 5  | BY MR. LEVY:                                                 |
| 6  | Q I want you to consider, Ms. Nieto, a hypothetical          |
| 7  | movement on the route we just saw in the previous figure and |
| 8  | the first leg, BMC to SCF, second leg, SCF back to the BMC.  |
| 9  | And I want you to assume with me that the truck carries two  |
| 10 | different kinds of mail. One is drop ship mail and the       |
| 11 | other is non-drop ship mail, to make this simple. And then   |
| 12 | we'll have a third passenger on the truck, empty space.      |
| 13 | Are you with me so far?                                      |
| 14 | A Um, you're just using drop ship and non-drop ship          |
| 15 | as just two random classes of mail, right? I just want to    |
| 16 | note that TRACS doesn't distinguish between the two.         |
| 17 | Q That's fair enough.                                        |
| 18 | Now, let's assume that on the first leg of the               |
| 19 | movement, 99 percent of the capacity of the truck is filled  |
| 20 | up with drop ship mail, one percent of the capacity is       |
| 21 | filled up with non-drop ship mail and zero is filled up with |
| 22 | empty space. Do you follow those numbers?                    |
| 23 | A Yes.                                                       |
| 24 | Q Now, let's assume that at the end of that leg, the         |
| 25 | truck gets to the SCF and all of the contents are taken out  |
|    |                                                              |
|    |                                                              |

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2 Α Yes. 3 0 Now, at that SCF, some additional mail, some new 4 mail, is put on the truck and it is only non-drop ship mail 5 and it fills up one percent of the volume of the truck's capacity. There is no drop ship mail put in at that point 6 7 and 99 percent of the capacity is empty. Do you follow 8 those assumptions? 9 А Yes, although I would like to note that that's pretty unlikely. 10 11 0 The truck goes back to the BMC and is emptied out. 12 Do you follow that assumption as well? А 13 Yes. 14 Now, I want to do the arithmetic in this scenario 0 and figure out how TRACS would distribute the cost of the 15 16 two legs. 17 For the first leg from the BMC to the SCF, the 18 TRACS system would distribute 99 percent of the cost of that 19 leg to the mail that happened to be drop ship mail and 1 percent to the mail that happened to be non-drop ship mail? 20 21 Α Yes, cubic feet, yes. 22 But cubic feet is how they would distribute the 0 23 costs of the leg, right? Correct. 24 Α And on the leg, the inbound leg from the SCF to 25 Q ANN RILEY & ASSOCIATES, LTD. Court Reporters 1250 I Street, N.W., Suite 300 Washington, D.C. 20005

and unloaded. Do you follow that assumption?

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the BMC, the TRACS would distribute 100 percent of the costs of that leg to the mail that happened to be non-drop ship mail, right?

4 A That's correct.

5 Q Okay.

А

Now, you've talked about TRACS being a snapshot.I think you've used that word, haven't you?

8

Yes, I have.

9 Q I want to look at a little broader picture. 10 Sometimes when you maintain a truck that moves from one 11 point to the other and then back, you want to have a ready 12 or steady supply of trucks at the first point, the BMC, 13 don't you, if you are going to be making periodic movements?

A I don't really know about how purchased
15 - transportation is managed at the facilities.

Q Let me ask a simple question and if you don't feel qualified to answer it, just tell me. If you want to be dispatching trucks out from a BMC or from any other point on a regular basis, you somehow have to bring back a supply of trucks to that point, don't you?

A Again, I'm not really qualified. But the Postal Service -- route trips are separate. It can contract for one-way transportation if it wants to.

Q Well, how would the trucking company provide a fresh supply of trucks at the BMC if it didn't somehow bring

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1 them back?

2 CHAIRMAN GLEIMAN: Mr. Levy, you are going to have 3 to move closer to the mic.

4 MR. LEVY: I'm sorry.

5 BY MR. LEVY:

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Q How would the trucking company supply a fresh
supply of trucks at the BMC if it didn't somehow bring them
back?

9 MS. REYNOLDS: At this point, Mr. Chairman, we are 10 going to object. Witness Nieto is not testifying as to how 11 the Postal Service manages to get the number of trucks it 12 needs; we are measuring what's on the trucks.

MR. LEVY: I'll move on to a different line.
CHAIRMAN GLEIMAN: All right. Thank you.
BY MR. LEVY:

16 Q I've got room at the bottom to write some more.
17 Now, at the bottom of Cross-Examination Exhibit 2,

I want to make another chart and I want to show the distribution of costs and cube of volume for the two kinds of mail, viewing the round trip as a whole as opposed to each leg separately. And, again, we've got drop ship mail, non-drop ship mail, percentage of volume and percentage of cost.

Now, in the route we are describing, drop ship
mail accounts for 98 percent of the round trip mail volume,

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1 right? That is, 99 percent -- I'm sorry, it accounts for 2 49-1/2 percent of the round trip volume? 99 percent out and 3 zero back?

4 A 44-1/2 percent?

5 Q 49-1/2, half of 99.

6 A Yes, 49-1/2, sorry.

Q And the non drop mail accounts for 1 percent of
8 the total round-trip volume of mail, approximately?

9 A Yes.

10 Q The TRACS system attributes -- I'm sorry, I made a 11 mistake that shows lawyer math on the fly.

Going back to the percentage of volume, drop ship mail accounts for approximately 98 percent of the total volume of cube miles of mail actually carried on the truck in the round-trip -- that is, that the precise fraction is 99 over 101?

17 A That's correct.

18 Q And non drop ship mail accounts for approximately 19 2 percent of the total mail volume on the round-trip, that 20 is 2 over 101?

21 A That's correct.

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Q The TRACS system, if you did it for both legs of the movement, would assign slightly under half or about 49.5 percent of the cost of the round-trip to non drop ship mail? A You don't really assign the cost of a round-trip.

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Q But if you added up the cost of the two legs separately, it would come out to 49.5 percent, wouldn't it, because it would assign 99 percent of the cost of the outbound leg to Drop ship mail and zero percent of the cost of the inbound leg to Drop ship mail?

A If you assume that the cost of an inbound leg and an outbound leg, if you are assigning of the cost of the contract, dividing it by two, the way TRACS works it simply applies the cost per cubic foot mile to the whole contract.

10 Q Okay, but the number -- I am focusing on the 11 arithmetic under those assumptions -- would be 49.5 percent?

12 CHAIRMAN GLEIMAN: While the witness is doing the 13 calculation, I would remind counsel, not only the counsel 14 who is cross examining now but others, that while the math 15 seems simple, doing it on the fly sometimes is not so 16 simple, as counsel learned himself, and the rules for 17 complicated cross examination exhibits to be provided in 18 advance of cross examination.

19 I think that this one borders on being20 complicated.

21 MR. LEVY: These are my last two numbers, the two22 blank spaces.

23 CHAIRMAN GLEIMAN: Okay.

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24THE WITNESS: I'm sorry, I'm having a difficult25time.

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COMMISSIONER LeBLANC: Could you repeat the
 question for me, since I have lost track now?
 MR. LEVY: Yes.

4 BY MR. LEVY:

Q If you were trying to figure out the distribution of the cost of a round trip between drop ship and non drop ship mail for both legs, what percentage of that round trip cost, both legs, would be assigned by TRACS to drop ship mail? That is the question.

10 A Yes, that's correct, 49-1/2.

11 Q And the missing number, the percentage of the 12 round-trip costs that is assigned by TRACS to non-drop-ship 13 mail for the round trip in this scenario is 50.5; right, the 14 residual?

15 A Yes, that's correct.

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Q What would TRACS do -- to change a hypothetical slightly, what would -- how would TRACS attribute the return leg if the mailer who deposited the non-drop-ship mail in the return leg went out of business and the return leg had an empty truck?

21 A If the data collector opened up a truck and there 22 was no mail on it, those -- none of it would count in the 23 distribution key.

Q Well, to what would the costs of the return leg be distributed?

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The costs -- again, the costs of a particular leg 1 Α or movement per se are not distributed. The cubic-foot 2 miles which are measured by the data collectors are 3 multiplied by the cost of the cubic foot -- cost per 4 cubic-foot mile of the contract, and then those are the 5 basis for the distribution key. If only -- we only 6 7 sample -- we try to expand up to cubic-foot miles, and then those cubic-foot miles are weighted by the cost of the 8 contract. So a truck that was empty would produce no 9 cubic-foot miles in the sample. 10 Well, what would happen to the costs in a 11 0 distribution? Would they ever come in? 12 Oh, you mean when the distribution key is applied 13 Α to the overall account? 14 15 0 Yes. The distribution key -- my understanding the 16 А distribution keys are applied to all the costs in a 17 particular account. 18 Maybe I'm misunderstanding. The costs of the 19 Q return leg, the empty return leg, how would TRACS figure out 20 what class of mail would pay that cost? 21 TRACS doesn't really calculate the total costs in А 22 an account. It develops proportions of cubic-foot miles 23 which are weighted by costs, and then those proportions are 24 25 applied to all the costs in a particular account.

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Q Well, what proportion of the cost of the return leg would be weighted or applied to any particular class of mail if it was an empty truck?

A Again, it wouldn't be included as a part of the expansion process.

Q Would it just fall out?

Again, TRACS isn't trying to estimate total cost, 7 Α 8 it's only developing proportions of mail based on the cubic-foot miles which it samples on particular trucks. If 9 one of the trucks that it sampled was empty, there's no 10 cubic-foot miles of mail, therefore, that does not 11 contribute to the distribution key. However, those costs of 12 the contract would be in -- accruing to whatever account it 13 14 was.

Q And they would be distributed to classes of mail
based on the distribution figured out by TRACS for trucks
that had some mail in them?

18

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That's correct.

Α

Q Let me go back to the scenario where there's a few pieces of mail in the return -- of non-drop-ship mail in the return leg. Remember we agreed that according to the arithmetic non-drop-ship mail in my hypothetical would account for about 2 percent of the round-trip mail volume but 50-1/2 percent of the round-trip costs. Do you recall that math?

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A I agree that it accounts for 2 percent of the volume. However, the cost of a contract is jointly determined for all the mail -- it's not -- TRACS doesn't make any assumptions about which mail really was causing the cost.

Q Well, doesn't TRACS assume by nature of its
arithmetic that the cost of each leg is caused by the mail
that happens to be carried on that leg?

9 A Yes, that's correct.

10 Q I mean, doesn't the TRACS methodology implicitly 11 reject the notion that the cost of a trip is a joint cost of 12 all the legs?

13 A No, the cost per cubic-foot mile of the whole 14 contract, which is determined by all the mail on there, is 15 applied to all the mail which is sampled on any particular 16 route trip leg which happens to be sampled by TRACS.

Q Well, do you believe that if the 2 percent of mail on the return leg, non-drop-ship mail, disappeared from the system that the cost of the truck route would drop by 50-1/2 percent?

21 A Could you repeat the question?

Q Yes. Do you believe that if that 2 percent of the mail volume on a round trip, that is, non-drop-ship mail, disappeared out of the system, that the costs of the truck route would drop by 50-1/2 percent?

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1 A I don't know. I don't know what the Postal 2 Service would do to reduce its -- it could reduce the number 3 of trips or its truck capacity. I don't know.

4 Q Now, do you know whether the -- on the average 5 truck route the capacity utilization of each leg is the 6 same?

A I would guess that it's -- no, it's probably not.
Q In fact, on average, outbound legs from a BMC to a
9 smaller facility on an intra-BMC route tend to be more
10 heavily loaded to capacity than other legs; right?

A For intra-BMC movements -- for intra-BMC movements?

13 Q Yes.

14AYes, if you specifically just restrict it to15movements from the BMC to an SCF and from and SCF to a BMC.

16 Q Well, we'll-start with that. That's good.

17 A Yes, on average utilization is lower on inbound18 movements.

Q Now I want to move from the hypothetical to the real. Isn't it a fact that drop-ship mail that is BMC drop ship mail is entered at BMCs rather than other stops along the route?

23 A I don't really know that.

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24 Q Have you studied whether drop ship mail appears 25 uniformly on average on the different legs of a route?

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- A No, I have not.

Q Supposed that it were in fact BMC mail on average appeared more in the heavily-loaded legs of a route than in the lightly-loaded legs of the route.

Do you follow that assumption?
A Could you repeat that?
Q Yes. Suppose that on average BCM drop ship mail
appeared disproportionately in the heavily-loaded legs of
truck routes.

10 A You mean legs that are more utilized? 11 Q Fuller. Trucks are fuller. Do you follow that 12 assumption?

13 A I will take it at your word, yes.

Q If that in fact is the case then TRACS would apply a smaller expansion factor on average to that mail than to other mail, expansion factor for the cost of the empty space, right?

18 A Yes. Expansion factor to account for empty space19 is necessarily less on movements that are fuller.

Q And do you know whether -- and here is why my clients pay me to ask these questions -- do you know why, do you know whether commercial standard mail and nonprofit standard mail are drop shipped to the same extent?

24 A I don't really know.

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MR. LEVY: Thank you. That's all I have, Mr.

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2 CHAIRMAN GLEIMAN: American Business Press -- I'm 3 sorry? 4 MR. LEVY: Before Mr. Feldman starts, I would move the Exhibits XE-1 and XE-2 into evidence at this time and I 5 will provided counsel for the Postal Service and I will 6 7 agree on an 8.5 x 11 reproduction which I would photocopy. 8 CHAIRMAN GLEIMAN: Ms. Reynolds? MS. REYNOLDS: At this point we don't have an 9 objection. 10 That being the case, ANM --11 CHAIRMAN GLEIMAN: 12 MR. McKEEVER: Mr. Chairman, excuse me -- John McKeever for United Parcel Service. 13 14 May I seek clarification, please? CHAIRMAN GLEIMAN: Certainly. 15 MR. McKEEVER: Are the exhibits being admitted 16 17 into evidence or just transcribed into the transcript for purposes of illustration? 18 19 CHAIRMAN GLEIMAN: Mr. Levy? MR. LEVY: I am asking that they be admitted into 20 evidence. Obviously these are admitted into evidence as 21 hypotheticals, not as evidence by a particular movement. 22 MR. McKEEVER: Thank you, Mr. Chairman. 23 MS. REYNOLDS: Mr. Chairman, if we could change 24 25 our opinion on that, these were not provided into evidence

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and you yourself noted that they are somewhat complex. 1 2 We would instead ask that they be moved into the record for purposes of illustration only, as cross 3 examination exhibits. 4 MR. LEVY: I quess I would respond that that 5 6 doesn't seem like the right remedy for complexity. If there is a problem with arithmetic --7 CHAIRMAN GLEIMAN: I'll tell you what we are going 8 to do. We're going to take a 10 minute break now. 9 During the 10 minute break you are going to 10 attempt to reduce those to 8.5 x 11 and show them to the 11 Postal Service counsel, at which point in time I will make a 12

13 ruling on the objection of the Postal Service.

One way or another they are going to wide up either as a cross examination exhibit or as evidence in the record, so have to have them reduced and I think that reduced without the cross outs and write-overs maybe will make it a little bit more clear.

I will tell you right now, I lean in the direction of overruling the Postal Service on the objection. I am going to reserve and not rule right now because there is a great deal of material which parties on either side of this case have not seen in advance of walking into the hearing room or didn't know that something was going to be in the record and I am interested in keeping everyone on an equal

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2 My inclination is to let it in as evidence but 3 let's reduce it and take a look at it first, and come back 4 at 25 after the hour, okay?

[Recess.]

MR. LEVY: Mr. Chairman, I will tender to the 6 7 reporter two copies each of Cross-Examination Exhibits 1 and 8 2. These are 8-1/2 reductions of the figures on the easel. 9 I believe -- I have shown them to counsel for the Postal 10 I believe there is agreement that they are Service. 11 accurate reductions but not that they should go into evidence. 12

13 MS. REYNOLDS: Mr. Chairman?

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14 CHAIRMAN GLEIMAN: Ms. Reynolds?

MS. REYNOLDS: The Postal Service continues to have reservations about the evidentiary value of the cross-examination exhibits. Your point was well taken earlier and we would be more comfortable if they were admitted into the record for the purpose of cross-examination exhibits only.

CHAIRMAN GLEIMAN: In light of the fact that you recognize their questionable value for evidentiary purposes, inasmuch as they were based on a hypothetical question, I think that you have made the point and I am going to overrule and admit them into evidence and they will be given

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the appropriate weight. And as I said earlier on, I quess I 1 2 have gotten to the point now where I am trying to treat everyone equally unfairly in terms of the extent to which 3 they are disadvantaged by not having seen materials before 4 5 we enter the room each morning. That's ANM/USPS Cross-Examination Exhibits Number 6 7 1 and 2 are admitted into evidence and copied into the 8 record. 9 [Cross-Examination Exhibit Nos. 10 ANM/USPS-XE-1 and ANM/USPS-XE-2 11 were received into evidence and 12 transcribed into the record.] 13 14 15 16 17 18 19 20 21 22 23 24 25

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1 CHAIRMAN GLEIMAN: Does that create undue 2 hardship, Mr. Court Reporter? Okay, then we will do it that 3 way. That brings us to American Business Press, 4 5 Mr. Feldman. Begin your cross-examination. 6 MR. FELDMAN: At the present time, based on where 7 we are in the process, we are going to forgo oral cross at 8 this time but we would like to reserve the right to follow 9 up questions to the witness. Thank you. 10 CHAIRMAN GLEIMAN: Most certainly. 11 Mr. Wells, then, we will proceed with your 12 cross-examination. 13 MR. WELLS: Thank you, Mr. Chairman. CROSS EXAMINATION 14 15 BY MR. WELLS: 16 I am Maxwell Wells appearing for the Florida Gift 0 17 Fruit Shippers Association. 18 Ms. Nieto, you, I believe, disclaimed your accounting background. In what capacity do you appear, as 19 an economist? 20 21 Α I wouldn't characterize myself as such. I am just 22 here to represent the methodology of TRACS and just explain 23 it. 24 But do you make that explanation and presentation Q 25 as an economist?

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No, I would not.

2 Q In what capacity do you make the presentation?
3 A I have a background in statistics and economics.
4 I'm just an analyst, I guess.

5 Q Well, before we get started, I need some 6 clarification of some terms that you use in your testimony 7 and in responses to the interrogatories. You use a term 8 "route trip." What does that mean?

9 A Each contract -- I define it -- let me start by 10 defining what I call contract, which is just the agreement 11 between the Postal Service and a transportation provider. 12 Under each of the contracts, there can be several route 13 trips. And these route trips are a contract for 14 transportation between several points. They can be just one 15 point to point or they can serve multiple facilities.

Q On intra-BMC transportation, if the transportation -- if the contract calls for a movement from a BMC with stops at two SCF facilities and a return,

19 stopping at the SCF facilities and ending up at the BMC, is
20 that complete transportation the route?

A No, the BMC to SCF to SCF movement would likely be one route trip. The movement --

23 Q All right.

11.7

A -- from the SCF back to the BMC or whatever stops,
that would be a separate route trip.

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1 How would you characterize the complete trip? 0 2 А I wouldn't. And we treat them, each route trip, individually. 3

4 Is -- you use the term "route trip," you also used 0 5 the term "contract route trip." Is there a difference 6 between those two terminologies?

7 Α No.

And then you use a term "route trip segment." 8 0 9 What is that?

10 А The route trip segment refers specifically to just one SCF to another. If there's more than one stop on a 11 12 trip, it's just one from -- for example, for the one that is 13 BMC, SCF, SCF, either the movement just from the BMC to the 14 SCF is a segment, the movement to the SCF to the SCF is another segment. 1·5

16 0 All right.

17 When you were talking to Mr. Levy, the terminology 18 "leg" appeared. Is that equivalent to a segment?

19 Α Yes, it is.

All right. Then you use a terminology you said, 20 0 21 one segment on one trip on each contract route. Now, a 22 segment is one portion of a transportation movement between 23 two Postal facilities; is that right?

That's correct. 24 Ά

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And one trip is a -- made up of several segments Q

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with the transportation moving in one direction for an 1 2 intra-BMC either in to the BMC or out from the BMC? Generally, although when a movement goes from a 3 Α BMC to an SCF to an SCF, it's a little nebulous that it's 4 really going in one direction or another. 5 Well, how do you identify it? Q 6 We identify it if the movement -- if the last stop 7 Α on a route trip is a BMC, we define that movement as 8 inbound. Otherwise, it is outbound. 9 10 0 All right. You say one segment of one trip on each contract route. Now, a trip I believe we explained is 11 a one-way direction, either into or out from the BMC; is 12 13 that right? That's correct. For inter-BMC. 14 Α 15 And what is the contract route? 0 The contract -- contract route, I've defined the 16 А 17 same as a contract route, contract being -- I'm sorry. The contract route is the same as the contract in 18 this case. 19 A contract route is the entire contract which 20 Q includes the movement from the BMC to the SCF and back to 21 the BMC; is that right? 22 Yes, it can include others but --23 Α We limit this to intra-BMC transportation and the 24 Q entire contract would be outbound and inbound, the 25

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combination of the two?

2 A Yes. When I said it could include others, it 3 could be under the same contract that that particular 4 contract would serve another type of facility or another 5 BMC.

6 Q One contract may call for different types of 7 transportation; is that right?

8 A That's correct.

9 Q All right.

10 Then you include a terminology or you combine 11 terms and you say a route trip segment day. Now, what does 12 that mean?

13 A The route trip segment day is the sampling unit of 14 TRACS where the route trip is, as we defined, going -- you 15 can say going in or out. The segment is the

16 particular -- the particular point-to-point movement and the 17 day is just the day on which it is sampled.

18 Q Very well. Now, then you use a term "item." Now, 19 is an item a container?

20 A Is there a specific reference that I could -- I
21 know I use the term different times.

22 Q In our interrogatory 4, you talk about it being an 23 item such as a sack, a tray, et cetera.

A Yes, the item, it can be a sack, a flat tray, or it could be also a loose parcel.

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1 Q An item could be a loose parcel?

2 A Yes.

Q Do you mean a single parcel bed-loaded on the floor of the truck is an item?

5 A It can be; yes.

6 Q Under TRACS' definition is it?

7 A Yes, it is.

8 Q Is a wheeled container an item?

9 A No.

10 Q So an item is a single piece or a letter tray or a 11 sack or similar type of container, but not a wheeled 12 container?

13 А The way the sampling works is the way we Yes. 14 define an item. A wheeled container can contain -- a 15 wheeled container would have items in it for sampling which 16 would be -- could be sacks or trays or loose parcels. But 17 there could also be loose items on the floor which would be again could be sacks, parcels, trays. So that's how I would 18 19 define an item.

20 Q But a loose item, a single parcel, bed-loaded on 21 the floor, is an item as used in TRACS; is that correct?

22 A Yes, it is.

Α

25

Q Then you use a term "item type," t-y-p-e. Is
there a difference between item and item type?

Item type just identifies what the item is.

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1 item type would be for example "S" for "sack" or "L" for 2 "loose item." It's just basically the identifier of the 3 category of items.

4 Q Now the TRACS programs, you've got the edit 5 programs and you've got the expand programs.

6 A That's correct.

7 Q In the edit program flat file there is some data 8 for Wt. Would you tell me what Wt in the edit program flat 9 file is?

10 A It is the weight of a particular group of mail11 code pieces.

Q Is it the weight of the sample mail?

Yes. For example, if we have a sack -- the 13 Α sack -- if the data collector sampled a sack, the sack would 14 be the item, and then let's say there were two different 15 mail codes within that sack, the first mail code would be 16 17 weighed -- the group of mail code altogether would be weighed, and that would be -- the weight of that mail code 18 19 for that observation which would be what Wt is, and then there would be another record for the other mail code in 20 that sack which would also have its own weight, Wt. 21

Q Wt or weight is the weight of the sampled mailpiece, is that right, or pieces?

24 A Correct.

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expand program the survey file?

2 A Yes, it is.

3 Q And is this the actual weight as a result of a 4 scale-weighing?

- 5 A Yes, it is.
- 6 Q All right.

Α

Our Interrogatory 6, that's FGFSA USPS-T-2-6 -A Okay.

9 Q Initial portion of that requested confirmation 10 that the percent of a total sample size allocated to each 11 facility type is as shown on Exhibit 2 on page 3 of Library 12 Reference H-78. You did not respond to that. Would you 13 please now either confirm or nonconfirm that?

14

Yes, we confirm.

Q In B you refer to the criteria in assigning sampling percentages as the efficient allocation of limited data collection resources. Would you please explain that?

A Yes. The data collection resources are limited by two constraints, the first being the cost of the data collection and the second being the amount of disruption and delay in Postal Service operations when they take the mail and they delay it for processing.

Q Well, is it more efficient to, in terms of cost,
to sample at a BMC facility than it is at an SCF facility?
A There are some efficiencies of sampling at a BMC

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because generally at the BMC there's a greater amount of mail unloaded from the truck -- that is, not all the mail at a BMC for the most part gets unloaded there. So therefore that's available for sampling. Whereas sometimes on an SCF movement there's, you know, there can be mail going downstream, and so that the percentage of mail which is actually available for sampling would be less.

Q On intra-BMC movement if it's sampled at the BMC
9 it necessarily would unload all of the mail in the vehicle,
10 wouldn't it?

11 A I'm sorry, could you repeat the question?

12 Q If it was an intra-BMC route --

13 A Um-hum.

14 Q Is the sampling occurred at the BMC, this is the 15 · last stop on that route, isn't it?

16 A Yes.

. . .

17 Q And all of the mail on the truck would be unloaded18 there every time.

A Well, I don't know if it would happen every time.
I'm sure there are some instances where for some reason
there might be something that goes on. But for the most
part, yes.

Q Can you think of any example of why the inbound
mail to the BMC would not be unloaded at the BMC?
A Only if there were some mail that was destined for

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1 another facility.

2 0 Well isn't the BMC the last stop? 3 Α I haven't examined every route trip to determine 4 if the BMC is always the last stop on a particular route trip. 5 6 0 By your TRACS definition on an inbound movement, 7 isn't the BMC the final destination? On an inbound movement; yes. 8 А 9 0 All right. So if the sample is taken at the BMC 10 on an inbound movement, is there any circumstance under 11 which all of the mail would not be unloaded? 12 А I can't think of one; no. And when you say the efficient allocation of 13 0 14 resources, do you mean for the convenience of the Postal 15 Service? Not really. The amount of mail -- because all of А 16 17 the mail is unloaded at the BMC, there's a lot more mail available for sampling. Therefore, we can get a more 18 representative sample or more robust sample. 19 Isn't there more mail on the outbound movement? 20 0 21 Α There might be more mail altogether, but as far as the amount of mail unloaded, not necessarily, because some 22 can remain that would be going down to downstream 23 facilities. 24 25 0 Well, referring to your answer to our

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Interrogatory 12, for 1966 if you sampled at the -- an SCF outbound and at quarter to you had 75 percent of the truck was utilized and at the BMC on the inbound truck only 40 percent. But you're telling me that there's more mail unloaded at the BMC than there is at the SCF.

A This is strictly the empty-space portion. When they open the truck they record the empty space. It doesn't necessarily mean that all that mail which was on the truck was unloaded at that facility. This isn't the unloaded portion of mail.

11 Q Well, there's more mail on the truck on the 12 outbound movement, isn't there?

A Yes, but it's not necessarily all available forsampling is all I'm saying.

Q All right, going back to our interrogatory 6, you
say minimization of overall variance and the resulting
distribution key. Please explain what you mean there.

18 By sampling movements more frequently where there Α is more unloaded mail, you tend to -- you would reduce the 19 20 amount of variance associated with that particular facility category type, if you will, for example sampling at an 21 22 inbound versus an outbound. So one example of this would be that the sampling more mail at a particular facility type can 23 24 reduce your variance if there is more variance inherent in 25 the mail or the -- if there is more mail unloaded, you would

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1 reduce your variances.

2 Q Is this variance you refer to here the econometric 3 measure of variance?

4 A I would say it is a statistical variance.

5 Q A statistical variance. All right. And you say 6 you minimize that variance because of how?

7 A I didn't say that we were minimizing variance. I 8 just said that two criteria that were used in the sampling 9 percentages were to try to minimize variance.

10 Q But you're not saying that you do minimize
11 variance?

12 A No, I'm not.

Q Under C of number 6, how frequently does an SCF
transportation contract include a route trip to a BMC?

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A An inter-SCF contract?

That's what you say, inter-SCF contract do 16 Q occasionally have BMC stops and I want to know how many of 17 these inter-SCF contracts include a route trip to a BMC? 18 Α I wouldn't know that off the top of my head. 19 Where would we look to get that information? 20 0 You could read in the frame data, the NASS data 21 Α that contains the route trips and look and see how many 22 inter-SCF contracts had a BMC as one of the destinations. 23 Well, if there is a route trip to a BMC facility 24 0 in an inter-SCF contract, is that contract classified as an 25

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1 inter-SCF or as an intra-BMC?

It would -- I guess it would be classified as 2 Α whatever it as classified at at the time it was put 3 together. We talked about how there's different route trips 4 under a contract and it can be that one of those route trips 5 6 that happens to be served by that same contract does go to a 7 BMC and that would be a separate route trip but it would still be under the same contract. And because the whole 8 contract has to be classified in one or another account, it 9 would -- you know, it could be put into inter-SCF if the 10 majority of the movements under it were SCF to SCF movements 11 and it just happened that there was one that was the BMC. 12 Refer to your response to our interrogatory number 13 0 In B-2, you say it is generally true but there may be 14 11. exceptions. The question relates to mail that is unloaded 15 16 at the BMC consists of mail that originated at facilities from within the areas served by the BMC. You say it's 17 generally true but there are exceptions. 18 What other Postal facility would put mail on the 19 truck that is unloaded at the BMC? 20. Do you mean one that was outside of the area of a 21 А BMC? 22 Well, I asked you to confirm that the sample 23 0 represents mail that was originated at facilities within the 24 area served by the BMC and you don't confirm that. You say 25

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1 it's generally true but there are exceptions. And my 2 question to you now is what Postal facility that's not 3 served by the BMC would originate the mail that was on the 4 truck unloaded at the BMC?

5 A Well, one example would be where maybe there was 6 an SCF that was -- or for example a Post Office that was 7 right near the BMC and was technically outside the service 8 area of the BMC, maybe there's a line. But it's actually 9 technically closer to the BMC. So there might be a movement 10 that goes from that facility to the BMC that crosses over 11 the service area line.

Q How did that mail get on the truck? This is a route, an intra-BMC route, serving that BMC and that route would go between the BMC and Postal facilities within the BMC service area, doesn't it?

A Oh, what I was not confirming was that necessarily that facility would be within the service area of the BMC as defined by -- I'm not sure who defines it but mail processing folks. I'm not sure.

Q You are saying that this is a Postal facility that the intra-BMC transportation provides the service for but it is not served by the BMC?

A I'm not saying that it's not served by the BMC, I am saying that it may not technically be within the service area of the BMC. That's all I'm saying.

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1 Q In number 12, I asked you to please confirm that 2 TRACS data are used to estimate on a quarterly basis the 3 percentage of capacity utilized with respect to the four 4 different highway accounts. And you say, not confirmed.

5 Would you please explain why you would not confirm 6 that statement?

A To the extent that these were not trying to
estimate capacity utilization by account, per se, for some
other purpose other than just using the averages to allocate
empty space within TRACS.

11 Q Does the TRACS data estimate on a quarterly basis 12 the percentage of capacity utilized with respect to the four 13 different highway accounts?

A For each facility type category, yes. Not for the overall account. Although I provided those figures.

Q Following up on a question that Mr. Levy asked you about capacity utilization not being the same on each leg, and your response to Number 12 showing the highway capacity utilization factors for Fiscal Year '96 on intra-BMC,

20 doesn't it show for Postal Quarter 1 that tests that the BMC

21 is 48 percent?

22 A 44.8. Yes.

Q And his other point he mentioned was that the outbound SCF and it shows 73.8 percent for that quarter, doesn't it?

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A Yes, it does.

2 Q So isn't the capacity utilization different for 3 those two legs?

A It differs on average, yes.

5 Q But as between those two legs, the average 6 utilization is different?

A Yes.

8 Q Well, while are looking at this response here for 9 highway capacity utilization, clarify for me and that is the 10 percentage that is shown here. Is this the percent of 11 utilization or percentage that it was empty?

12 A Percentage of utilization.

13 Q All right, so if we wanted to look at intra-BMC 14 for Postal Quarter 1, you say that it was utilized to the 15 extent of 44.8 percent.

16 That means that it was empty to the extent of 55.2
17 percent, is that right?

18 A That's correct.

Q Okay. In your response to Interrogatory 13 in Part B or A and B together, on the second page you say that the cubic foot miles of a class of mail are simply multiplied by the cost per cubic foot mile of the contract that they travel under.

Do you in fact multiply the cubic foot miles of a class of mail?

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1 Do you in fact use the cubic mile of a piece of 2 mail? Yes, through the expansion process we develop an 3 Α estimate of the cubic foot miles. 4 5 0 You take -- you sample and determine the number of pieces of a class of mail, correct? 6 Not the number of pieces, no -- the weight. Α 7 8 0 When you sample it, doesn't the sampling personnel count the number of pieces that were sampled? 9 10 Α Yes, but pieces aren't used in the expansion. 11 All right, but your sample does determine the 0 number of pieces in the mail? 12 13 А Yes. And each sampled piece is weighed and so you do 14 Q know the weight of the mail? 15 Α The group of pieces is weighed, yes. 16 And then you know the cubic foot miles that that 17 Q sample mail travelled, correct? 18 A Yes. 19 But you do not multiply the cubic foot of the 20 0 21 sampled mail by the cubic foot miles for that sample mail, 22 do you? Are you referring specifically to my response? 23 А Is24 that what you --Your response says that you multiply the 25 Q

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cubic-foot miles of a class of mail by the cost per 1 2 cubic-foot mile. And I want to find out --Α Of the contract, where they were traveling --3 Of the contract. 0 4 5 Α Yes. Which they travel under. 6 0 Α Yes. 7 8 Q But you don't do that, do you? 9 Α Yes. 10 Q I thought that part of TRACS was that you took the 11 measured cube of the -- or the computed cube of the sampled mail and expanded it to include all of the empty space. 12 Don't you do that? 13 14 Okay. When I say cubic-foot miles here I'm A 15 referring to the expanded cubic-foot miles. 16 My question to you was did you take the cubic-foot 0 miles of the sampled mail, and you say yes. And now you say 17 you don't mean that, you mean expanded cubic feet. Is that 18 19 right? 20 Α That's right. So when you're calculating the cubic-foot miles, 21 0 22 you do not multiply that by the cubic feet of the sampled mail, but only after you have expanded the cubic feet 23 multiple times. 24 Α That's correct. 25

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1 Q And then under C you say that the cost per 2 cubic-foot mile of a contract is applied to the estimated 3 cubic-foot miles of the mail including the empty capacity. 4 Is that right?

5 A

Yes.

6 Q In 14 you refer to an after the empty space 7 allocation. The percentage that -- when the TRACS sample is 8 taken, the observation is made as to the percentage of floor 9 space that is empty; correct?

10 A Yes.

11 Q All right. And that is observed as a part of the 12 sampling process at the point at which the sample is taken, 13 which means that it was that degree of empty for one segment 14 of the route; is that right?

15 A That's right.

16 Q How was the empty space on the prior segments of 17 the route taken into account?

18 A You mean if we have a piece of mail which is -- we 19 have an item or a container that was on the truck 20 previously?

Q Let's say that we have a route that goes from the BMC to SCF A and then to SCF B, and the sample is taken at SCF B. And we know that at that point of sampling that the vehicle, the truck, was x percent empty.

25 A Um-hum.

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1 Q Is there taken into account the utilization 2 between BMC and SCF A? 3 Α Yes, the mail on -- the mail which we sample will 4 receive a portion of the average empty space for that type 5 of movement. 6 0 In other words, you determine that for the segment from BMC to SCF A that on the average it has a utilization 7 8 factor of Y, and you apply that average utilization factor 9 to the sampled mail from SCF B; is that right? 10 А Yes, we assign it some proportion of that. 11 0 Well, you assign to the sample mail at SCF B a 12 portion of the empty space at the sample location. Α 13 Yes. And you use the same proportion for the average 14 0 15 empty space on the prior segments. The same proportion as at the last stop? 16 Α 17 0 You only know of one proportion, and that is the 18 proportion taken at the time of sampling at SCF B, and you 19 apply that proportion to the empty space at SCF B; correct? 20 А Yes. And you tell me that you apply a proportion to the 21 0 22 average empty space on the prior segment. Now what proportion do you apply to the average utilization? 23

24 Α We apply the average percent empty for that 25 facility type category as was observed by -- all those

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observations for that particular quarter of the test, it
 would be the average.

3 Q But what --

A So it would be the average which would be on 12, in the table for Interrogatory 12, it would be the average for that particular type of movement.

Q But what proportion of that average do you apply8 to the sampled mail?

9 A The proportion which we would apply is -- just a 10 minute, if I could refer to another interrogatory.

11 The proportion which we would assign it would be 12 if you turn to my response to interrogatory 51, part F.

13 Q All right.

14 A We assign it the proportion if you -- about 15 three-quarters of the page down, with the paragraph that 16 starts, "For USPS.last leg"?

17 Q Right.

A And here it says the equation is the same as above except empty average is replaced by empty. And then it's the 810 cubic feet plus that proportion times the percentage -- not times the percentage but the cubic feet of space that those containers took up, the wheeled containers. So for example if wheeled containers, those wheeled containers were taking up 60 percent of the

25 movement, it would be assigned 60 percent of the cubic feet

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2 Q Would it be assigned 60 percent of the average 3 empty space on prior segments? 4 Α It would be assigned -- yes, 60 percent of the 5 average empty space for that type of movement. 6 Q On the prior segments of that route, wouldn't it? 7 No, not necessarily because we wouldn't have Α 8 necessarily have sampled that particular segment. It was just at an average for those types of movements. 9 10 But the average of that type of segment, the prior 0 11 segment, the proportion to be utilized is the proportion 12 applied to the empty space in the last segment; is that 13 correct? 14 Α Yes. 15 Turn to your response to number 16. You've got 0 16 some more definitions to make here. 17 You refer to a movement. What is a movement? 18 Your second page under D, you say number of times movement 19 was sampled. What is a movement? 20 I would define that in this context as a route Α 21 trip segment. 22 Movement is a segment? 0 23 Α Yes. 24 Q All right. Ten under D you say, a movement occurred in the quarter. Here, you are talking about a 25

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A Yes.

3 Q And you refer also to a movement occurred in the 4 frame. What is the frame?

5 A The population frame.

6 Q Which is what? What is the population frame?

7 A Oh, a list of all the route trip segments which 8 were eligible for sampling in that quarter, which occurred 9 in that quarter.

10 Q Then in D in the first paragraph you have a term 11 variable SAMP CNT. Does that mean sample count?

12 A Yes.

13 Q And then about four lines further down, you've got 14 the term SMP<sup>-</sup>COUNT. Is that the same thing?

15 A Yes, it is.

16 Q All right, they're spelled different but they're 17 synonymous; is that correct?

18 A Yes.

19 Q Okay. You say that the weighting factor is 20 applied to the sample cost. When you say "applied," does 21 that mean you multiply it?

22 A Yes.

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Q Now, the sample costs that you're referring to is the final determination after you have calculated the expanded cubic foot miles of the sampled mail and multiplied

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1 it by the cost per cubic foot of the contract that it moved 2 under and that gives you a sample cost; is that right?

3 A Yes, that's correct.

4 Q And that is the number that you multiply by this 5 weighting factor; is that correct?

6 A Yes.

1

7 Q Tell me just what is the purpose of this weighting8 factor?

9 A The weighting factor expands the sample cost --10 the weighting factor weights the sampled costs back to --11 not up to the whole population cost but only it rates them 12 relative to each other because we sample more at certain 13 facility type movements than others.

14 Q You mean that the samples are not representative 15 of the strata and this weighting factor is to compensate for 16 that and make it representative?

17 A It expands it -- yes, the sampling will never --18 because the sampling is done prior to the actual occurrence 19 of the movements. It is never going to match up exactly 20 with what happened so, yes, things get weighted back to the 21 actual occurrence of those movements that we sampled in the 22 population.

Q Explain why the weighting factor for FACCAT 3 has such variability? What is the explanation for that? It goes from 106 to 63 to 111 to 60.

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A I haven't really determined why it changes, but I would just -- mathematically it would just mean that that movement, those particular types of movements, either occurred more or less in that quarter than they did in others.

6 Q Well, FACCAT 3 had six in the first quarter, eight 7 in the second quarter, six in the third quarter and 11 in 8 the fourth quarter, yet it varies by 40 percent -- and you 9 have no explanation for it?

10 A When you say six and eight, where -- what are you 11 referring to?

Q I am looking at your response to Part A and you say you conducted six tests in Quarter 1, eight in Quarter 2, six in Quarter 3, and 11 in Quarter 4, yet the weighting factor you apply to those tests has great variability and I don't know why and I would like to know why.

17 A Well, I would assume that those types of route 18 trips occurred in greater or less proportion, then -- so in 19 the frame that particular route trip movement occurred a 20 greater number of times in Quarter 2 than it did in other 21 guarters.

Q Is that possible? If you have the same contract? A No -- the contract -- the Postal Service can add trips, can increase the frequency of the trips.

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Q 40 percent in one quarter? Are you saying that

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ANN RILEY & ASSOCIATES, LTD. Court Reporters 1250 I Street, N.W., Suite 300 Washington, D.C. 20005 (202) 842-0034 1 there was 40 percent change in the number of contract route 2 trips in one guarter?

3 A I don't know.

6

4 Q But you don't believe that to be a proper factual 5 statement, do you?

A I don't know that either.

Q Is a part of the design of this weighting factor
to -- an effort to offset the difference in the capacity
utilization on the different segments of the route?

10 A No. It just -- it just weights -- if we sample 70 11 percent of our tests are taken at inbound movements and 30 12 percent of our tests are taken at outbound movements, then 13 we have to weight them back to exactly what happens in the 14 population.

Q You mean as far as the mail volume is concerned?
A No, just the occurrence of trips.

17 Q The appearance of trips?

18 A Occurrence of trips.

19 Q So you attempt to equate the sampling back to the 20 occurrence of trips regardless of the mail volume?

21 A Yes, that's correct.

Q In your answer to E, you say that considerations for the amount and variance of the mail, incoming and outgoing, from the different facility types were taken into account when the TRACS system was designed. How?

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1 Α One of the things that I mentioned earlier was the amount of mail which was unloaded and available for 2 sampling, that there was more mail being unloaded at, for 3 4 example, an inbound BMC that would be available for 5 sampling. Another example would be very small movements 6 which go from one SCF to a whole bunch of different AOs. 7 There would be a lot less mail available for sampling on 8 those movements so we sample them less frequently. 9 Q Well, when you say mail incoming and outgoing, are you talking about mail volume? 10 11 А Yes, I think mail volume was somewhat taken into 12 account. Is the TRACS system reviewed from time to time to 13 0 determine its continued applicability? 14 Yes, it is. 15 Α And what considerations are given in these reviews 16 0 17 as to the mail volumes? ¢ 18 А Again, one of the things we looked at was the 19 amount of mail which is available for sampling at the as 20 unloaded. We don't really have -- we don't really have a measure of volume as it travels on inbound or outbound, a 21 measure of absolute volume. So we look at the amount of 22 mail which is unloaded and those types of things. 23 Well, you know the truck is a whole lot emptier 24 Q 25 inbound, don't you?

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1 A Yes, it is.

2 Q And it is less empty on the outbound.

3 A Yes.

4 Q But you don't have any idea what the relative 5 volume of mail is inbound and outbound; is that right?

6 A Well, I would assume that there was more mail 7 outbound.

8 Q More mail outbound? Then explain why 70 percent 9 of the samples are taken inbound.

10 A Again, it goes back to the amount of mail which is 11 unloaded and available for sampling. For -- I mean, for 12 example, again, we don't -- just because there is a lot of 13 mail in the truck doesn't mean that it's available for 14 sampling. Only the mail which is unloaded is unloaded for 15 sampling -- available for sampling.

Q It is more convenient for the Postal Service to have one person unload whatever is on -- the lesser quantity that is on the inbound movement many more times even though most of the mail is outbound; is that right?

20 A No. The --

21 Q What's not right about it?

A The data collectors don't actually unload the trucks themselves, if that's what you mean.

Q It's more convenient to just stay at the BMC and watch the trucks run in and test them, isn't it, than it is

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1 to go out to the SCF and test them? I don't -- for the data collectors? If you are 2 А assuming they are based at the BMC? 3 If you make a test at the BMC, that necessarily 4 0 means that all of the tests are at the BMC facility, doesn't 5 it? 6 7 Right. But the data collectors are located at А different facilities. 8 Then how is it more convenient for the Postal 9 0 Service to take them at the BMC rather than the SCF? 10 It's not more convenient. It is just that there Α 11 is more mail available for sampling. 12 There is less mail available for sampling because 13 0 most of the mail is outbound; isn't that right? 14 That doesn't mean it is unloaded off the truck. ` A ` 15 That's what I'm saying. 16 How does this method, sampling method, promote 17 Q 18 efficiency? It provides less -- provides more mail available Α 19 for sampling with fewer tests. So that a data collector 20 doesn't have to go open a truck and only five percent of the 21 mail in that truck is unloaded and available for sampling. 22 If the mix of mail between mail classes is 23 0 different on an outbound movement than it is on the inbound 24 movement, does that promote efficiency in the sampling 25

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1 method?

2 That's why we sample both types of movements. Ά 3 0 But you sample the inbound 70 percent and the 4 outbound only 30 percent. And if there is a difference in the mix of mail inbound and outbound, aren't you 5 6 accelerating and accentuating that difference? No, because of the weighting factors. 7 А The weighting factor is an attempt to overcome 8 0 that then? 9 10 The weighting factor doesn't really overcome Α difference in amounts of mail; all it is doing is getting 11 12 the occurrence of the route trips back to the way they 13 occur. 14 All right now, you say that the sampling method 0 15 that you use, 70-percent inbound, and 30-percent outbound, quote, does not impart bias. Explain how if most of the 16 mail, a majority of the mail is outbound, and less than half 17 is inbound, but you're taking 70 percent of your samples 18 19 inbound, how that avoids bias. MS. REYNOLDS: Mr. Chairman, at this point I'm 20 going to jump in. I believe Witness Nieto's answered this a 21 number of times. 22 23 MR. WELLS: Where? I think I just heard Mr. Wells' 24 CHAIRMAN GLEIMAN: response. If the witness can answer, let's have the witness 25

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1 answer the question.

2 MR. WELLS: I didn't understand you. 3 CHAIRMAN GLEIMAN: I'm waiting for the witness to

4 answer your question.

THE WITNESS: If we did, as we do, sample 70 5 6 percent of the mail and 30 percent of the -- and 30 7 percent -- 70 percent of the movement's inbound, 30 percent 8 of the movement's outbound -- and we simply combined all our 9 cubic-foot miles without weighting them back, then the mail 10 which was -- which traveled on those route trips would be over -- would be more represented. But since we weight --11 since we weight them back to the actual occurrence of the 12 13 route trips on which they traveled, then -- they're weighted 14 equally -- they're not weighted equally, but they're 15 weighted back to the occurrence of those movements in the 16 frame.

17 So if there was 100 route trips in, 100 route 18 trips out, and we sampled 90 -- or we sampled 70 of those 19 route trips that were going in and we sampled only 30 on the way out, the mail which is on the outbound -- not the mail, 20 21 but the costs of those trips would be multiplied by a factor 22 of 100 over 30, and the mail which was on the -- or the costs of the mail on those inbound trips would be multiplied 23 24 by a factor of 100 over 70, such that when we combine them, 25 they would be equally weighted in the calculation of the

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1 distribution key.

2 BY MR. WELLS: 3 0 Do you know why the empty -- the utilization factor on the inbound movement is so much lower than it is 4 on the outbound movement? 5 6 Α No, I don't know why. 7 0 You observed that existing though, didn't you? Yes, I've observed that. I've observed it many 8 Α 9 different ways. But it did not raise any questions that you 10 Q thought needed to be pursued to get an explanation for? 11 12 А Well, we -- as far as whether -- what types of 13 questions exactly? What is the explanation of why you don't take 70 14 0 15 percent of your samples where most of the mail is moving, 16 and that is on the outbound movement? 17 Α Again, it comes -- it's a factor of several 18 things, one being that the amount of mail unloaded on inbound legs is greater, that everything gets weighted back 19 20 to the population occurrence. 21 Do you mean the amount unloaded at the outbound 0 22 SCF, which utilizes 73.8 percent of the vehicle, is more 23 than if it's unloaded at the inbound BMC, which is only 44.8 percent? Please explain to me how if the truck is fuller, 24 25 you get less mail?

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A Well, the truck could be continuing to another
 facility afterwards.

3 Q Not necessarily, it isn't.

4 A No, not necessarily.

5 Q But what you're saying is that it's easier on 6 Postal Service personnel to take one sample at the BMC than 7 it is to go out to the SCF and take another sample.

A No, I never said that.

8

9 Q But isn't that what you mean by promoting 10 efficiency?

A No, I would say that promoting efficiency is to sample the most mail that can be sampled at a particular test under a given -- you only have a limited number of data-collection resources, so that when they go to take a • test that they're able to sample the most amount of mail.

16 It's easier -- it's easier for them if there's no 17 mail in the truck, obviously, because they don't have to do 18 anything. So it's not really -- it's not really that it's 19 easier for them to sample more mail. It takes -- actually 20 takes longer as far as the test goes, but then that test 21 yields more mail which is available for sampling.

Q In your response to E under 16, you say that the rationale for TRACS' sample design does not currently bear any direct or ongoing relationship to the volume of mail.

25 A That moves outbound.

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That moves outbound? 1 0 That's different from --2 Α All other volume of mail that moves inbound to the 3 0 BMC, now how can you develop a sample design that ignores 4 volume of mail? 5 We are not trying to measure volume of mail. 6 А We 7 are just simply developing proportions. And you know that the proportion outbound differs 8 0 9 from inbound, correct? 10 Α The mix of mail is different, yes. But your sampling doesn't reflect the difference 11 0 in the mix of mail? 12 13 Α Yes, it does -- in the mix of mail, not in the amount of mail. 14 15 0 It samples 70 percent of the inbound mix and 30 16 percent of the outbound mix, is that what you are telling 17 me? 18 Α Right. And they are equal? Right? 19 0 I never said they were equal. The proportions 20 Α which we find on outbound movements are taken into account. 21 The proportions which we sample on inbound movements are 22 taken into account, and these are all weighted back together 23 to produce one distribution key of the proportions of mail. 24 And your weighting factor is supposed to equalize 0 25

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or accommodate the differences in the mix of mail inbound 1 and outbound, is that right? 2 3 Α I don't know if I would say it equalizes the mix of mail because --4 It accommodates the difference in the --5 0 6 Α It accommodates the differences in sampling. 7 And makes it more representative of the whole, is 0 that right? 8 Α 9 Yes. Is the purpose of a sample design to determine the 10 Q mix and quantity of mail that's using the transportation 11 12 system? I wouldn't say guantity, just the proportions of 13 Α 14 mail. 15 · 0 · The proportions of mail -- and you believe that you can properly design a sampling system that ignores the 16 volume of mail in order to accomplish that purpose? 17 Α I don't think that when the system was designed 18 19 they completely ignored the amount of mail. 20 Again, they tried to take into account the amount of mail which would be available for sampling. 21 Do you take into account the volume of mail in 22 0 your periodic review of the TRACS system? 23 We don't have an estimate of the volume of mail. 24 Α How frequently do you review the program system 25 Q

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1 for TRACS?

2 Α I personally or the Postal Service? 3 0 Anybody. It's reviewed on a periodic basis. Maybe --А 4 5 0 Periodic weekly? Monthly? Semi-annually? 6 I guess it depends on if things are coming up or I Α 7 mean I quess when it is -- it is I would say at least once a year, often more. 8 9 All right. Now, well, these weighting factors 0 that you provided us here, how long has it been since those 10 were changed? 11 12 А Oh, those are calculated each guarter. They are 13 different for every quarter based on the number of times a 14 particular route trip movement moves in that quarter. Have these weighting factors been applied since 15 0 16 the inception of TRACS? 17 Α You are referring to the weighting factors on page 18 22 of my interrogatory? Q Yes -- have weighting factors, not these but 19 20 any --21 А Yes, yes. 22 -- any weighting factors been applied as a part of 0 23 the TRACS system since it was initially implemented? Α Yes. 24 25 0 In your answer to 16-C, you refer to sampling

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precision. Is this what you are talking about when you say 1 the quantity of mail that is unloaded for sampling purposes? 2 No, I am referring to sampling precision in a 3 Α 4 statistical sense. What do you mean by that? 5 0 It can be the coefficient of variance. 6 Α Then you say without overburdening the field. 7 0 What do you mean by "overburdening the field"? 8 Increasing the number of tests which must be taken 9 Α 10 each quarter. If you maintain the same number of tests but just 11 Q 12 change the frequency inbound and outbound, you wouldn't be increasing the number of tests, would you? 13 Α No. 14 So if you did that, it wouldn't overburden the 0 15 field? 16 17 Α Not necessarily, no. Well, how would it overburden the field? 18 Q It could just result in maybe a certain area 19 Α 20 having more -- having more tests than another or maybe having them go out to a different -- different types of more 21 facilities. 22 Isn't sampling done randomly? Q 23 Α Yes. 24 So if you had the same number of tests, you just 25 Q

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put more of them on the outbound movement, it wouldn't 1 increase the number of tests, would it? 2 3 Α No, that's correct. So it wouldn't overburden the field? 4 0 5 Α No. In T-19 and highway 2, you say there that expands 6 0 the sample cubic feet data for loose mail up to the sample 7 item level. How is the loose mail expanded to an item 8 level? 9 I believe what that is referring to is it expands 10 Α it up to the same item to represent other loose items. 11 Well, let's take a specific example and let's say 12 0 that we have a 30-pound parcel bed loaded on the floor of 13 the trailer and then we've got a small 10-pound parcel right 14 next to it. Are you saying the 10 pound is expanded up to 15 16 the 30 pound level or what are we doing? It would be expanded -- the data collector would 17 Α have recorded some proportion or number of items of the same 18 type. It could be within a container. 19 There's not any containers bed loaded on the 20 Q floor. It's a loose item. 21 Well, if you are talking about bed loaded on the 22 Α 23 floor --You say here "loose mail." Now, loose mail are 24 0 uncontainerized, bed-loaded parcels. Would that be a loose 25

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1 mail?

2 Α If I could ask that I could actually look at the 3 program? Can I look at my library reference which I don't 4 have right up here right now. It would help me. 5 CHAIRMAN GLEIMAN: Well, that might help you 6 answer the question and, I don't know, how much longer do 7 you think you have, Mr. Wells? 8 MR. WELLS: Well, if that's the case, then let's 9 take a break for lunch now and come back at two o'clock and we'll pick up at two o'clock. 10 11 [Whereupon, at 12:40 p.m., the hearing was 12 recessed, to reconvene at 2:00 p.m., this same day.] 13 14 15 16 17 18 19 20 21 22 23 24 25

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| 1  | AFTERNOON SESSION                                            |
|----|--------------------------------------------------------------|
| 2  | [2:02 p.m.]                                                  |
| 3  | CHAIRMAN GLEIMAN: Mr. Wells, whenever you're                 |
| 4  | ready to continue.                                           |
| 5  | MR. WELLS: Thank you, Mr. Chairman.                          |
| 6  | Whereupon,                                                   |
| 7  | NORMA BEATRIZ NIETO,                                         |
| 8  | the witness on the stand at the time of the recess, having   |
| 9  | been previously duly sworn, was further examined and         |
| 10 | testified as follows:                                        |
| 11 | CROSS EXAMINATION [resumed]                                  |
| 12 | BY MR. WELLS:                                                |
| 13 | Q Ms. Nieto, you were going to check something               |
| 14 | during the recess?                                           |
| 15 | A Yes, I was.                                                |
| 16 | Q And that had to do with how you expand a loose             |
| 17 | item of mail up to an item level?                            |
| 18 | A Yes. This loose mail refers to all items which             |
| 19 | were found like that were bed-loaded, which would include    |
| 20 | parcels, sacks, or flat trays if they were just on the floor |
| 21 | of the truck. So when this program expands mail up to the    |
| 22 | sampled item level, it would only expand for those items     |
| 23 | which were containers which were sacks or trays which        |
| 24 | were loose. It does not expand loose items anymore.          |
| 25 | Q The term loose mail means mail on the floor of the         |

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1 truck, but in a container of some sort?

2 A Yes, it could be a loose sack; it could be sacks 3 on the floor.

4 Q Well, a sack is a container, right?

5 A Yes.

6 Q Okay. But it does not include any individual 7 parcels that are on the floor of the truck?

8 A The category "loose items" would, but the parcels 9 would not be expanded; no.

10 Q All right. Very good.

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11 Turn if you will to your response to 26-A, and 12 there under (d) you say that data collected does not record 13 the utilization of the wheeled container. If the capacity 14 of the wheeled container is not recorded, what is the 15 procedure to expand the cube of the sampled mail to the cube 16 of the container?

Yes, that's correct, there's no -- they don't 17 Α 18 record how full a container is. The data collector can 19 record, records the proportions in that container which were 20 taken up by the same item type. So for example if a 21 container had -- say it was 50-percent empty, it was only 22 half full, and there were sacks and there were parcels in 23 the container, then the data collector could record either 24 that there was 50 percent sacks and 50 percent parcels in 25 the container or he could record that the container was 25

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percent full of sacks and 25 percent full of parcels. It doesn't really matter which he records; we only look at the proportions.

4 Q All right.

5 A And those proportions are expanded up to the cubic 6 feet of that container, which we know what the cubic feet of 7 a container is.

8 Q Is each type of sample mail expanded up to the 9 standard cube of the container?

10 A Yes, the mail which is in the container is 11 expanded up to the cubic feet of the container.

12 Q All right. So that if you had a parcel that was 13 sampled, that parcel would be sampled up to the cube of the 14 container?

15 A If that was the only thing in the container? 16 Q Well, if there was one Fourth Class parcel and one 17 Third Class parcel that were sampled in the container, would 18 each be expanded up to the cube of the container?

A Well, the data collector would only sample one parcel, because that's a certain item type, it's a loose parcel, they would just -- if there was more than one loose parcel in the container they would just randomly pick one, and then they would expand the cubic feet of that parcel to represent all the parcels which are in the container, and then the parcel -- all the parcels in the container would be

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1 expanded up to the cubic feet of the container.

2 Q Well, if there were two parcels in the container, 3 one a Fourth Class parcel and one a Third Class parcel, they 4 would not sample both of them?

A No, they would just sample one.

5

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6 Q And that one would then be expanded up to the cube 7 of the container?

8 A It would -- yes, it would first be sampled up to 9 represent all the parcels in the container, and then all 10 those parcels would be expanded proportionately to the space 11 they were taking in a container.

12 Q But you say that you do not record the space that 13 all of the mail occupies in the container.

A Right. The proportions of the space. So -- okay, let's assume that there's a container and in this container -- it doesn't matter how full the container is -the data collectors record the proportions of the mail within the container. So they would record this container is 20 percent sacks and it's 80 percent loose parcels. That's what's in the container.

Then they would sample one of each of those item types. So they would sample one of the parcels, and they would sample one of the sacks. Then they would open up the sack and count all the mail weight and everything, and then they would expand the cubic feet of that parcel up to the

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full 20 percent of the container which -- up to 20 percent 1 of the container, which is what they recorded as being taken 2 up by parcels, and the 80 percent --3 4 0 I thought the 20 percent of the contents was --Yes, up -- 20 percent of it --5 Α 6 0 Not 20 percent of the container but 20 percent of 7 the content. In that case they would have -- they 8 Α Right. recorded the -- it doesn't matter to them how full the 9 container is. They just record the proportions. 10 0 Oh, is that right? 11 Α So -- okay, let me clarify that then. 12 If the data collector recorded that, let's say 13 that that was 50 percent full, that that container was only 14 50 percent full, they can still record -- they can still 15 record 20 and 80 because they are only recording the 16 17 proportions of the mail in the container. 18 0 They record the proportions of the mail; they do 19 not record how much space that mail occupied. Is that 20 right? Right, in the container, right. No. 21 Α So when they say 20 percent of the mail was a mail 22 0 code and it's sampled and cubic feet are calculated, how is 23 that calculated cubic feet expanded up to the size of the 24 25 container?

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Okay. They would have some measure of cubic feet. 1 Α Let's say they sampled a parcel and they determined that it 2 weighed something and then the density factor is applied and 3 there is cubic feet associated with that parcel. 4 5 0 Right. 6 Α Then that parcel's cubic feet gets expanded up to 7 20 percent of the cubic feet of that container. 8 Q Okay, and that applies to each sample that was taken from that container? 9 10 Α Yes. 11 0 Okay. 12 Α In the same manner the sacks would then be 13 expanded up to 80 percent of the container. 14 0 Now, turn to your response to 35. Why is it that 15 you're still using 1992 density data? 16 А The density factors just haven't been updated. 17 0 You're just using something that's six years old 18 now? 19 Α Yes, that's right. 20 Has there been any change in the density factor 0 21 used? We used new density factors for the new mail 22 Α 23 classes under Mail Classification Reform. 24 Was there a change in the density factors for 0 Postal quarter four of fiscal '96? 25

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- A Yes, there was.

| 2        | Q                                              | Where would we find those density factors?                                  |
|----------|------------------------------------------------|-----------------------------------------------------------------------------|
| 3        | A                                              | I believe if you refer to Library Reference H-82,                           |
| 4        | program 1                                      | nighway one. Let me get an exact reference.                                 |
| 5        |                                                | Page 195. Page 195 lists all the density factors                            |
| 6        | for each                                       | mail code.                                                                  |
| 7        | Q                                              | That's for the fourth quarter?                                              |
| 8        | А                                              | Yes, that's for the fourth quarter.                                         |
| 9        | Q                                              | And the density factors were only changed for the                           |
| 10       | fourth qu                                      | larter?                                                                     |
| 11       | А                                              | Yes, that's right.                                                          |
| 12       | Q                                              | That's only for the new mail classification?                                |
| 13       | А                                              | I think we used new density factors for any mail                            |
| 14<br>15 | code that<br>reclassifi<br><del>recollec</del> | t we had collected density on for in that<br>معتلیمہ<br>Lion density study. |
| 16       | Q                                              | Where did you get the density factors that are                              |
| 17       | used beg                                       | inning in the fourth quarter?                                               |
| 18       | А                                              | From the mail classification reform density                                 |
| 19       | studies                                        | density study.                                                              |
| 20       | Q                                              | From the mail classification cases?                                         |
| 21       | А                                              | Yes.                                                                        |
| 22       |                                                | I can give you a reference. I think I refer to                              |
| 23       | them in m                                      | ny answer to part B of 35.                                                  |
| 24       | Q                                              | All right, thank you.                                                       |
| 25       | А                                              | You're welcome.                                                             |
|          |                                                |                                                                             |

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| l  | Q Looking at Library Reference 288, what is mail            |
|----|-------------------------------------------------------------|
| 2  | code LL?                                                    |
| 3  | A One second. DBMC Parcel Post.                             |
| 4  | Q Fourth Class DBMC?                                        |
| 5  | A Yes.                                                      |
| 6  | Q And KK?                                                   |
| 7  | A Forth Class, bulk small parcels.                          |
| 8  | Q Looking at Library Reference 288, the density             |
| 9  | factor for LL is the same as for mail code M which is Third |
| 10 | Class bulk rate regular. Why is that?                       |
| 11 | A As excuse me, Third Class bulk rate regular?              |
| 12 | Did you say Third Class bulk rate regular?                  |
| 13 | Q Mail code LL has the same density factor as mail          |
| 14 | code M and, as I understand it, mail code M is Third Class  |
| 15 | bulk rate regular.                                          |
| 16 | Why would the density factors be the same?                  |
| 17 | A I'm not really sure. I would have to check that.          |
| 18 | That might be an error.                                     |
| 19 | Q If they are the same, is it an error?                     |
| 20 | A Again, I'd have to check. I'm sorry.                      |
| 21 | Q Fourth Class DBMC should have the same density            |
| 22 | code as Fourth Class Parcel Post, shouldn't it?             |
| 23 | A Fourth Class DBMC?                                        |
| 24 | Q Fourth Class DBMC should it have the same mail            |
| 25 | density factor as does Fourth Class Parcel Post?            |
|    |                                                             |

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Not necessarily. А 1 They are both Parcel Post, aren't they? 2 0 З Α Yes. But they are not the same density factor, and was 4 0 there a different density factor in Form 22 data in Postal 5 Ouarter 4 of '92? 6 There was no density factor for DBMC in '92. 7 Α Well, I better ask, what is the proper density 0 8 factor that should be used for mail code LL, which is Fourth 9 Class DBMC? 10 It would be the same as Parcel Post, yes. Α 11 And what would be the proper, correct density to 12 0 use for mail code KK? 13 I think because we didn't have a density we made 14 А an assumption about that density. 15 And what assumption did you make? 16 0 I believe it should be the same as -- sorry --17 Α 18 as -- it should be the same as Special Fourth Class. Special Fourth Class? 19 Q 20 A Yes. And if it is not the same as Special Fourth Class, 21 0 there's an error in the factor used? 22 There's an error -- yes, for factor used in 23 Α LRH-288, but not in the TRACS system. 24 I think the way we calculated those cubic feet in 25

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1 LRH-288 was we took our weight that was sampled and then we 2 applied a density factor to that mail -- to that weight for 3 the purposes of the interrogatory.

4 Q Well, did you apply the density factor that is 5 shown in Highway 1, page 195?

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A I'll check. One second.

We didn't -- I don't have the exact density factor which we applied here. I assume that you calculated it by dividing the cubic feet by the weight?

10 Q Well, you say that to answer the interrogatories 11 you took the measured weight from the cumulative samples of 12 each mail code and multiplied it by a density factor, is 13 that right?

A Right. I am just saying that I don't have that density factor shown in my -- in the printout that I have, and there was no explicit density factor printed out in LRH-288.

18 Q And did you calculate it for different density 19 factors for Quarter 1 than you did for Quarter 4?

20 A Yes, we did.

21 Q But Quarter 1, 2 and 3 were each the same? 22 A Yes.

Q And you used the density factors that are shown in Highway 1 for each quarter?

25 A I believe we did.

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Q All right. 1 2 BY MR. WELLS: In 38, in response to E, you say that for loose 3 Q parcels no expansion beyond measured cubic feet is made. 4 That is the expansion you refer to in Highway 2, 5 is that right? 6 7 Α Yes, that's right. Is the cubic feet of a loose parcel expanded in 8 0 any manner in a later program? 9 10 Α Yes. And what program is that? 0 11 If the loose parcel was not in a container at all, 12 Α you are just referring to bed-loaded parcels? 13 If a loose, bed-loaded parcel. 14 0 The program which would further expand -- that 15 А cubic feet would be expanded up to the cubic feet of all 16 loose items which are found in the truck. 17 Well, if there is only one loose item in the truck 18 0 and it is a single parcel, how would it be expanded? 19 Assuming that that loose parcel took up, say, 1 20 Α 21 percent of the floor space? Let's say that this one loose parcel had a 22 0 measured, a calculated cubic feet of 2, now how would it be 23 expanded? 24 Well, it would be expanded to represent the amount 25 Α

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of floor space that it took up times the cubic foot capacity
 of the truck.

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Q You mean the height of the truck?

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A It would be cubic feet, yes.

Q In other words, this one parcel would be -- the cube of the one parcel would be expanded to the height of the truck. If it took -- if it was two cubic feet and the height of the truck was eight feet, it would be expanded up to eight; is that right?

10 A It would be whatever the floor space percentage 11 that that parcel took up, let's assume that it was one 12 percent of the floor space of the truck, then --

13 Q The recorder does not record the floor space of14 the parcel, does he?

15 A He records the floor space of loose items on the 16 floor, yes. But you said there was nothing else there.

17 Q That's right. Okay.

18 A If that was the only loose item on the floor of 19 the truck, the data collector would record -- he would 20 record the number -- I'm sorry. He would record the number, 21 the percentage of floor space which was occupied by loose 22 items so let's assume he records one percent.

23 Q All right.

A Then that one percent gets applied to the cubicfeet of the truck.

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O That's expanded upwards to the height of the mark?

A Yes, so the one percent then would be multiplied by -- let's assume the truck is 2,400 cubic feet. So it would be 24 cubic feet. So then the loose items, or in this case just the one parcel, would be expanded up to 24 cubic feet.

Q All right, and then there would be a further expansion of those 24 feet, wouldn't there? If the truck were 50 percent empty, how would the 24 feet be expanded?

A The 24 feet would then be assigned 50 percent of the empty space. It would be assigned -- so if the truck is 50 percent empty then there's 1,200, 1,200 cubic feet of empty space. Then -- and let's assume that there was other stuff on the truck as well.

Q One parcel occupied one percent, we've already established that?

A Yes.

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Q So it would take one percent of the 2,400; is that right?

A One percent of the 1,200.

Q One percent of the 1,200. So that's, what, 12?

A Twelve, right. And then that would be added onto the 24.

Q All right, so --

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1 A So that would be 36.

2 Q This two cubic foot parcel is now expanded up in 3 the TRACS to 36 cubic feet?

4 A That's correct.

Q And this is what you characterize as being a
proper measurement of the utilization of the vehicle, right?
A We're trying to weight the cubic foot miles of

8 mail according to the proportions that they take up on the 9 truck.

10 Q In your answer to 41, looking at the last four 11 lines, what is the source of your data there?

12 A If you turn to UPS 50, I believe we answered that 13 question. It's a bit of a complicated formula but, in part 14 A --

15 Q UPS -- well, I guess I don't have UPS-50. Is 16 there a place in TRACS where you found this information?

17 A No, we calculated it for purposes of the18 interrogatory.

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Q You calculated it?

20 A We estimated it, yes.

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21 Q How did you estimate that there were four trucks 22 that were vertically loaded up to 96 inches?

A Well, we calculated an average height for -- the
data collectors would record, say, the height of pallets,
the height of a pallet that was sampled, and so we would

ANN RILEY & ASSOCIATES, LTD. Court Reporters 1250 I Street, N.W., Suite 300 Washington, D.C. 20005 (202) 842-0034 1 multiply that height times the floor space percentage that 2 those pallets took up, so we would -- it's essentially a 3 weighted average of the different heights of mail in the 4 truck.

5 Q You didn't identify four testeds that exhibited 6 this characterization, did you?

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A Well -- I'm sorry, one second.

8 We -- yes, if -- we would have found that if the 9 data indicated that sacks or parcels were stacked that high, 10 if loose parcels were stacked that high.

11 Q What TRACS data indicates that parcels were 12 stacked that high?

A The data collectors do record the height of sacks and parcels when the items are loose. It's used when there's items on top of each other to get the relative proportions.

17 Q When you say there were four tests in which a 18 portion of the truck was vertically viewed, that's 19 just -- you don't know what portion of the truck?

20 A Right.

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21 Q And you don't know which of the four TRACS test 22 this for clarity?

A I could look it up if I had the data in front ofme.

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And you don't have it with you?

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I would need to run the program. А 1 MR. WELLS: Mr. Chairman, I would request that the 2 Postal Service identify the four TRACS tests and the two 3 TRACS tests and the one TRACS test that are referred to by 4 the witness in answer to our interrogatory T-2-41. 5 CHAIRMAN GLEIMAN: Ms. Reynolds, do you think you 6 can provide that information? 7 MS. REYNOLDS: If I could get an estimate from the 8 witness as to how long she thinks that could take? 9 THE WITNESS: Three days. 10 MS. REYNOLDS: That's fine. 11 MR. WELLS: That would be fine. 12 13 BY MR. WELLS: In your response to 44, you did not agree that the 14 0 cost of a route is allocated to individual segments of a 15 Is the reason for your disagreement that we refer to 16 route. cost of a route rather than cost per cubic foot of the 17 route? 18 Yes, we apply the cost per cubic-foot mile. 19 Α All right, so --20 0 Rather than dividing the cost of the whole 21 Α contract in some way. 22 If the cost per cubic foot of the capacity of the 0 23 vehicle is the same for every mile on the route; is that 24 correct? Do you agree with that? 25

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Is the same for every mile? Yes. 1 Α It's the same for every mile? 2 0 3 А Yes. And if you have a total mileage of 100, then 1 0 4 percent of the total cost is allocated to each mile; is that 5 6 right? One percent of the total cost of what? 7 Α If there are 100 miles, 1 mile is 1 percent; do 8 0 you agree with that? One one-hundredth is 1 percent. 9 Α Right. I don't know. If you wanted to calculate 10 it that way --11 But the cost per cubic foot is the same for each 12 0 mile on the route; do you agree with that? 13 А Yes. 14 All right. Do you agree that the purpose of TRACS 15 0 is to measure the utilization of purchased transportation 16 resources by different classes and subclasses of mail? 17 Α Yes. 18 And the transportation resources that you are 19 0 attempting to measure are cubic-foot mile capacities. 20 Α Yes. 21 On each segment of a route, you allocate the total 22 0 capacity cubic-foot mile cost to the mail that's actually on 23 the mail -- on the truck for that segment; is that right? 24 That's correct. А 25

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Q Explain how the mail that's being transported on
 that segment uses the empty space on that segment.

3 A Well, the mail's on the truck, so it's using the4 truck. That's the assumption.

5 Q So that if the Postal Service provides a larger 6 truck than is necessary for that segment, then the poor 7 mailer gets socked by it; is that right?

8 MS. REYNOLDS: Excuse me, Mr. Chairman, once again 9 we're getting into the Postal Service's management of the 10 purchased transportation fleet, which I believe is outside 11 the scope of what Nieto's testifying to.

MR. WELLS: Well, Mr. Chairman, she's the one who's allocating the cost to the mail that's on there and emptying -- and allocating the empty space, and I believe that it's well within this witness' testimony.

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16 CHAIRMAN GLEIMAN: Well, it seems to me as though 17 the extent to which mailers get socked has to do with price 18 as well as the cost, and I think if you could confine your 19 questions to the cost issues, if you wanted to ask a 20 question that asks whether costs were out of line relative 21 to what was in a truck, that would be a little bit different 22 than asking whether somebody got socked.

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MR. WELLS: Very well, Mr. Chairman.
CHAIRMAN GLEIMAN: Appreciate it. Thank you.
BY MR. WELLS:
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Have you or does TRACS identify any causal 1 0 relationship between the mail actually being transported on 2 any route segment and the empty space on that segment? 3 Α No, we do not determine causality. 4 Do you agree that TRACS simply distributes the 0 5 total cost of the segment over the mail actually using the 6 segment? 7 А That's correct. 8 And there's no causal relationship for the 9 0 distribution? 10 11 А No, there isn't. Does TRACS make any determination as to the cause 12 0 of the selection of the capacity of the vehicle for a route? 13 The selection of the capacity? Α 14 The selection of the capacity of the purchased 0 15 vehicle. 16 Α NO. 17 And to the extent that destination discounts 18 0 increase the outbound volume of mail from the BMC, the 19 capacity of the outbound vehicles will have to be adapted to 20 handle that increased volume. Do you agree with that? 21 When you say capacity, you mean an individual 22 Α truck size? 23 The capacity of the vehicles that are contracted 0 24 for by the Postal Service will have to be large enough to 25

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handle the increased volume of outbound DBMC mail. 1 This is a little outside my area, but I believe 2 А that they could also be handled by an additional trip. 3 Be handled by what? Q 4 An additional route trip, an additional trip. Α 5 Well, doesn't that increase the purchased capacity 6 Q if there is an additional trip? 7 8 Α Yes. And doesn't the additional trip also increase the 9 0 emptiness on the return? 10 Not necessarily. If there's an additional trip 11 А just to serve that particular movement. 12 A contract for one-way transportation. 0 13 14 Α Yes, it could be. Can you identify any contracts for one-way 15 0 transportation in intra-BMC? 16 I believe I answered an interrogatory that 17 А about -- that some estimated 5 percent of trips were one --18 seemed to be one-way trips. However, you would have to 19 specifically look at the destinations which were served by 20 that route trip to make the determination whether it really 21 22 was a single trip. And you did not do that. 23 0 No, I did not. 24 А All right. If there is an increased capacity 25 Q

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requirement to handle the outgoing mail, and there is a resulting increased emptiness on the inbound movement, then those classes of mail, notably household mailers of parcels, cannot use the DBMC or any destination discount rate, can they?

A I don't know. It's outside of my area.

Q From a very cursory review of Library Reference
288 it appears that the ratio of Standard A Third Class mail
9 to Standard B Parcel Post is much higher on transportation
10 outbound from the BMC than it is on transportation inbound
11 to the BMC.

12 From your review of this data, would you confirm 13 that?

A The proportion of Standard B mail is higher than it is for Standard A mail on inbound movements. That's correct.

Q Standard A Third Class mail is a higher proportion
of outbound mail than Standard A is of inbound mail?

19APerhaps if you could refer me specifically to --20QI didn't understand.

A If you could refer me specifically to a quartermaybe that I can look at?

Q On page 9 of the reference, that is Postal Quarter3 inbound and page 10 is outbound.

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A Okay. When you say "standard," which specific

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mail code are you referring to --1 I am referring to the mail codes that include 2 0 Third Class Standard A mail. 3 The group of them? Α 4 I believe that those mail codes begin with K and 5 0 go through MM except for KK and LL. 6 So you are asking me if the sum of the cubic feet 7 Α 8 of those classes is greater than --I am asking if the proportion of Third Class 9 0 Standard A mail in the outbound movement is greater than the 10 11 proportion of Third Class Standard A mail in the inbound 12 portion. [Pause.] 13 BY MR. WELLS: 14 Well, Ms. Nieto, that's a simple summation of the 15 0 data that is in 288, is it not? 16 Yes, as -- I am trying to add it up. Α 17 We don't need to take up time during the hearing 18 0 to do that. 19 The cost per cubic foot mile, the measurement the 20 TRACS applies, is this an accounting measurement? 21 The cost per cubic foot mile? 22 Α 23 0 Yes. The cost per cubic foot mile is specified in the 24 Α 25 contract.

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1QIs that an accounting measurement? You say that2TRACS is a measurement system. I want to know what kind of3a measurement system it is.4Is this an accounting measurement?

5 A The cost per cubic foot mile of the contract is --6 it is what it is.

Q But you don't know whether it is an accounting measurement or an economic measurement or some other kind of measurement?

10 A It's the cost per cubic foot mile which is11 negotiated between the Postal Service and the contractor.

12 Q And TRACS is designed as a measurement system, is 13 that right?

It is a data collection system, yes.

Q In your response to 48 is it correct that you say that if the TRACS calculate cubic feet for two identical parcels and two separate trucks would be different if they were stacked one on top of the other or whether they are placed side by side? Is that what you say?

20 A That's correct.

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21 Q How can this result be accurate?

A Well, if two parcels are placed side by side, they are taking up more floor space. If they are stacked they are taking up, you can assume they are taking up half the amount of floor space.

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Are they taking up the same cube in the truck? 1 Q 2 Α Well, if there is nothing else on top of them --These two parcels -- two of them stacked side by 3 0 side and two of them one on top of the other. 4 5 Now is the cube of those parcels the same regardless of how they are placed in the truck? 6 The cube, yes. 7 Α Q They are the same; right? 8 9 Α Yes. But when TRACS gets through with it, they're not 10 0 the same, are they? 11 12 А NO. 13 Now can this differentiation between two identical 0 parcels because of the different way they're loaded on the 14 floor of the truck be an accurate measure of the cubic-feet 15 miles used by those two parcels? 16 Well, the cubic-foot miles used by those parcels Α 17 18 if there's nothing on top of them, they're using the proportion of space which is above them. 19 20 There's nothing using the space above them, is 0 there? 21 22 Α Well, if you put them on the floor and there's nothing on top of them, they're using that space, because 23 nothing was put on top of them. 24 If nothing was put on top and -- nothing is using 25 Q

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ANN RILEY & ASSOCIATES, LTD. Court Reporters 1250 I Street, N.W., Suite 300 Washington, D.C. 20005 (202) 842-0034 1 the empty space above 'em, right?

2 A No.

Q If you have these two parcels, they're each two
cubic feet, and they each move on a segment of
transportation for 100 miles. Each parcel moves 200
cubic-foot miles. Is that correct?

A Yes.

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8 Q But TRACS does not record it that way, does it?
9 A No, it wouldn't.

10 Q And is it an accurate measurement to come up with 11 a conclusion that these two parcels incurred cubic-foot mile 12 transportation of more than the product of multiplying the 13 cube of the parcel times the distance traveled?

Yes, I think it is. The assumption is that -- the Α 14 assumption is that whatever mail was put on the truck in 15 that space -- for example, if there's wheeled containers, 16 the wheeled containers -- the mail that's in the wheeled 17 18 containers gets expanded up to the cubic feet of that whole floor space percentage of that slice of the truck, if you 19 will, and it's the same for each of the item types in --20 each for the same group of like items within the truck. 21

22 Q Who selected the containers?

23 A For sampling?

Q No, who selected the containers to be put on thetruck? The Postal Service?

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Yeah, the Postal Service. А 1 All right, the mailer didn't select them? 2 Q No, not as far as I know. 3 Α So the Postal Service selected them and the Postal 0 4 Service caused them to be on there, didn't they? And the 5 only reason that a truck is empty is because the Postal 6 Service provides a truck larger than that necessary to 7 transport the mail on that segment. Is that right? 8 I don't really know that. That's outside my area. 9 Α On Library Reference H-288, does this accurately 10 Q reflect the TRACS data? 11 The weight, pieces and cubic feet? Α 12 Does the information contained in Library 0 13 Reference 288 accurately reflect the TRACS data? 14 Α The sample data, yes. 15 The number of pieces and the weight are from 0 16 TRACS; is that right? 17 18 А Yes. The cubic feet is the calculation that you 19 C described a little earlier? 20 А Right. 21 Witness Bradley, in a response to an interrogatory 22 0 T-13-25 said, and I quote: For the Postal transportation 23 network, I view the cost of a contract being jointly 24 determined by the cost of serving all of the legs on all of 25

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the route/trips on the contract. The cubic foot mile 1 2 capacity set on a contract reflects the joint requirements of moving mail of the Postal network and that the total 3 contract cost should not be allocated to any individual leg 4 on the contract. End of quote. 5 Do you agree with Witness Bradley in that regard. 6 7 А Yes, I do. MS. REYNOLDS: I would ask that Witness Nieto be 8 given a chance to review Witness Bradley's response in its 9 entirety. I don't know if she is familiar with that 10 particular response. 11 MR. WELLS: Well, I just read it to her. 12 MS. REYNOLDS: I don't -- I don't doubt you. 13 CHAIRMAN GLEIMAN: Perhaps it would be useful if 14 she could look over a hard copy of the interrogatory. 15 MR. WELLS: May I approach the witness? 16 CHAIRMAN GLEIMAN: You certainly may, sir. 17 THE WITNESS: Yes, I agree. 18 MR. WELLS: Thank you. I have no further 19 20 questions. CHAIRMAN GLEIMAN: McGraw-Hill? Mr. Bergin. 21 CROSS EXAMINATION 22 23 BY MR. BERGIN: Good afternoon, Ms. Nieto. 24 Q Α Good afternoon. 25

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1 0 My name is Tim Bergin. I represent the 2 McGraw-Hill companies and --CHAIRMAN GLEIMAN: Mr. Bergin, can you pull the З 4 mic closer? BY MR. BERGIN: 5 I have just a few questions for you. 6 0 Now, as I understand it, the TRACS system measures 7 8 the unused capacity in the highway transportation purchased 9 by the Postal Service? 10 Α Yes, it records empty space on trucks that we 11 sample in TRACS, yes. 12 0 And trucks that you sample, this is a random selection from the NASS database? 13 Yes. As -- there's stratification by facility. 14 А We sample certain facility types more than others, as 15 Mr. Wells was describing earlier. But within those, it's 16 17 random, yes. Q And within the stratification that you referred 18 to, the NASS system has scheduled what's the term, route trip 19 20 segments or route trips, I should say? 21 Α Yes. Those are scheduled under the contracts that are 22 0 entered into by the Postal Service and the transporters? 23 24 Α Correct. And the unused capacity is measured by square feet 25 0

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of truck floor space?

That's right, it's recorded as a percentage. 2 Α And across all four types of contracts, BMC, SCF, 0 3 is it fair to say that as measured by floor space the unused 4 capacity averages roughly 50 percent or so? 5 If you average across all movements, you mean? 6 Α 7 0 Yes. I haven't actually done that calculation. 8 Α I was just looking for a rough estimate. Is that 9 0 the order of magnitude? Or looking at your response to 10 Florida Gift Fruit Shippers number 12, I think it is. 11 Yes, if you just average the four numbers which 12 Α are provided in part 12-B, I would without actually doing 13 the calculation guess that it's about 50 percent. 14 And that hasn't changed over time; is that fair to 15 0 say? Having specific reference to your answer I think 16 provided today to Florida Gift Fruit Shippers interrogatory 17 18 number 12-C? That's correct. Utilization stays -- has stayed 19 Α relatively constant over time for each of the different 20 21 facility types and contracts. Looking at Florida Gift Fruit Shippers 22 0 Interrogatory 12-B, I believe in response to a question by 23 Mr. Wells this morning you clarified that, for example, 24 Postal quarter four, intra-SCF, the figure 35.1 percent 25

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would indicate that actually about 65 percent 1

underutilization of truck capacity during that quarter; is 2 3 that correct?

Yes, that's correct. I would like to point out 4 А that that number is a straight average of the five numbers 5 which make it up. It's not weighted by the number of times 6 that any of these particular movements occurred in a quarter 7 so it is just a straight average; it's not a weighted 8 9 average.

0 I see. 10

Now, in terms of estimating utilization, if I 11 understand correctly, it doesn't matter how high the mail is 12 stacked in the truck, that for utilization purposes, only 13 floor space, percentage of floor space is relevant under the 14 15 TRACS system?

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А That's correct.

Isn't it true that if we're dealing with a truck 17 0 with a cubic capacity that includes let's say eight feet in 18 height and the truck is, say, fully bed loaded to a height 19 of one foot, then the actual utilization is less than 15 20 percent of the cubic capacity? 21

The cubic foot capacity utilization, yes. 22 А

- 0 Cubic foot capacity. 23
- That's correct. 24 Α

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So when you say, again looking at Florida Gift

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Fruit Shippers' interrogatory 12-B, the 35.1 percent figure,
 intra-SCF, fourth quarter, that that indicates about 65
 percent underutilization. That actually understates the
 underutilization, if I could put it that way, doesn't it?

5 A Right. There is no accounting for how high things 6 are, right.

7 Q Right. The 35 percent just refers to floor space,8 not the total cube?

9 A Correct.

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10 Q And that if you assume say only a foot in height 11 that is utilized, then we are talking about underutilization 12 on the order of 90 percent?

13 A That would be correct, although I would have to14 say I don't know if that even happens.

15 Q If I understand your testimony correctly, both 16 written and oral this afternoon, under the TRACS system, the 17 Postal Service does not speculate as to any particular cause 18 of the underutilization of truck capacity; is that correct?

A That's right. TRACS doesn't speculate as to what
caused empty space.

MR. BERGIN: I have nothing further, Mr. Chairman.
CHAIRMAN GLEIMAN: OCA, Ms. Dreifuss?
CROSS EXAMINATION
BY MS. DREIFUSS:
Q Good afternoon, Ms. Nieto.

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A Hello.

Q I'd like you to look at your answer to an
interrogatory that was redirected to you from Witness Degen.
It concerns library rate mail.

5 The number is OCA/USPS-T12-50 and subpart (c)(i) 6 was redirected to you.

A Okay.

8 Q In your answer to that interrogatory, you state 9 that low volume in a particular subclass would result in 10 increased variance in the distribution keys.

I I wanted to ask you, the variance in the distribution keys wouldn't run across all subclasses, would it? The variance, this high variance or increased variance that you are talking about, would be limited to the particular low volume subclass, would it not?

16 A

17 Q And high variance or increased variance --

18 increased variance is the term you use -- increased variance 19 might mean that one would see fluctuations, large 20 fluctuations from one sample to the next in the share of 21 that low volume subclass's responsibility of transportation

- 22 costs, is that correct?
  - A That is a possible outcome.

A state of the state

Yes.

Q Correct, and another possible outcome is that the low volume subclass might actually wind up having a larger

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1 share of transportation costs because of its

2 under-representation in the sample -- it might have too
3 large a share of costs as a result of that and the increased
4 variance in the distribution keys, is that correct?

5 A It could also work the other way though. 6 Q Right. Did you specifically evaluate whether 7 there was this problem of increased variance or too high 8 variance for library rate mail?

9 A No, I did not.

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Q In response to a Presiding Officer information
request, Witness Degen was asked to make a similar kind of
evaluation.

I don't know whether you have had a chance to look
at his response -- his responses to Presiding Officer
Information Request Number 2?

A No, I have not.

Well, let me just describe to you what he said, 17 Q and this -- in this part of his response he is talking about 18 segment 3 mail processing costs. He is not talking about 19 transportation costs, but he attempted to look at the high 20 21 variance involved for library rate mail for Segment 3, and the way he evaluated it was he looked at the tallies per 22 dollar of unit cost and he started to compare library rate 23 to classroom mail, which also is a low volume subclass, and 24 he said that library rate had 80.4 tallies per dollar of 25

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1 unit cost. Classroom had 163.2.

He concluded that library rate costs like
classroom suffer from instability due to the small volume
and nature of the IOCS sampling procedure.

5 I wonder whether it would be possible to do a 6 similar assessment for TRACS..

A Well, I think it works a little differently because I think where -- and I am not sure -- IOCS would sample, a tally would be related to one piece of mail?

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I believe that's right, yes.

Whereas TRACS when the data collector opens the 11 Α 12 truck they take a lot of different samples of the types of 13 mail -- you know, wheeled container, sacks, items and so they 14 open up all these and they would count every single piece in 15 a sack, every single piece in a tray, and then they would 16 sample representative items from a wheeled container, so I 17 would say that each test counts as a -- each test in which there is not any library mail is just as valid as one where 18 19 there is library mail, library rate mail.

I am not sure what comparison specifically wouldcorrespond to a similar analysis.

Q Can you think of any way of assessing the variance in TRACS for library rate mail, whether to determine how high it is compared to other, much larger subclasses? Can you think of any way of assessing that?

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You could compare the CVs of library rate mail to 1 Α 2 others. Do you have the information available to you to 3 Q compare the CVs? 4. Yes, I do. 5 Α Let me ask you one more thing. Would it take a 6 0 great deal of your time to do so or could you do that in 7 fairly short order? 8 I could just give a visual inspection of --9 Α 10 MS. DREIFUSS: Mr. Acting Presiding Officer? COMMISSIONER HALEY: Yes? 11 MS. DREIFUSS: I wanted to ask you if you could 12 13 check with the Postal Service and see whether it is possible to get her -- get the results of a visual inspection of the 14 CVs that Witness Nieto said she might be able to do fairly 15 16 quickly. COMMISSIONER HALEY: I think you have heard the 17 18 question, Ms. Reynolds. MS. REYNOLDS: If the witness feels she can 19 provide the analysis, I don't have a problem with that. 20 21 COMMISSIONER HALEY: Okay. 22 MS. DREIFUSS: Thank you. 23 BY MS. DREIFUSS: If it were to turn out that there was unusually 24 0 high variance for library rate mail, and I guess that could 25

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be a problem even for other low volume subclasses, what steps could be taken in TRACS to improve and ameliorate that result so that the variances wouldn't be so very great for low volume subclasses?

A I --

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Q Before you answer that, let me take just a moment.
Ms. Nieto, I noticed that you were looking through some
papers. It looked like you were about to answer my earlier
question right here. Is that right? You were going to
answer it today in the hearing room?

11 A I was going to ask you if there was one particular 12 mode of transportation that you were concerned with.

Q It would be -- I apologize. I thought the witness was going to have to do that visual inspection outside the hearing room, and I didn't realize that she was going to be able to answer right now. I'd be particularly interested in highway transportation. I know there are several accounts. How many are there in highway transportation?

A There's four.

20 Q Would you mind just checking for each of the four, 21 please?

A Is there a particular class that you would like meto compare it to?

24 Q How about classroom mail.

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A TRACS doesn't break out the periodicals subclass

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1 any further.

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2 Q May I look at what you're looking at for just a 3 moment?

MS. DREIFUSS: May I approach the witness? 4 5 CHAIRMAN GLEIMAN: You may. 6 MS. DREIFUSS: Thank you. BY MS. DREIFUSS: 7 Could you make a comparison to special rate mail, 8 0 please? 9 Okay. On intra-SCF highway the library rate CV is Α 10 11 a little under twice that of what it is for special rate. So it has a better coefficient of variation, 12 0 library rate has a better coefficient --13 I'm sorry, I think I said that the wrong way. 14 Α It's the other way around. 15 Special rate has a better -- a more desirable 16 0 coefficient of variation than library rate does. 17 18 Α Yes. For intra-SCF highway. Q 19 Right, it has a lower CV; right. 20 Α 21 0 Would you mind looking at the other -- the other three accounts, please, and doing the same thing? 22 On inter-SCF they have almost identical CV. 23 Α For intra-BMC the special rate CV is about 75 24 percent that of the library rate, so it's lower. 25

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0 Okay.

A And in inter-BMC it's about 1-1/2 times higher for
library rate than it is for Special Fourth.

Q Thank you. And now I'll go back to the question that I had started to ask you earlier, which is if you wanted to improve the CV and ameliorate that relatively high variance that could be present with a low-volume subclass like that, how would you go about doing it?

9 One of the ways that you could do it is -- well, I Α don't think that sampling -- I think that library rate 10 travels -- again, I'm speculating a little bit here -- that 11 12 it would travel on the same movements that special Fourth and Parcel Post does, so I don't know if in any way changing 13 the facilities which we take TRACS test in some way would 14 make a difference. If library rate for some reason again 15 tended to be in a different container type than other mail, 16 but again I think our data collectors always sample 17 representatively from a wheeled container. So again I'm not 18 sure that that would make a big difference without really 19 studying I guess some of the differences Special Fourth 20 or -- if library rate is treated differently than other 21 22 parcel mail in general. It would be hard to say. Those might be two areas. 23

MS. DREIFUSS: I have no further questions. Thank25 you.

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COMMISSIONER HALEY: Thank you, Ms. Dreifuss. 1 2 Does any other participant have oral cross examination for this witness? 3 If there is no followup cross examination, do the 4 Commissioners have some questions? 5 6 Yes, sorry I didn't see you. 7 MR. BERGIN: Commissioner Haley, I did have one 8 followup question. That's the question I should have asked before if no one else has anything. 9 FURTHER CROSS EXAMINATION 10 BY MR. BERGIN: 11 And just briefly, Ms. Nieto, how old are the 12 0 density factors used for periodicals mail? 13 А I believe the ones used for the first three 14 quarters of '96 were from PQ-4 of '92. The ones which were 15 used for Quarter 4 of '96, the implementation of 16 classification reform, are from I think it's PO-4 of '95, 17 although I would have to check exactly. I don't have that 18 library reference in front of me. 19 So that the density factors for periodicals mail 20 0 were updated in the fourth quarter of did you say '96? 21 Α 22 '95. 23 '95? 0 24 The actual study was done I think in guarter 4 of Α '95, but they were not used in TRACS until quarter 4 of '96. 25

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1 Q Thank you.

2 5 6

2 MR. BERGIN: I have nothing further, Commissioner 3 Haley.

COMMISSIONER HALEY: Yes. 4 5 MR. FELDMAN: Thank you. 6 CROSS EXAMINATION BY MR. FELDMAN: 7 I'm Stephen Feldman, American Business Press, with 8 Q 9 just a very brief followup to Mr. Bergin's question. 10 Α Yes. 11 0 I was wondering if it would be possible for the 12 witness or for the Postal Service to provide some written 13 substantiation of her estimate that in guarter 4 of 1995 the 14 periodical density factors were updated, and if so, what 15 factors were used? 16 [Pause.] 17 VICE CHAIRMAN HALEY: Will you respond, or perhaps we should ask counsel? 18 19 MS. REYNOLDS: That won't be a problem. 20 MR. FELDMAN: Thank you very much. 21 VICE CHAIRMAN HALEY: Very well. 22 Is there anything further? Any additional oral cross-examination? 23 24 [No response.] 25 VICE CHAIRMAN HALEY: If not, Ms. Reynolds, would

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1 you like a little time with your witness? 2 MS. REYNOLDS: If we could just have a few minutes, maybe 10 minutes? 3 4 VICE CHAIRMAN HALEY: 10 minutes. Why don't we then take a break at this time for 10 minutes. 5 6 MS. REYNOLDS: Thank you. 7 [Recess.] 8 CHAIRMAN GLEIMAN: Ms. Reynolds, before you pick 9 up on redirect, there are a few housekeeping matters that I 10 need to take care of. 11 First, is Mr. Wells here? 12 Mr. Wells, this morning Florida Gift Fruit 13 Shippers -- you announced that you had received an interrogatory response that was subject to a motion to 14 15 compel. That was T-2-12 from this witness. And I was 16 wondering if you have had a chance to review that interrogatory response and whether you are satisfied with 17 18 the response? 19 MR. WELLS: I have and I am and the response was 20 presented as additional written cross this morning. 21 CHAIRMAN GLEIMAN: All right, the reason I asked 22 is the Postal Service had not responded to the motion to 23 compel but I assume your satisfaction with that response 24 renders that matter moot. 25 Next, tomorrow Witness Mayes is scheduled to give

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testimony. Parcel Shippers filed a motion to compel 1 2 discovery response addressed to Witness Mayes on October 3 and the response to that motion should have been filed on 3 October 10. Would you check, counsel, Ms. Duchek, could you 4 let us know what the status of that one is? 5 DUCHEK MS. REYNOLDS: Mr. Chairman, the Postal Service 6 7 contacted Mr. Mayes by phone, left a message which I understand was conveyed to him that the Postal Service would 8 9 be providing an institutional response to that interrogatory 10 and therefore would not be filing an opposition to the mayis motion to compel. I further told or relayed to Mr. Mayes'-11 secretary that we would attempt to get that response in as 12 13 quickly as possible, although I could not promise it by today or tomorrow for a variety of reasons, the foremost 14 15 being that the Postal Service building, this past weekend, was shut down. But we are working on that and hope to get 16 that in within the next few days. 17

18 CHAIRMAN GLEIMAN: I will consider the motion to 19 compel to still lie and await Mr. Mayes' indication that he 20 is satisfied with whatever response, institutional response, 21 you provide and if he does -- if he is satisfied, then we 22 will treat it as we have the motion on the issue that we 23 were just talking to Mr. Wells about.

Finally, occasionally answers to discovery requests have been filed late accompanied by motions for

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1 late acceptance. And I am not aware that we have received a response to Presiding Officer's Information Request Number 2 3, question 32, or Presiding Officer's Information Request 3 4 Number 4, questions 8-A and C and I would respectfully ask 5 that counsel check on the status of those and let us know tomorrow when we might be receiving answers or whether they 6 have been lost somewhere in the shuffle of myriads of paper 7 that have been flying around the past few weeks. 8 9 Ms. Reynolds, the ball is in your court. 10 MS. REYNOLDS: I just have a few brief items for 11 the witness. 12 REDIRECT EXAMINATION 13 BY MS. REYNOLDS: 14 Ms. Nieto, in your discussion with Mr. Bergin from Q 15 McGraw-Hill, you discussed an underutilization of space. Were you implying by agreeing to that term that the Postal 16 17 Service is not efficiently using its vehicle capacity? No, I was not. 18 Α 19 What did you mean by using that term? 0 20 Α I just meant less than 100 percent utilized. 21 0 All right, in your discussion with Mr. Wells from 22 the Florida Gift Fruit Shippers, you talked about the 23 selection of containers that go onto Postal Service trucks. Are you aware of mailers containerizing their own items? 24 25 Α Yes.

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1 Are you aware of circumstances where mailers 0 2 palletize? 3 А Yes. 4 And are you aware of circumstances where Q 5 mailer-prepared containers or pallets can find their way into TRACS-tested vehicles? 6 7 Α Yes. MS. REYNOLDS: Thank you. 8 9 I don't have anything further. 10 CHAIRMAN GLEIMAN: Did redirect generate any 11 recross? 12 Mr. Wells doesn't have any. I think he was 13 indicating he had no recross. 14 MR. WELLS: I have no recross. 15 CHAIRMAN GLEIMAN: Mr. Bergin? 16 MR. BERGIN: Just very briefly. 17 RECROSS EXAMINATION 18 BY MR. BERGIN: 19 Ms. Nieto, do you have any opinion one way or the 0 other whether the Postal Service is making efficient use of 20 21 its transportation capacity? 22 Α No, I'm not. 23 MR. BERGIN: Thank you. 24 CHAIRMAN GLEIMAN: Is there any followup to the 25 recross questions?

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1 [No response.] 2 CHAIRMAN GLEIMAN: No further questions? If that is the case, Ms. Nieto, I want to thank 3 you for your appearance here today and for your 4 contributions to our record. I know the first time you're 5 here is a little difficult and as I commented the other day 6 7 to one of your colleagues, fellow witnesses, likewise I think you did quite well. I am not sure, were I in the 8 witness chair, that I could maintain my composure the way 9 you did and the way the young lady did the other day. 10 Again, thank you. And if there is nothing 11 further, you're excused. 12 13 [Witness excused.] 14 CHAIRMAN GLEIMAN: Ms. Duchek, we're ready for the 15 next witness. MS. DUCHEK: The Postal Service calls Dr. Michael 16 Bradley as its next witness. 17 18 Whereupon, MICHAEL D. BRADLEY, 19 a witness, was called for examination by counsel for the 20 United States Postal Service and, having been first duly 21 sworn, was examined administration testified as follows: 22 DIRECT EXAMINATION 23 BY MS. DUCHEK: 24 0 Dr. Bradley, I'm handing you two copies of a 25

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1 document entitled Direct Testimony of Michael D. Bradley on 2 behalf of United States Postal Service, which has been designated as USPS-T-13. Are you familiar with that 3 document? 4 Δ I am. 5 6 0 Was it prepared by you or under your supervision? 7 Α It was. Does it contain revised tables 7 and 7A that were 8 0 9 filed with the Commission on October 10, 1997? 10 А It does. MS. DUCHEK: Mr. Chairman, I am going to hand 11 12 these two copies of the testimony to the reporter and ask that they be entered into evidence. 13 14 Also, for parties who did not receive the errata 15 dated -- which we filed on October 10, I have additional copies. 16 17 CHAIRMAN GLEIMAN: Are there any -- are there any objections? 18 19 [No response.] 20 CHAIRMAN GLEIMAN: Hearing none, Dr. Bradley's 21 testimony and exhibits are received into evidence and I 22 direct that they be accepted into evidence. As is our practice, they will not be transcribed into the record. 23 24 [Direct Testimony and Exhibits of 25 Michael D. Bradley, Exhibit No.

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USPS-T-13 was marked for 1 identification and received into 2 evidence.] 3 CHAIRMAN GLEIMAN: Dr. Bradley, have you had an 4 opportunity to examine the packet of designed written 5 cross-examination that was made available to you earlier 6 7 today? THE WITNESS: I have. 8 CHAIRMAN GLEIMAN: And if these questions were 9 10 asked of you today, would your answers be the same as those you previously provided in writing? 11 THE WITNESS: Yes, they would. 12 CHAIRMAN GLEIMAN: That being the case, I am going 13 14 to provide -- you have two copies with some corrections? MS. DUCHEK: Yes, I do, Chairman Gleiman, and I 15 just wanted to note I should give these two to the reporter. 16 Florida Gift Fruit Shippers number 1, there were 17 two page 2 and no page 3 included. We have taken out page 2 18 19 and substituted page 3. Also United Parcel Service number 29, page 1 of 20 the response was included in the packet but page 2 was not. 21 22 We have also added page 2 to the packets. 23 CHAIRMAN GLEIMAN: Once again, we thank you for your assistance. 24 25 If you would provide two copies of the designated

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| 1  | written cross-examination of Witness Bradley to the         |
|----|-------------------------------------------------------------|
| 2  | reporter, I will direct that they be accepted into evidence |
| 3  | and transcribed into the record at this point.              |
| 4  | [Designation of Written                                     |
| 5  | Cross-Examination of Michael D.                             |
| 6  | Bradley was received into evidence                          |
| 7  | and transcribed into the record.]                           |
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# BEFORE THE POSTAL RATE COMMISSION WASHINGTON, DC 20268-0001

# Postal Rate and Fee Changes, 1997

Docket No. R97-1

# DESIGNATION OF WRITTEN CROSS-EXAMINATION OF UNITED STATES POSTAL SERVICE WITNESS MICHAEL D. BRADLEY (USPS-T-13)

The parties listed below have designated answers to interrogatories directed to witness Bradley as written cross-examination.

Party

Answer To Interrogatories

| American Business Press                 | ABP\USPS:            | Interrogatories T13-1, 5, 8(a), 9, 10(a), 11-12, 14-17(a-b).                                                                                                               |  |
|-----------------------------------------|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|                                         | ABP\USPS:            | Interrogatory T34-10(c)<br>Response of USPS witness<br>Bradley to interrogatory redirected<br>from witness Taufique                                                        |  |
|                                         | FGFSA\USPS:          | Interrogatories T13-22-26, 40, 42-<br>43, 50.                                                                                                                              |  |
| •                                       | MPA\USPS:            | Interrogatories T13-1(a-c), 1(e-g),                                                                                                                                        |  |
|                                         | UPS\USPS:            | Interrogatories T13-5-9, 11-12, 15-<br>16, 19.                                                                                                                             |  |
| Florida Gift Fruit Shippers Association | FGFSA\USPS:          | Interrogatories T13-1-10, 12-16, 18-19, 21-34, 36, 40, 42-52, 54,                                                                                                          |  |
|                                         | FGFSA\U <b>SPS</b> : | Interrogatories T2-42-43 redirected from witness Nieto.                                                                                                                    |  |
| Office of the Consumer Advocate         | OCA\USPS:            | Interrogatories T13-1, 3-22, 23(a),<br>23(c-d), 24-28, 29(b), 30-36, 37(a),                                                                                                |  |
|                                         |                      | 37(b)(i)-(ii), 37(b)(xi)-(xv), 38.                                                                                                                                         |  |
|                                         | ADF\USFS.            | 10(a), 11-12, 14-16, 17(a-b).                                                                                                                                              |  |
|                                         | FGFSA\USPS:          | Interrogatories T13-1-10, 12-16-1,<br>18-19, 21-24, 25(a), 26-29, 30(b-c),<br>31-35, 36(a), 36(b), 37-39, 40, 42-<br>52, 54-56; T2-42-43 redirected<br>from witness Nieto. |  |
|                                         | MH\USPS:             | Interrogatories T13-1-3, T2-5(a) redirected from witness Nieto.                                                                                                            |  |

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MPA\USPS: Interrogatories T13-1-2. UPS\USPS: Interrogatories T13-1-34, 35(b).

Respectfully submitted,

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# Response of United States Postal Service Witness Bradley to Interrogatories of American Business Press (Redirected from Witness Taufique)

ABP/USPS-T34-10c. Confirm that HCSS contains a route length measure for each USPSpurchased highway contract, the annual cost of the contract, the annual miles traveled on the contract, the number of trucks on the contract and their cubic capacity and the highway cost account for the contract.

APB/USPS-T34-10c Response:

Generally confirmed, although as I indicate on page 15 my testimony, the data are

available at the more disaggregated level of the contract cost segment.

### Response of United States Postal Service Witness Bradley to Interrogatories of ABP

#### ABP/USPS-T13-1

- a. Do you re-confirm your testimony (TR2/423-516) in Docket MC93-1 (second class pallet discount) that there is a "distance taper" that applies to purchased transportation costs? If you do not confirm, please explain.
- b. Please define the term distance taper.
- c. If you still believe that there is a distance-taper that applies to second-class (periodical) purchased transportation costs, identify if, where and how it was recognized in this filing.

ABP/USPS-T13-1 Response:

- a. Although I expect that it is still valid, I have done no subsequent studies to "reconfirm" my testimony in Docket No. MC93-1.
- A distance taper typically refers to the decline in unit cost of transportation as distance increases, holding everything else constant within a single mode of transportation
- c. A distance taper is embodied in my econometric equations. Specifically, following the Commission's specification from Docket No. R87-1, I include distance as a separate variable to control for the possibility that cost per cubic foot-mile varies with distance. I have not reviewed the entire filing, so I cannot speak to other places the distance taper may or may not have been considered.

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# Response of United States Postal Service Witness Bradley to Interrogatories of ABP

ABP/USPS-T13-5 Is a highway trip between a BMC and an ADC classified for cost allocation as "inter-BMC" or "inter-SCF," or are other designations used?

#### ABP/USPS-T13-5

Route trips are not classified individually, contracts are. Consequently, a particular route trip could be included in different accounts depending on the account classification and nature of the transportation of the contract that pays for the route trip. Please see the response to FGFSA/USPS-T2-6, part c. for a discussion of the classification of route trips into accounts.

# Response of United States Postal Service Witness Bradley to Interrogatories of ABP

ABP/USPS-T13-8 On p. 8, line 7, you state: "Contracts continue to be bid in the same way; contracts still last for four years."

a. Describe, in your own words, the contracts bid procedure, and what criteria are used to select a contractor. Reference to a prior proceeding is not a responsive answer.

(Parts b. through g. have been redirected.)

ABP/USPS-T13-8 Response:

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a. As I understand it, the contracts bid procedure goes as follows. First, the Postal Service determines the specifications of the contract. This includes specifying the trip routing and mileage, the trip frequency, the Postal facilities served, the arrival times, and the vehicle requirements. Next, the contract is advertised and put out for bidding. The Postal Service then evaluates the bids and awards the contract. The contract is awarded to the lowest bidder who can reliably fulfill the contract requirements.

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## Response of United States Postal Service Witness Bradley to Interrogatories of ABP

ABP/USPS-T13-9 While you state that the increase use of surface transportation by Firstclass mail (p.9) is "simply and increase in volume and not a change in operating structure," if First-class mail has delivery requirements that require dispatch, and transportation and delivery in fewer days than other classes, is it possible that additional transportation capacity will be added to the surface highway network not because of added volume, but because of the scheduling of necessary (sic) to meet First-class service standards?

ABP/USPS-T13-9 Response:

It is possible, but it is my understanding that the current network structure embodies the requirement to meet service standards for all classes. Unless those service standards change, I would not envision a material change in the purchased highway transportation network for this reason.

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# Response of United States Postal Service Witness Bradley to Interrogatories of ABP

ABP/USPS-T13-10.

a. Did "the addition of more volume" to the existing network (p.9) in connection with First-Class mail since R87-1 cause the significant annual increases in highway contract accounts?

(Parts b. through d.) have been redirected.

ABP/USPS-T13-10 Response:

Addition of volume of all classes of mail would be a reason for increased costs in the

various highway accounts. None of the information that I use in my analysis is specific to

individual classes of mail, so I am unable to speculate whether increases in First-Class mail

caused significant increases in costs.

#### Response of United States Postal Service Witness Bradley to Interrogatories of ABP

ABP/USPS-T13-11 You state on p. 9 that dropshipping to "destination facilities" requires "less postal service transportation." By less do you mean

- a. fewer trucks?
- b. less total capacity in trucks <u>if</u> volumes of a dropshipped subclass remain constant and <u>if</u> added volumes are dropshipped to at least the same extent as the original volumes measured?
- c. lower overall purchased transportation costs for a subclass, part of which may be dropshipped?
- d. that the weight and density per piece of dropshipped volumes must remain constant for your statement to be true.
- e. that no USPS transportation is used for intra-SCF trips, assuming dropship to "destination facilities" means SCF and/or ADC facilities. If destination facilities mean only delivery stations or rural post offices, please so state.

#### ABP/USPS-T13-11 Response:

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3.-e. My understanding of dropshipping is as follows. Under dropshipping, mailers have the option of providing their own transportation of mail to the destination facility. In return, they receive a discount. To the extent mailers are carrying their mail to the destination facilities, the Postal Service does not have to. The Postal Service thus would have to contract for fewer cubic foot-miles of purchased transportation than it otherwise would. In sum, what I meant by "less Postal Service transportation" is fewer cubic foot-miles of Postal Service purchased transportation than would otherwise be needed. For my update and refinement of the Commission's Docket No. R87-1 purchased highway transportation variability analysis, I did not have to become familiar with the intricacies of dropshipping that you discuss in the interrogatory.

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# Response of United States Postal Service Witness Bradley to Interrogatories of ABP

# ABP/USPS-T13-12

- a. Identify "certain parts of the purchased highway transportation network" (p.9) hat you claim have been reduced by growth in dropshipping, and would be reduced by future increases in dropshipping. By "parts" do you mean facilities, cubic capacities, costs or all of the preceding.
- b. If dropshipping requires less Postal Service transportation, why is the "highway transportation network . . . basically the same as in 1986" (p. 8)?

# ABP/USPS-T13-12 Response:

a. First, please be clear that I did not claim that any parts of the purchased highway

transportation network were reduced by dropshipping. As I said on page 9, I was

concerned with the possiblity that such effects could take place:

When mailers dropship their mail at destination facilities, less Postal Service transportation is required. The growth in dropshipping thus holds the <u>potential</u> to reduce the size of certain parts of the purchased highway transportation network. (Emphasis added).

The "parts' I was referring to were the types of transportation as reflected by the

highway accounts, e.g., inter-BMC or Intra-SCF.

b. As I attempted to explain on p. 10 of my testimony, variations in the amount of cubic

foot-miles in the purchased transportation highway network do not, by themselves,

## Response of United States Postal Service Witness Bradley to Interrogatories of ABP

constitute changes in the structure of the network. In fact, the Commission's Docket

No. R87-1 analysis of the network was designed to measure the response in cost

to changes in cubic foot-miles in that network. That is why I stated on page 10:

However, unless the effects of dropshipping are severe, they can be handled within the Commission's framework. The effect of dropshipping is to limit growth in those parts of the network that are subject to diversions. That is, dropshipping will retard the growth in the amount of mail transported by the Postal Service network in those areas in which private sector transportation is used.

In other words, if growth in cubic foot-miles of transportation would have been X%

without dropshipping, I would expect that growth to be somewhat less than X% with

dropshipping.

# Page 1 of 1

# Response of United States Postal Service Witness Bradley to Interrogatories of ABP

ABP/USPS-T13-14. On p. 10, in referring to dropshipping, are you referring to third-class (standard), second-class mail (periodical), to other subclasses, or all of the preceding types of mail?

ABP/USPS-T13-14 Response:

On page 10, I was making no reference to any specific classes of mail. I was referring to

mail in general.

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# Response of United States Postal Service Witness Bradley to Interrogatories of ABP

# ABP/USPS-T13-15

- a. To use your phrase ("radical realignment), has there been "any radical realignment" (p.9) of the highway network since 1990?
- b. Plant load costs were 3.9% of accrued highway transportation costs in 1990, and 2.4% in 1995. Is this a major or minor change?
- c. Have there been major or minor changes between 1990-1995 to the inter-SCF and Inter-BMC accounts, which together represented 39.4% of accrued highway costs in 1990, and 36.5% in 1995, based on the table on p. 11 of your testimony?
- d. The same table on p. 11 shows intra-SCF mail as 41.4% of accrued cost in 1990, and 42.7% of accrued cost in 1995. Is this a major or minor change? Is the average cost per cubic-foot-mile higher for the intra-SCF account than for (1) the inter-SCF account and (2) the inter-BMC accounts?

ABP/USPS-T13-15 Response:

- a. Not to my knowledge.
- b. In the context of the discussion in my testimony, which was to determine if the Commission's Docket No. R87-1 model of the variability of purchased highway transportation costs was an appropriate point for starting my update and refinement, I would consider them minor. I make no claim about the general applicability of the terms "major" or "minor."
#### Response of United States Postal Service Witness Bradley to Interrogatories of ABP

c. The proportion of accrued cost in the inter-SCF account went from 21.7% in 1990 to 20.9% in 1995. The proportion of accrued cost in the inter-BMC account went from 17.7% in 1990 to 15.6% in 1995. In the context of the discussion in my testimony, which was to determine if the Commission's Docket No. R87-1 model of the variability of purchased highway transportation costs was an appropriate point for starting my update and refinement, I would consider them minor. I make no claim about the general applicability of the terms "major" or "minor."

In the context of the discussion in my testimony, which was to determine if the Commission's Docket No. R87-1 model of the variability of purchased highway transportation costs was an appropriate point for starting my update and refinement, I would consider them minor. I make no claim about the general applicability of the terms "major" or "minor."

The average cost per cubic foot-mile is higher in the intra-SCF account than in the inter-SCF account. The average cost per cubic foot-mile is higher in the intra-SCF account than in the inter-BMC account.

#### Response of United States Postal Service Witness Bradley to Interrogatories of ABP

APB/USPS-T13-16 On p. 33 you state that plant-load contracts typically require tractor trailers. You also state that the estimated varaibility for plant-loads is 88%, which "is quite similar to other tractor trailer types of transportation."

- a. Are there data that show the average length of haul of a plant load trip? If so, pleas provide the data and explain how the data were obtained.
- b. If your answer to a. is no, please compare other highway cost accounts with plant load trips and select which account (e.g. inter-SCF) you believe is most comparable in cost per cubic-foot-mile and/or distance to plant loads.

# APB/USPS-T13-16 Response:

A measure of average length of a plant load route trip is given by the average value for the route length variable in my data set extracted from HCSS. For a discussion of how the route length variable is constructed, please see my Workpaper WP-1 at page 4. As shown on page 117 of Workpaper WP-7, the average value for the route length variable is 274.43 miles.

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b. Not applicable.

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Response of United States Postal Service Witness Bradley to Interrogatories of ABP

#### ABP/USPS-T13-17

a. Please explain and elaborate upon your statement on p. 37 as follows:

Not surprisingly the cost per cubic foot-mile is also much smaller for the tractor trailer contract cost segments in both accounts.

b. Confirm and explain why the cost per CFM for <u>inter</u>-SCF <u>trailers</u> is \$903 per CFM less than <u>intra</u>-SCF vans and \$683 per CFM less than inter-SCF <u>vans</u>.

(Parts c. and d. have been redirected)

ABP/USPS-T13-17 Response:

a. My previous experience with Postal Service purchased highway transportation data had shown that the cost per cubic foot-mile for tractor trailer transportation tended to be lower than the cost per cubic foot-mile for straight body (van) transportation. Thus, when I compared the cost per cubic foot-mile for straight body transportation in the intra-SCF account with the cost per cubic foot-mile for tractor trailer transportation in the intra-SCF, account I was not surprised to find that the cost per cubic foot-mile for straight body transportation. Similarly, when I compared the cost per cubic foot-mile for tractor trailer transportation in the intra-SCF, account I was not surprised to find that the cost per cubic foot-mile was lower for the tractor trailer transportation in the inter-SCF, account with the cost per cubic foot-mile for tractor trailer transportation in the inter-SCF, account I was not surprised to find that the cost per cubic foot-mile with the cost per cubic foot-mile for tractor trailer transportation in the inter-SCF, account I was not surprised to find that the cost per cubic foot-mile for tractor trailer transportation in the inter-SCF, account I was not surprised to find that the cost per cubic foot-mile was lower for the tractor trailer transportation in the inter-SCF, account I was not surprised to find that the cost per cubic foot-mile was lower for the tractor trailer transportation in the inter-SCF, account I was not surprised to find that the cost per cubic foot-mile was lower for the tractor trailer transportation.

#### Response of United States Postal Service Witness Bradley to Interrogatories of ABP

b. For convenience, I reproduce Table 10 (page 38) from my testimony below. This table shows, among other things, the cost per (million) cubic foot-miles across the types of transportation.

| Table 10           Differences Within Account by Truck Type |                   |                       |                   |                       |  |  |
|-------------------------------------------------------------|-------------------|-----------------------|-------------------|-----------------------|--|--|
|                                                             | Intra-SCF<br>Vans | Intra-SCF<br>Trailers | Inter-SCF<br>Vans | Inter-SCF<br>Trailers |  |  |
| # of Obs                                                    | 5,464             | 570                   | 997               | 683                   |  |  |
| Avg. Cost                                                   | \$56,875          | \$168,612             | \$81,871          | \$311,388             |  |  |
| Avg. CFM                                                    | 43.1              | 291.4                 | 74.4              | 746.5                 |  |  |
| Avg. RL                                                     | 49.1              | 60.0                  | 94.3              | 221.9                 |  |  |
| Cost Per<br>CFM                                             | \$1,320           | \$579                 | \$1,100           | \$417                 |  |  |

I confirm your calculations. The reason that the cost per cubic foot-mile is lowest for inter-SCF trailers is due to economies of scale in postal transportation. As Table 10 shows, the inter-SCF tractor trailer contract cost segments are by far the largest of the four in terms of average cubic foot-miles per contract cost segment.

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# Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

FGFSA/USPS-T-13-1 Please refer to LR-H-82 and describe how the data contained in HCSS (discussed in your testimony at page 12) relate to the data in the file used to develop the sample frames for the four TRACS highway transportation accounts in TRACS.DESIGN(HWY1).

- a. Are the contracts in the HCSS and the routes served by those contracts (as indicated by HCRID) identical to the routes used to create the TRACS sample design in the program TRACS.DESIGN(HWY1)? If not, please give a full description of all differences and explain why they differ.
- b. Is the highway cost account for each contract in HCSS identical to the information which identifies routes in TRACS.DESIGN.(HWY1)? If not, please explain all differences and why they differ.

#### FGFSA/USPS-T-13-1 Response:

a. Neither the research required for calculating volume variabilities nor the preparation of my testimony required me to be familiar with Library Reference LR-H-82 or the TRACS highway transportation sample frames. The development of volume variabilities for purchased highway transportation does not require TRACS data. As a general matter, however, I would expect the highway routes covered by HCSS and by the TRACS sampling frame to be broadly consistent. Both are designed to take a look, from different angles, at the purchased highway transportation network. It is my understanding that the TRACS sample frame is taken from NASS, which is a transportation planning system. HCSS is a new system of contract management and, as you know, TRACS predates HCSS. Thus, the TRACS sample frame does not depend upon the information contained in HCSS.

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Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

As I indicate on page 18 my testimony, HCSS does not contain route information, it contains contract information. A given contract, as indicated by an HCRID, may contain several routes. Because there is no route information in HCSS, there is no way to compare its route information to any route information in TRACS.

b. I understand that the highway cost accounts and the rules for assigning an individual contract's cost to a particular cost account are the same for HCSS and NASS. I am not familiar with the assignment of individual contracts to cost accounts in the TRACS system, but I am told that such information exists in the TRACS documentation. As indicated in my workpapers, the HCSS contract cost segments are assigned to cost account groups by the following classification of account numbers:<sup>1</sup>

 COST ACCOUNT GROUPING
 ACCOUNT NUMBERS

 Intra-SCF
 53121, 53123

 Inter-SCF
 53124, 53126

 Intra-BMC
 53127, 53129

 Inter-BMC
 53131, 53133

 Plant Load
 53134, 53135

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<sup>&</sup>lt;sup>1</sup><u>See</u> Workpaper WP-4 of Michael D. Bradley to Accompany Docket No. MC97-2 USPS-T-4 "Estimation of Plant-Load Econometric Equation and Variability," at 10 and Workpaper WP-3 of Michael D. Bradley to Accompany Docket No. MC97-2 USPS-T-4, "Re-Estimation of Commission R87-1 Purchased Highway Transportation Models," at 10, 44, 60, and 77.

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# Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

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This list shows that HCSS includes both "regular" contracts with account numbers like 53121 and 53124, and "emergency" contracts with account numbers like 53123 and 53126. It is my understanding that NASS, and thus TRACS, does not include emergency contracts. On this basis alone, I would expect the cost accounts comprising a particular cost account grouping to be different in HCSS than in TRACS. This is not new. The current purchased highway transportation variabilities (estimated by the Commission in Docket No. R87-1) are based upon both regular and emergency contracts, although the TRACS distribution key is not based upon emergency contracts.

Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

FGFSA/USPS-T-13-2 In your testimony, page 19, Table 3, it is noted that some contracts specify multiple vehicle capacities.

- a. Are different capacity vehicles used on the same route on different days? If so, does the difference in capacity relate to the volume of mail?
- b. Are vehicles of different capacities regularly used on different segments on the same route?
- b. Tor (sic) those contract cost segments with multiple vehicle capacities (Table 3) does the ability to use different size vehicles increase the variability of purchased transportation costs?

FGFSA/USPS-T-13-2 Response:

As indicated in my testimony, the incidence of contract cost segments with multiple vehicle

sizes is very small (e.g., in Intra-SCF there are 183 contract cost segments with multiple

vehicle sizes out of a total of 13, 323 contract cost segments). Thus, I would be hesitant

to draw broad conclusions based upon such a small portion of the contract cost segments.

a. A route, or route trip, is defined by its highway routing and its frequency. As a general matter, a given route trip will have a single capacity vehicle. The few contract cost segments that have multiple sized vehicles will have several route trips, each with its own vehicle capacity.

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Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

- b. No, different capacity trucks are not regularly used on different segments (or links) on the same route trip.
- c. In general, contracts can specify different sized vehicles in response to increases in volume. The ability to used different sized vehicles in response to volumes would lead to a lower, not higher, volume variability. In this regard, contract cost segments with multiple sized vehicles are no different from contract cost segments with single sized vehicles.

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Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

FGFSA/USPS-T-13-3

Please confirm that, in HCSS, the data for route length is actual highway miles, rather than great circle distance miles, and that you use highway miles in your analysis.

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FGFSA/USPS-T-13-3 Response:

Confirmed.

#### Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

FGFSA/USPS-T-13-4. At page 49 of your testimony you recommend that the commission (sic) use the variebilities (sic) calculated on the data set with the unusual observations removed.

- a. Are these variabilities shown in Table 15?
- b. If the Commission were to adopt your recommendation, would you also recommend that the TRACS system develop separate samples for Intra\SCF Vans and Trailers, and for Inter-SCF vans and Trailers, thereby reflecting the separate variabilities shown in your Table 15?

FGFSA/USPS-T-13-4 Response:

- a. Yes.
- b. The development of additional detail in a sampling system is justified only if the benefit of any additional accuracy overcomes the additional sampling cost. I am not sufficiently familiar with the costs of sampling in the TRACS system to make any such recommendation. I would note however, that such disaggregation would only be relevant if the Postal Service has separate accrued costs at a level more detailed than the cost account. Because these further breakdowns in accrued costs do not exist, the Postal Service currently applies a weighted variability at the cost account grouping level. As presented in Exhibit USPS-13B to my testimony, the separate Inter-SCF Van and Trailer variabilities are combined, for example, to calculate the overall variability for the Inter-SCF cost pool.

#### Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

FGFSA/USPS-T-13-5 Please provide the total number of contracts in force which are included in your analysis, with a breakdown between Inter SCF, Intra BMC and Inter BMC. Confirm that these contract [sic] were in force in August, 1995, or, if you do not confirm, explain the period of time which the contracts were in force.

FGFSA/USPS-T-13-5 Response:

The total number of contracts included in my analysis is 14,781. The breakdown of these contracts by account type is given below:

| INTRA-SCF  | 11,963 |
|------------|--------|
| INTER-SCF  | 1,844  |
| INTRA-BMC  | 348    |
| INTER-BMC  | 179    |
| PLANT LOAD | 447    |
|            |        |

Please note that the number of contracts in my analysis is smaller than the number of observations in my HCSS data extract for two reasons. First, some contracts in the HCSS extract are for things like domestic inland water transportation that are not included in my analysis. Second, some contracts have multiple cost segments causing the number of observations to exceed the number of contracts.

It is my understanding that these contracts were in force in August 1995.

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Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

FGFSA/USPS-T-13-6. Provide a copy of the BASIS (sic) SURFACE TRANSPORTATION SERVICES CONTRACT GENERAL PROVISIONS in use during August, 1995. See the form provided in Docket No. R80-1, TR 17,870.

FGFSA/USPS-T-13-6 Response:

The Basic Surface Transportation Service Contract - General Provisions (PS Form 7407),

with amendments, has been provided in my response to [Docket No. MC97-2] OCA/USPS-

T4-9. Please see that interrogatory response for the document.

Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

FGFSA/USPS-T-13-7 When each contract is being negotiated or renegotiated:

- a. How is the capacity being purchased related to the needed capacity for each Contract Route?
- b. What projections of volume is used to ascertain the capacity to be purchased?
- c. Is there any analysis made of actual capacity utilized by the day and week?
- d. Is the capacity purchased for each Contract Route based on estimates of average volumes to be carried each day of a normal week?
- e. What period(s) are used for the preparation of estimates of average capacity utilization on each Contract Route?

#### FGFSA/USPS-T-13-7 Response:

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a.-e. When a contract is about to be bid, transportation requirements personnel contact the relevant administrative officials to a make a determination of the need for a change in capacity. In the case of rebidding an existing contract, the historical experience with the contract is used and based upon that experience a determination is made whether the requirements need to be adjusted. In the case of new service, there is a "forecast" required, but this forecast is developed informally and on a case-by-case basis. In other words, the formation of the "forecast" differs by the situation in each case and there is a not a standard formula for determination of transportation capacity. In addition, there are a variety of possible responses to changing or specifying capacity. Additional capacity can be

Response of United States Postal Service Witness Bradley to

Interrogatories of Florida Gift Fruit Shippers Association

added not only by a larger truck but also by adding trucks, reconfiguring routes,

or increasing the frequency with which trips are made.

Also, it is important to recognize that the transportation network is not rigid and can

be adjusted easily as volume changes. As the Commission stated:1

The record supports witness Mandrot's conclusion that very little time elapses between the Postal Service's recognition of a volume change and taking appropriate action.

Page 2 of 2

See PRC Op., R84-1, at p. 233.

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# Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

FGFSA/USPS-T-13-8 Describe the investigation made to determine the capacity being purchased, as related to actual or anticipated volume of mail for the Contract Route over a period of time.

FGFSA/USPS-T-13-8 Response:

The total capacity required on a contract is specified on a local basis to ensure that service standard commitments can be made. Transportation specialists will confer with mail processing experts to determine the capacity of transportation required. The Postal Service does not contract on the basis of amount of mail hauled. Rather, the Postal Service contracts for an entire truck and makes payment on that basis.

# Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

FGFSA/USPS-T-13-9 How does the capacity purchased for each Contract Route respond to changes in the volume of mail actually transported over the Contract Route?

FGFSA/USPS-T-13-9 Response:

As the volume on a contract route rises on a sustained basis, the capacity on that route rises. Depending on the type of transportation, the additional capacity can be added through a variety of changes. It can be added, for example, by specifying a bigger truck, adding additional route trips, increasing the frequency of existing route trips, or adding additional trucks.

# Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

FGFSA/USPS-T-13-10 How is the underutilization of purchased capacity taken into account at the time of negotiation for replacement contracts?

FGFSA/USPS-T-13-10 Response:

The Postal Service attempts to acquire sufficient transportation capacity to ensure it meets its service requirements. At the same time, it attempts to minimize the cost of acquiring that transportation, given its requirements. If a smaller amount of capacity would permit a material cost saving and would still allow the Postal Service to meet its requirements, then a smaller amount of capacity would be specified in a contract.

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Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

FGFSA/USPS-T-13-12 In the contracting process, what volume projections are used to ascertain how much capacity should be purchased for each Contract Route?

FGFSA/USPS-T-13-12 Response:

Please see my responses to FGFSA/USPS-T-13-7 and FGFSA/USPS-T-13-8 for a

description of the capacity specification process.

Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

FGFSA/USPS-T-13-13 Describe the investigation made to determine the behavior of capacity purchased as related to actual and projected volume of mail over a period of time.

FGFSA/USPS-T-13-13 Response:

Please see my responses to FGFSA/USPS-T-13-7 and FGFSA/USPS-T-13-8 for a

description of the capacity specification process.

# Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

FGFSA/USPS-T-13-14. What effect do changes in volume have on unused capacity of purchased transportation?

FGFSA/USPS-T-13-14 Response:

A temporary or one-time increase in volume, if it comes at the right time, could cause a temporary or one-time decrease in unused capacity. A sustained increase in volume would be likely to cause a sustained increase in unused capacity. For a discussion of the effect of volume on unused capacity please see PRC, Op., R80-1, at paragraph 0412 and PRC Op., R84-1, at paragraph 3289.

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FGFSA/USPS-T-13-15 Describe how the capacity being purchased is a function of estimates of mail volumes.

FGFSA/USPS-T-13-15 Response:

Please see my responses to FGFSA/USPS-T-13-7 and FGFSA/USPS-T-13-8 for a description of the capacity specification process. As a general matter, the more mail that must be transported, the larger the capacity that is required.

# Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

FGFSA/USPS-T-13-16. Your testimony is that the "general nature of the highway transportation network is basicly (sic) the same as in 1986" (p.7, I.22) You also state that "approximately the same number of contracts is in force" and that operational changes "have not had a major impact on the purchased transportation network". Please describe the "changes in network capacity" as those words are used in your footnote 6 on page 8 of your testimony.

FGFSA/USPS-T-13-16 Response:

My footnote 6 states:

This is not to say that the same amount of mail was transported over the purchased highway transportation network in 1996 as in 1986. All else being equal, as mail volume grows, so does the capacity of the highway network. The Commission's Docket No. R87-1 analysis was designed to capture the cost response to changes in network capacity. Thus, it is an appropriate framework for investigating the effects of capacity growth.

In this footnote, the term "changes in network capacity " refers to changes in cubic foot-

mīles.

Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

FGFSA/USPS-T-13-18. Was your analysis designed "to measure the impact of volumes on cost"? If so,

(a) What mail volumes did you take into account?

(b) How are mail volumes taken into account in your analysis?

FGFSA/USPS-T-13-18 Response:

As stated on page 2 of my testimony:

The purpose of my testimony is to update and refine the analysis of purchased highway transportation done by the Postal Rate Commission ("the Commission"). The Commission performed its analysis in Docket No. R87-1 and both the Commission and the Postal Service currently use it in calculating volume-variable purchased highway costs.

My testimony is *part* of the analysis that measures the volume variable purchased transportation cost of classes and subclasses of mail and special services. In this way it contributes to the measurement of the impact of cost. The analysis used by the Commission and the Postal Service to measure the volume variable purchased transportation cost is an application of the "volume variability/distribution key" method. I described this method, and its application to purchased highway transportation costs in my

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Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

Docket No. R94-1 testimony:1

In the CRA approach to determining attributable cost-perpiece, intermediate variables, known as *cost drivers* are often used to measure the relationship between volume and cost.<sup>2</sup> In these circumstances, increases in volume cause increases in the Postal Service's need for the cost driver. For example, in purchased highway transportation, increases in volume induce increases in cubic foot-miles of transportation. As the amount of the driver is increased, cost rises and attributable cost per piece is found by measuring both the cost/driver relationship and the driver/volume relationship. In purchased highway transportation, the former is estimated through econometric equations and the latter is found through TRACS sampling.[Footnote in original.]

My analysis in this case is concerned with measuring the cost/driver relationship through

estimating the response in cost to changes in the cost driver, cubic foot-miles of

transportation.

a. & b. My part of the analysis does not explicitly deal with mail volumes. That is done in

the distribution step using TRACS information.

<sup>&</sup>lt;sup>1</sup> <u>See</u> "Testimony of Michael D. Bradley on Behalf of United States Postal Service," USPS-T-5 Docket No. R94-1, at page 20.

<sup>&</sup>lt;sup>2</sup> <u>See</u> Michael D. Bradley, Jeffrey L. Colvin and Marc A. Smith, "Measuring Product Costs for Ratemaking," in <u>Regulation and the Nature of Postal and Delivery</u> <u>Services</u>, Michael A. Crew and Paul Kleindorfer, eds., Kluwer, Boston: 1993, pp 133-157.

# Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

FGFSA/USPS-T-13-19 .Do the cubic foot miles which you use in your analysis represent the calculated capacity of all purchased transportation contracts? How are the cubic foot miles determined by you related to mail actually transported under the contracts?

FGFSA/USPS-T-13-19:

The cubic foot-miles in my analysis represent the calculated capacity of the purchased highway transportation network. The cubic foot-miles in my analysis are directly related to mail volume. A sustained increase in mail volume will cause cubic foot-miles to increase, and a sustained decrease in mail volume will cause cubic foot-miles to decrease. The relationship between cubic foot-miles and volume has been eloquently described by

the Commission:<sup>1</sup>

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The Postal Service does not have information on the values of mail carried in the individual contracts. Therefore, a proxy for volume is needed. The Postal Service uses cubic foot-miles because information can be obtained and is closely tied to volume of mail. The parties addressing this question agree that cubic foot-miles is a reasonable proxy. <u>See e.g.</u> Tr. 34/17, 767; Tr. 24/11,891. We conclude that cubic foot-miles is an appropriate proxy for analysis.

See PRC Op., R84-1, at 240.

### Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

FGFSA/USPS-T-13-21 On page 21 of your testimony you state that the HCSS data are suitable "for estimating the variability of purchased transportation costs". Please explain to what the "variability" relates. If "variability" relates to mail volume, provide the mail volumes which you took into account.

FGFSA/USPS-T-13-21 Response:

In that section of my testimony I am comparing the HCSS data extract with the data set

used by the Commission in Docket No. R87-1:

The data used by the Commission in Docket No. R87-1 were carefully scrutinized and judged to be valid. As the Commission stated:<sup>1</sup>

All parties agree that the data presented by the Postal Service in this case are suitable for estimating the variability of purchased transportation costs.

The HCSS data set is similar in form and more extensive than the data set used in Docket No. R87-1. The HCSS data set essentially represents the population from which the Docket No. R87-1 data were drawn. If estimation of the Commission's model on the HCSS data set provides generally similar results, then it stands to reason that the HCSS data set is also suitable for estimating the variability of purchased transportation costs. [Footnote in original].

The variability that I am referring to and that the Commission was referring to in its

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See PRC Op., R87-1, App. J, CS XIV, at 4.

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Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

Recommended Decision is the variability of cost with respect to cubic foot-miles. As explained in detail in my answers to FGFSA/USPS-T-13-18 and FGFSA/USPS-T-13-19, the use of cubic foot-miles as the cost driver for purchased highway transportation is well established.

# Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

FGFSA/USPS-T-13-22 Explain "exceptional" and "emergency" contracts and the differences between these terms.

FGFSA/USPS-T-13-22 Response:

These terms are explained on pages 21 and 22 of my testimony:

Emergency contracts are temporary in the sense that they can last from one day up to sixty days. However, the Postal Service can extend them up to 1 year. Emergency contracts are just like regular contracts in all other respects. In fact, an emergency contract is sometimes used as a quick replacement for a regular contract and takes on all of the specifications of a regular contract.<sup>1</sup> [Footnote in original.]

The term "emergency" in "emergency" contracts refers more to the nature of the contracting process than the nature of the transportation. The term "exceptional" contract

is used to describe contracts let to cover transportation emergencies.

<sup>&</sup>lt;sup>1</sup> The term "exceptional" is used for contracts that cover what is typically thought of as emergency service (a truck breaks down, a truck driver is ill, etc.). The costs for these contracts are in another account and are not included in this analysis. The variability for these costs is assumed to be one hundred percent. This treatment is identical to how both the Postal Service and the Commission treated these contracts in Docket No. R87-1.

# Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

FGFSA/USPS-T-13-23 Explain why the variability of the cost of exceptional contracts is "assumed to be one hundred percent". (p.22, fn.12) When these contracts replace a break down of equipment or driver illness, is the cost of the basic contract reduced? Is the cost of exceptional contracts "attributable"? If so, to what mail is the cost attributed?

FGFSA/USPS-T-13-23 Response:

The assumption of 100 percent variability is made because the cost for exceptional contracts is small and they are thus handled on a "terms of incurrence" approach.

Yes, If a contractor fails to perform service, the Postal Service reduces the payment to the contractor.

If the volume variability of exceptional service is 100 percent, then these costs, in their entirety, are distributed to products. The cost for any exceptional service is distributed to the classes of mail in the underlying account grouping. For example, the cost for intra-SCF exceptional service is distributed to the classes of mail that generate intra-SCF regular service.

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#### Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

FGFSA/USPS-T-13-24 In your Table 2 (page 17), 13.67% of Inter SCF observations were for emergency, 3.7% of Intra BMC observations were for emergency and 7.6% of Inter BMC observations were for emergency. Explain the reason for this wide difference in the emergency contracts.

FGFSA/USPS-T-13-24 Response:

I get lower percentages. I believe that you calculated emergency observations as a percentage of regular observations rather than as a percentage of total observations.

|           | Regular | Emergency | Total  | % Ernergency |
|-----------|---------|-----------|--------|--------------|
| INTRA-SCF | 11,678  | 645       | 12,323 | 5.2%         |
| INTER-SCF | 1,725   | 227       | 1,952  | 11.6%        |
| INTRA-BMC | 351     | 13        | 364    | 3.6%         |
| INTER-BMC | 171     | 13        | 184    | 7.1%         |

While beauty is always in the eye of the beholder, I don't see these differences as "wide." I would expect there to be differences across accounts as there is a differential need for replacing existing contracts or specifying new contracts. Some parts of the transportation network, like inter-SCF may be the areas in which new service is most often needed. Other factors such as the stability of existing contractors will vary over different parts of the network.

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#### Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

FGFSA/USPS-T13-25. Where there is an imbalance between the out-bound mail volume and the in-bound mail volume, a portion of the capacity on the in-bound, or backhaul, movement will be empty. Do you believe that an empty backhaul is merely a part of the cost of the out-bound haul?

(a) Do you believe that, if the out-bound haul varies with volume, that the backhaul similarly varies with volume and is attributable to the same volume changes that caused the changes in the costs of the out-bound haul? Please explain your answer.

(b) Has there been a change in the volume of mail for the in-bound haul (that is, for Intra BMC transportation, the haul to the BMC) due to the changes in the pattern of mail entry points to take advantage of destination entry discounts? If so, quantify the change.

FGFSA/USPS-T13-25 Response:

The question seems to presume that the Postal Service is required to contract for point-to-

point round-trip transportation. That is not so. The Postal Service is free to contract for one-way transportation and can specify route/trips that are circular in nature. In fact, the concept of inbound and outbound transportation is only loosely defined in the postal transportation network.

Consider an intra-SCF contract that both starts and ends at the SCF. Suppose that it visits eight associate offices along its route. At what point does the route/trip become inbound? The truck may well both drop off and pick up mail at the first facility as well as at the last facility. Alternatively, suppose that the sixth associate office is the largest recipient of mail.

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# Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

In the question, the "backhaul" would presumably begin after the truck visited this facility and started to "return" to the SCF. Yet, the first associate office could be the largest recipient of mail. Does this mean that the "backhaul" starts after the first associate office? Finally, the phenomenon known as "tailgating" in which the back part of the truck is used to transport mail among the intermediate facilities on a given route trip further clouds the definition of inbound and outbound volume. For the postal transportation network, I view the cost of a contract being jointly determined by the cost of serving all of the legs on all of the route/trips on the contract.

- a. The cubic foot-mile capacity set on a contract reflects the joint requirements of moving mail over the postal network and that the total contract cost should not be allocated to any individual leg on the contract. In other words, the cost of transportation on a contract varies with changes in the *total* cubic foot-miles specified in the contract and is not directly allocable to any specific leg. Moreover, contract specifications are set by the Postal Service in its attempt to minimize highway transportation costs subject to reliably meeting service standards.
- b. This part of the interrogatory has been redirected.

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# Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

FGFSA/USPS-T13-26. Do you agree that over time the Postal Service can change the size (capacity) of trucks to accord with the underlying secular changes in the volume of mail on particular routes?

FGFSA/USPS-T13-26 Response:

If the term "secular changes in the volume of mail" refers to sustained changes in volume, then I agree that, within limits imposed by physical restrictions like dock size, the Postal Service can vary the cubic capacity of trucks specified on a contract. I would note that an increase in the cubic capacity of the truck is just one way that the Postal Service can expand capacity. It can, for example, add trucks, increase the number of route/trips, increase the frequency with which trips are made or reconfigure the routes.

Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

FGFSA/USPS-T13-27. As a hypothetical, assume that on a particular Intra-BMC route the volume of mail **outbound** from the BMC greatly exceeds the volume **inbound** to the BMC on a regular basis, including peak days.

- a. Do you agree that the volume of outbound mail determines the appropriate size (capacity) of the truck for that route? Explain fully any disagreement.
- b. If the volume of outbound mail exhibits secular growth, do you concur that the size of the truck could be expanded, up to the maximum size van, to accommodate that growth in volume. Explain fully any disagreement.
- c. Assume than on a particular Intra-BMC route the Postal Service has in fact increased the capacity of the truck to accommodate an expanded volume of mail **outbound** from the BMC. Do you agree that the Postal Service can not dispatch a large truck to carry the **outbound** volume, but have a much smaller vehicle return to the BMC with the much smaller volume of **inbound** mail? Explain fully any disagreement.
- d. In your opinion, is the substantial excess capacity on the **inbound** trip to the BMC caused more by the small volume on the **inbound** trip, or is the excess capacity more causally related to the large **outbound** volume? Please explain fully.

# FGFSA/USPS-T13-27 Response:

a. The volume of outbound mail certainly helps to determine the capacity of the truck, but it is not the only determinant. Other factors like the size of docks,

the need for tailgating, or the distance between facilities go into determining

how a given amount of cubic foot-miles of transportation is configured.

b. An increase in the size of the truck is one way that an increase in transported volume can cause an increase in cubic foot-miles. Other ways include

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Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

adding additional route trips, increasing the frequency of existing route trips, reconfiguring routes or adding additional trucks.

- c. No. The Postal Service can specify its transportation network in any way it wishes subject to physical and legal restrictions. If it were cheaper to contract for a one-way trip outbound with a large truck and a one-way trip inbound with a small truck, then the Postal Service is free to do so.
- d. Because capacity is jointly determined by a variety of factors, causality is jointly shared by those factors. The large volume of outbound mail might lead to a larger truck, but it might not. For example, an increase in outbound volume could lead to the reconfiguration of the route with more trips and smaller trucks.

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Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

FGFSA/USPS-T13-28. Do you agree that at any particular point in time, the amount of capacity in a particular route is fixed? If so, please explain.

FGFSA/USPS-T13-28 Response:

Capacity on a route cannot be fixed at a point in time, because capacity on a route is not a "stock variable" that can be measured at a point in time. In reality, capacity on a route is measured by cubic foot-miles and it is a "flow variable" that can only be measured relative to time.<sup>1</sup> Cubic foot-miles is a measure of moving capacity and is calculated by multiplying cubic feet and the miles traveled over a period of time. This makes it a flow variable that can only be measured relative to a unit of time. For example, the contracts in my analysis specify the cubic foot-miles per year provided by each contract.

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<sup>&</sup>lt;sup>1</sup>See, for example, Roger A. Arnold, <u>Macroeconomics</u>, 3<sup>rd</sup> ed., West Publishing Co., Minneapolis/St. Paul, 1996 at page 113: "A flow variable is a variable that can only be meaningfully measured over a period of time.... A stock variable is a variable that can be meaningfully measured at a moment in time."

Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

FGFSA/USPS-T13-29. In Docket No. R80-1, the Postal Service stated that the amount of capacity purchased for a given route is matched to the expected average weekly peakday volume on that route.

- a. Is it your understanding that capacity purchased on a highway route is still matched to the expected average weekly peak-day volume? Explain fully any negative answer.
- b. Consider an Intra-BMC roue (sic) that consists of a round-trip, the first portion being outbound from the BMC and the return portion being inbound to the BMC. For purposes of purchasing capacity, would the peak-day volume consist of (i) the heaviest daily volume in both directions combined, or (ii) the heaviest daily volume in one direction only? Please explain your answer.

FGFSA/USPS-T13-29 Response:

a. Please see my responses to FGFSA/USPS-T-13-7 and FGFSA/USPS-T-13-8 for

a description of the current capacity specification process. As those answers

indicate, it is my understanding that a variety of factors are used in determining the

capacity specified on a particular contract. Moreover, even in Docket R80-1, the

Postal Service testimony was that sizing for the peak was only one of a variety of

factors that determined capacity:1

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Testimony has been offered that is critical of the practice of purchasing enough capacity on a weekly basis to cover the average weekly peak volume on particular routes. Actually, this statement of the practice is fairly simplistic, since any particular route may exhibit a wide variety of volumetric patterns on different days of the week.

<sup>&</sup>lt;sup>1</sup> <u>See</u>, Rebuttal Testimony of James Orlando on Behalf of the United States Postal Service, USPS-RT-6, Docket No. R80-1 at page 33.

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Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

 b. I do not believe that there is an established definition of peak day volume in the Postal Service purchased highway contracting process.

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Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

FGFSA/USPS-T13-30. In Docket No. R80-1, the Postal Service said that excess capacity is caused by a complex set of factors, including irregularity of demand, inflexibilities in the supply of transportation and intermediate stops on routes. (USPS-T-6, pp. 17-18, cited at ¶ 0408 in the Op. & RD.)

- a. To your knowledge, does the Postal Service continue to have unused capacity on its highway trucks much of the time? Please explain any negative answer.
- b. Suppose that on an Intra-BMC route the Postal Service needs to send a large capacity truck outbound from the BMC because of the outbound volume. That same truck must travel back to the BMC, even if the inbound volume is very light, and the truck has much unused capacity. Would the need to have the same truck return to the BMC be an example of an inflexibility in the supply of transportation? In the event your answer is negative, please supply an example of an "inflexibility in the supply of transportation."
- c. Please articulate and explain all economic principles of which you are aware that causally relate the volume of mail actually found on a largely empty return trip (or back haul) to the empty capacity on the truck, and the cost of returning that empty capacity to the BMC.

#### FGFSA/USPS-T13-30 Response:

- a. This part of the interrogatory has been redirected.
- b. No. There is no reason that the truck must return to the BMC. The Postal Service could specify one-way transportation if is was the cheapest way to transport the mail. Moreover, as both UPS witness Lester Kloss testified in Docket No R84-1 and as Postal Service witness Lion and I testified in Docket No. R87-1, the postal

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Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

highway transportation network is quite flexible.1

Similar to other companies and industries that purchase highway transportation, the Postal Service has significant flexibility in meeting its transportation needs. Throughout the contracting process — from negotiating initial contracts to contract renewals, contract adjustments and contract terminations — the Postal Service is able to continuously provide, and modify as necessary, its transportation system in order to effectively and economically obtain the highway transportation it requires.

An example of an inflexibility that can not be easily adjusted is the placement of mail processing and delivery facilities.

c. The primary principles are minimization of cost subject to constraints and the nature of common production. Here, the application is the minimization of purchased transportation cost subject to the physical and service standard constraints of the network. In addition, what you describe as the transportation of inbound mail is often produced in common with the transportation of outbound mail.

<sup>&</sup>lt;sup>1</sup> <u>See</u> Direct Testimony of Lester K. Kloss on Behalf of United Parcel Service. Docket No. R84-1, Tr. 29/15, at 325.

Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

FGFSA/USPS-T13-31. Please refer to equation (1) at p. 6 of your testimony, and your statement that "[t]he value of the  $\beta_1$  coefficient is the variability."

- a. Would it be more correct to say that (I) the value of the coefficient estimates the variability of cost with respect to changes in cubic foot miles (CFM) of capacity, than (ii) the coefficient estimates the variability of cost with respect to changes in the volume of mail? Please explain your answer.
- b. Are you interpreting the coefficient  $\beta_1$  as a proxy for estimating the variability of cost with respect to changes in the volume of mail? Please explain your view of the linkage between variability of highway transportation costs with respect to changes in the volume of mail and the variability of transportation costs with respect to changes in cubic foot miles of capacity.
- c. For intra-BMC highway transportation, do the data which you use for cubic foot miles (CFM) in your equation (1) reflect (I) the round-trip mileage on an Intra-BMC route, or (ii) the one-way mileage, either inbound or outbound?

FGFSA/USPS-T13-31 Response:

a. Both would be correct as one is part of the other. As I explain in my response to FGFSA/USPS-T-4-21, my analysis is part of the overall measurement of volume variable highway transportation cost. The Postal Service and Postal Rate Commission costing methodology makes use of a cost driver, cubic foot-miles. My analysis measures the relationship between cubic foot-miles and cost. The TRACS system measures the relationship between mail volume and cubic foot-miles of transportation. When the two of them are combined, the volume variable costs of purchased highway transportation are produced.

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Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

- b. Please see my answer to FGFSA/USPS-T-13-21 and a. above.
- c. For intra-BMC highway transportation, I use the total annual miles traveled as specified on the contract. To the extent this includes round trip movements, I would include those miles. To the extent it includes one-way movements, I would include those miles.

### Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

## FGFSA/USPS-T13-32.

- a. As a hypothetical, assume that (I) on the outbound leg of a particular Intra-BMC route the load factor outbound from the BMC averages X thousand cubic feet, (ii) the average load factor on the return or inbound leg is 0.8X thousand cubic feet, (iii) over both directions the volume averages 1.8X thousand cubic feet, and (iv) the load factor fluctuates by as much as ±40 percent of the average on both the outbound and inbound legs. In your opinion, would the capacity of the truck required for this route be determined chiefly by the volume of mail on the outbound leg, the inbound leg, or the volume moving in both directions? Please explain the reasoning that underlies your answer.
- b. For the hypothetical route described in preceding part a, assume further that, as the result of various changes, such as a secular growth in the volume of mail plus a significant increase in the volume of mail drop shipped to the BMC (e.g., in response to the introduction of dropship discounts), the average volume of mail on the outbound leg from the BMC increases to 1.3X thousand cubic feet, while the volume in the inbound direction diminishes to 0.5X thousand cubic feet (over both directions, the total volume still averages 1.8X thousand cubic feet). Daily fluctuations in volume still range up to ±40 percent of the average daily volume. In your opinion, what is the likelihood that the Postal Service would need to increase the capacity of the truck to accommodate the additional volume of mail on the outbound leg?
- c. Further assume that a shift such as that described in preceding part b were to occur systemwide. (I) Isn't it likely that the data in your equation (1) would show a change in capacity, as well as a corresponding change in cost, even though there was no change in the total cubic foot miles of mail actually transported? (ii) Would you describe such a systemwide shift as a change in operating structure? If not, how would you describe it?
- d. Following a systemwide shift such as that described in preceding part c, in your opinion, is the mail that happens to travel on the inbound leg to the BMC causally responsible for the empty capacity usually found on the inbound leg? If affirmative, please provide a full explanation.

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### Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

FGFSA/USPS-T13-32 Response:

This hypothetical is well beyond the bounds of my testimony, which investigates the response in cost to changes in cubic foot-miles. I will do my best, nevertheless, to answer the questions.

- a. In this hypothetical question, the amount of outbound mail is greater than the amount of inbound mail. If the hypothetical is restricted to a one-trip route that simply goes between two facilities, and the contract for that route is restricted to only one truck, then it would seem logical that the larger volume would determine the truck size. However, even this simple (and extremely unrealistic) hypothetical must be further qualified with an assumption about alternative methods of moving the mail on large volume days. For example, is the Postal Service free to add another trip with a smaller truck for the heavier days? If so, it may size the truck to fit the average volumes and pick up the peak days with a second trip.
- In this part, the imbalance between the inbound and outbound volumes has been increased. The question asks for the likelihood that the truck capacity would be increased. The answer depends upon several factors. Is the truck

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Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

already at or near maximum size? Will the facilities be able to handle a larger truck? Could the additional outbound volume be handled with an additional set of trips? Could an additional but smaller truck be added to the contract to handle the additional outbound volumes? Given the uncertainty surrounding the answers to these questions, I cannot provide a value for the requested likelihood.

- c. (i.) The Postal Service's purchased transportation network is more flexible than the hypothetical presupposes. Because of the many avenues of possible response to changes in volume flows, it is not clear that total cubic foot-miles would rise under the hypothesized volume shifts. For example, the Postal Service may be able to reconfigure its entire network of trips to capture some of the additional output volume on a different route trips, so a smaller truck could be used for the round trip.
- c. (ii.) Whether or not the hypothesized volume change represents a structural shift depends in large part upon its size. As I say in my testimony at page 9:

When mailers dropship their mail at destination facilities, less Postal Service transportation is required. The growth in dropshipping thus holds the potential to

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Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

reduce the size of certain parts of the purchased highway transportation network. Because the dropship discounts do not apply to all classes of mail, the effects of dropshipping will not necessarily be spread evenly across all accounts. However, unless the effects of dropshipping are severe, they can be handled within the Commission's framework. The effect of dropshipping is to limit growth in those parts of the network that are subject to diversions. That is, dropshipping will retard the growth in the amount of mail transported by the Postal Service network in those areas in which private sector transportation is used.

d. As indicated in my response to part (c.), I do not necessarily concur that your hypothetical represents a structural shift. In general, however, after a structural shift, the Postal Service will reconfigure its network to reduce cost while maintaining service standards. After this reconfiguration, the capacity on the network will be jointly determined by the mail that must be transported across that network. The causal responsibility for any empty capacity is thus shared.

Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

# FGFSA/USPS-T13-33.

- a. Please describe fully your familiarity with the TRACS programs described in LR-H-82 and LR-H-84 which are used to develop the distribution keys for attributable highway costs. In your answer, please state explicitly whether you are knowledgeable about the methodology, procedures and formulas used by TRACS (I) to expand sampled mail volume up to the container level, (ii) to expand sampled mail volume from the container level up to the whole truck or van, and (iii) to compute cubic foot miles of transportation service for each class and subclass of mail.
- b. Are you familiar with and knowledgeable about the way the TRACS sample is selected? For Intra-BMC routes, would you know how many TRACS samples are taken of trucks outbound from the BMC, and how many samples are taken of trucks inbound to the BMC (including samples taken at the BMC itself)?
- c. Have you ever used any of the data contained in the CDs in LR-H-82 or LR-H-83 for any kind of analysis, or any other purpose? If so, please describe the nature of such analysis.

# FGFSA/USPS-T13-33 Response:

- a. I am familiar, in a general way, with the goals and methods of the TRACS system. In Docket No. MC91-3, I used TRACS data to examine the distance taper in the transportation of second-class mail. I am not familiar with any of the specific programs in LR-H-82 or LR-H-84 as I have never seen the library reference or the programs contained therein.
- b. No.
- c. No.

## Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

FGFSA-USPS-T-13-34

Please provide a list of all your publications that deal with the subject of transportation and transportation economics, including all expert witness testimony.

FGFSA-USPS-T-13-3:

To ensure a complete response, I am providing a list of all of my academic publications. In particular I draw your attention to the articles in the <u>Canadian Transportation Research</u> <u>Forum</u> and the <u>Journal of the Transportation Research Forum</u>. In addition to my academic work, I submitted testimony on purchased transportation in Docket No. R87-1 and in Docket No. MC 91-3. I also provided testimony before the International Trade Commission on a demand model for tires, but I am not aware if the work was published.

**"Some** Evidence on Consistent Expectations," <u>Proceedings of The American Statistical</u> <u>Association, Business and Economics Statistics Section</u>, December 1983.

**"Federal** Deficits and the Conduct of Monetary Policy," <u>Journal of Macroeconomics</u>, Vol. **6**, No. 4, Fall 1984. Condensed and Reprinted in <u>The CFA Digest</u>, Vol. 16, No. 1, Winter **1986.** 

Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

"International Debt Crisis, Rhetoric vs. Reality," Journal of Social. Political and Economic Studies, Vol. 9, No. 4, Winter 1984, with J. R. Barth and N. D. Manage.

"Efficiency of the Treasury Bill Futures Market: Some Alternative Test Results," <u>Federal</u> <u>Home Loan Bank Board Research Paper #114</u>, November 1984, with J. R. Barth and R. A. Stucky.

"The State of the Federal Budget and the State of the Economy: Further Evidence," Economic Inquiry, Vol. 23, No. 1, January 1986, with S. M. Potter.

"Federal Reserve Operating Procedure in the Eighties: A Dynamic Analysis," Journal of <u>Money, Credit and Banking</u>, Vol. 18, No. 3, August 1986, with D. W. Jansen.

"Government Spending or Deficit Financing: Which Causes Crowding Out?" Journal of <u>Economics and Business</u>, Vol. 38, No. 3, August 1986.

"Some Microeconomic Analysis of Income-Sharing Firms," <u>Advances in the Economic</u> <u>Analysis of Participatory and Labor-Managed Firms</u>, Vol. 2, 1987, with S. C. Smith.

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# Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

"Deposit Market Deregulation and Interest Rates," <u>Southern Economic Journal</u>, Vol. 53, No. 3, October 1986, with D. W. Jansen.

"Understanding International Debt Crises," <u>Journal of International Law</u>, Vol. 19, No. 1, Winter 1987, with J. R. Barth and P. Panayotacos.

"Stylized Facts About Housing and Construction Activity During the Post World War II Period," in <u>Real Estate Market Analysis: Method and Applications</u>, J. Clapp and S. Messner eds., Prager Press, Westport, CT, 1988, with J. R. Barth, J. McKenzie and G. S. Sirmans.

"On Illyrian Macroeconomics," Economica, Vol. 55, No.2, March 1988, with S. C. Smith.

"Employment, Prices and Money in the Share Economy: An Alternative View," <u>Advances</u> in the Economic Analysis of Participatory and Labor Managed Firms, Vol. 3, 1988, with S. C. Smith.

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"Informational Implications of Money, Interest Rate and Price Rules," <u>Economic Inquiry</u>, Vol. 26, No. 3, July 1988, with D. W. Jansen.

"Measuring Canada Post's Costs: Lessons from the U.S. Experience," <u>Canadian</u> <u>Transportation Research Forum</u>, Vol. 26, May 1988, with A. R. Robinson.

"On Interest Rates, Inflationary Expectations and Tax Rates," Journal of Banking and Finance, Vol. 12, No. 2, June 1988, with J. R. Barth.

"Determining the Marginal Cost of Purchased Transportation," <u>Journal of the</u> <u>Transportation Research Forum</u>, Vol. 30, No. 1, November 1988, with A. R. Robinson.

"Price Rules, Indexing, and Optimal Monetary Policy," <u>Journal of Macroeconomics</u>, Vol. **10.** No. 4, Fall 1988, with D. W. Jansen.

"Government Size, Productivity and Economic Growth: The Post-War Experience," <u>Public</u> <u>Choice</u>, Vol. 61, 1989, with E.A. Peden.

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Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

"The Optimality of Nominal Income Targeting when Wages are Indexed to Price," <u>Southern</u> <u>Economic Journal</u>, Vol. 56, No. 1, 1989 with D.W. Jansen.

"Evidence on the Real Interest Rate: Effects of Money, Debt and Government Spending," Quarterly Review of Economics and Business, Vol 29, No.1 Spring 1989, with J.R. Barth.

"New Classical Models, Policy Effectiveness, and the Money Rule/Interest Rate Debate," Journal of Economics, Vol 13, Fall 1989, with D.W. Jansen.

"Computing the Impact of Profit Sharing: Econometric Issues and Evidence from the U.S. Computer Sector," <u>Proceedings of the AISEC</u>, Vol. 6, No.1. 1989, with S.C. Smith.

"Understanding Nominal GNP Targeting," <u>Review</u>, Federal Reserve Bank of St. Louis, Vol. **71**, No. 6, Nov./Dec. 1989., with D.W. Jansen.

\*Analyzing Large Post Office Costs: An Application of Classical Optimization, <u>Proceedings</u> of the Advanced Technology Conference, Vol. 4, Nov. 1990, with D.M. Baron

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"Financial Repression and Real Output: Macroeconometric Evidence from Yugoslavia," China Economic Review, Vol. 2, No. 2, 1991, with S.C. Smith.

"The Role of Revenue Sharing in Optimal Stabilization Policy," <u>Quarterly Journal of</u> <u>Business and Economics</u>, Vol 24, No.2, Spring 1992, with D.W. Jansen

"The Comparative Institutions of Profit Sharing: The U.S. Computer Industry," Journal of <u>Economic Issues</u>, May 1992, with S.C. Smith

"Differential Information and The Optimality of Feedback Policy in New Classical Models," Journal of Macroeconomics, Vol 15, No. 2, Spring 1993, with D.J. Jansen.

"Measuring Product Costs for Ratemaking: The U.S. Postal Service," in <u>Regulation and the</u> <u>Evolving Nature of Postal and Delivery Services</u>, M. Crew and P. Kleindorfer, eds. Kluwer Academic Publisher, 1992, with J. Colvin and M. Smith.

"Measuring Performance of a Multiproduct Firm: An Application to the U.S.Postal System," Operations Research, June 1993, with D.M. Baron.

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Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

"Imperfect Information and the Instrument-Choice Problem" <u>Journal of Economics</u>, Fall 1993, with D.W. Jansen

"Firm Size and the Effects of Profit Sharing," <u>The Journal of the Institute of Public</u> <u>Enterprise</u>, Vol. 18, No.1, January 1995, with S.C. Smith.

"An Econometric Model of Postal Delivery," in <u>Competition in Postal and Delivery</u> <u>Services: National and International Perspective</u>, M. Crew and P. Kleindorfer, eds. Kluwer Academic Publisher, 1995, with J. Colvin.

"Stabilizing Inflation in the Open Economy," <u>Southern Economic Journal</u>, Vol. 61, No1., July 1995, with D.W. Jansen.

"STAR Modelling for Stocks and Currencies," <u>The Journal of International Fund</u> <u>Management</u>, July/Aug., 1995, with Amy Henderson. Reprinted in <u>Applying Quantitative</u> <u>Discipline to Asset Allocation</u>, B. Putnam, ed., Euromoney Publications, 1995.

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# Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

"Unit Roots and Infrequent Large Shocks: New International Evidence on Output Growth,"

Journal of Money, Credit and Banking, Vol. 27, No. 3, August 1995, with D. W. Jansen.

"Nonlinear Business Cycle Dynamics: Cross-Country Evidence on the Persistence of Aggregate Shocks," <u>Economic Inquiry</u>, forthcoming, with D.W. Jansen

"Issues in Measuring Incremental Cost in a Multi-Function Enterprise," <u>Managing Change</u> <u>in the Postal and Delivery Industries.</u> M. Crew and P. Kleindorfer, eds. Kluwer Academic Publisher, 1997 with J. Colvin and J.C. Panzar

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# Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

FGFSA/USPS-T-13-35

Please list all courses in transportation and/or transportation economics that you have

taught.

FGFSA/USPS-T-13-35 Response:

I have not taught any of these specialized courses. In fact, they are not offered by my university.

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# Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

### FGFSA/USPS-T-13-36

For each Intra-BMC and Inter-BMC highway transportation routes, please provide the interior vehicle dimensions and cubic foot capacity for the 3 most commonly used vehicles.

- a. For each of the 3 vehicles, indicate the approximate proportion of total cubic foot capacity which those vehicles represent.
- b. For each of the 3 vehicles, please indicate the maximum weight capacity of the lading in the vehicle. If the maximum weight varies from state to state, indicate the lowest maximum weight capacity and identify the state with such limitation

### FGFSA/USPS-T-13-36 Response:

The following information is based upon my analysis data sets as presented in my [Docket

No. MC97-2] Workpaper WP-7. In the following table, I present the three trailer sizes that

are most commonly specified on contract cost segments in the Intra-BMC and Inter-BMC

categories. For each trailer size, I present two numbers:

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- 1. The number of contract cost segments on which the trailer size was specified.
- 2. The approximate percent of the relevant account category's total cubic capacity made up by the most common trailer sizes.

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# Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

|              | # of Contract Cost | % of Total |  |  |  |
|--------------|--------------------|------------|--|--|--|
| Trailer Size | Segments           | Cube       |  |  |  |
| Intra-BMC    |                    |            |  |  |  |
| 2400         | 28                 | 8.0%       |  |  |  |
| 2700         | 122                | 47.2%      |  |  |  |
| 2918         | 60                 | 9.6%       |  |  |  |
|              |                    |            |  |  |  |
| Inter-BMC    |                    |            |  |  |  |
| 2400         | 6                  | 2.8%       |  |  |  |
| 2700         | 53                 | 34.9%      |  |  |  |
| 3000         | <u>9</u> 3         | 50.4%      |  |  |  |

The interior dimensions for the trailers are as follows:

| <u>Trailer Cube</u><br>2400 | <u>Height</u><br>8' | <u>Width</u><br>7' | <u>Length</u><br>45' |
|-----------------------------|---------------------|--------------------|----------------------|
| 2700                        | 8'                  | <b>7'</b>          | 48'                  |
| 2918                        | 8'                  | 7'                 | 52'                  |
| 3000                        | 8'                  | 7'                 | 53'                  |

- **a.** The requested proportions are provided in the table above.
- b. This part of the interrogatory has been redirected.

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# Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

## FGFSA/USPS-T-13-37

If a trailer used in Inter-BMC transportation is fully bed-loaded with Bulk Rate Regular Standard B mail, will the over-the-road weight limit of the loaded vehicle restrict or limit the cubic feet of the mail that can be loaded on the trailer? In your response, please provide the cubic foot capacity of the trailer (give the height, width and length measurements) and the weight limit of the lading in the trailer which you take into account.

FGFSA/USPS-T-13-37 Response:

This interrogatory has been redirected.

# Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

### FGFSA/USPS-T-13-38

Confirm that the maximum allowable density of a trailer used in postal highway transportation can be properly calculated by dividing the cubic feet capacity of the trailer by the over-the-road weight limit of the lading of the trailer. If you do not confirm, please fully explain.

FGFSA/USPS-T-13-38 Response.

This interrogatory has been redirected.

# Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

## FGFSA/USPS-T-13-39.

If the density of a sub-class of mail transported in highway transportation exceeds the maximum allowable density of the vehicle transporting the mail:

- a. Do you agree that the excess density of this sub-class of mail could limit or restrict the quantity of other mail that might be loaded in the trailer? Fully explain your response.
- **b.** Do you agree that it would be reasonable and appropriate to reflect the excess density of this sub-class of mail, along with actual cubic feet, in determining the allocation of the costs of the highway transportation? Fully explain your response.

FGFSA/USPS-T-13-39 Response:

This interrogatory has been redirected.

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### Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

FGFSA/USPS-T13-40 Provide the contracted for capacity of the highway network, separately for Inter-SCF, Intra-BMC and Inter-BMC, in each of the years 1992 through 1996.

FGFSA/USPS-T13-40: Response:

As the term "contracted for capacity" does not have a definitive meaning, I assume that you are referring to the total cubic foot-miles of contracted highway transportation purchased by the Postal Service. To the best of my knowledge, such data do not exist. To calculate it, one would have to examine, *ex post*, the contracts actually in force in a given year, calculate the cubic foot-miles purchased on each of those contracts during the year and sum the cubic foot-miles. The Postal Service does not do this calculation. However, because I collected a cross-sectional database to update the Commission's variability for purchased highway transportation, I do provide data you can use to estimate the contracted for capacity in FY 1995.

### Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

FGFSA/USPS-T-13-42 The TRACS data for both FY95 (MC97-2) and FY96 (R97-1) reflect a high empty average for all Intra-BMC and linter-BMC (sic) transportation service. This also was the situation in FY92 (R94-1).

- a) How has this excess (unused) capacity been reflected in the contract negotiations?
- b) Has the contracted capacity been reduced as a result of this unused capacity?
- c) If so, to what extent?

FGFSA/USPS-T-13-42 Response:

- a. Please see my responses to FGFSA/USPS-T13-7, FGFSA/USPS-T13-8, FGFSA/USPS-T13-9 and FGFSA/USPS-T13-10 which all discuss how capacity on a contract is specified by the Postal Service. In particular, please see my response to FGFSA/USPS-T13-10 which explains how underutilization of capacity of purchased capacity is taken into account at the time of negotiation of replacement contracts.
- b.& c. Because the specification of contracts is done at the local level, it is impossible to determine a quantitative relationship between unused capacity and contract specifications. Please recall that the my analysis, like the Commission's earlier analysis, is designed to measure how cost varies with contracted cubic foot-miles.

### Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

FGFSA/USPS-T-13-43 Refer to your response to FGFSA/USPS-T-13-7.

- a) Explain how the "historical experience with the contract" is recorded and what information is reflected in the records.
- b) Is the actual capacity utilized on each route recorded? If so, where?
- c) In the "forecast" which is prepared, does this reflect the average or highest peak utilization?

FGFSA/USPS-T-13-43 Response:

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- a. Because contract specifications are set on the local level, there is no system of recording historical experience. In fact, historical experience does not require written documents; it may be recorded only in the relevant experts' memories.
- b. Not to my knowledge. All inquiries that I have made to the Postal Service resulted in my being told that capacity utilization is not recorded on a route basis.
- c. In my response to FGFSA/USPS-T13-7, I placed the word forecast in quotation marks to indicate that I was referring to an informal or subjective forecast. As I said:

In the case of a new service, there is a "forecast" required, but this forecast is developed informally and on a case-by-case basis. In other words, the formation of the "forecast" differs by the situation in each case and there is not a standard formula for determination of transportation capacity.

Thus, the "forecast" could involve a variety of factors which may or may not include the average or highest peak utilization.

#### Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

FGFSA/USPS-T-13-44 Refer to your response to FGFSA/USPS-T-13-8.

- a) Are the "service standard commitments" for Inter-BMC and Intra-BMC contracts those applicable to Standard A and Standard B mail? If not, please identify the service standards which are applicable
- b) Confirm that the Postal Service does not contract for Untra-BMC(sic) and Intra-BMC transportation on the basis of the volume of mail.

FGFSA/USPS-T-13-44 Response:

- a. It was my intention to refer to service standards generaly, as they apply to all classes and subclasses mail.
- b. My answer depends upon the meaning of the words "contract for Untra-BMC (sic) and Intra-BMC transportation on the basis of mail volume." If this statement is intended to mean that the Postal Service contracts for truck capacity and not for individual mail movements, I can confirm. If this statement means that the Postal Service does not take the volume of mail into account when specifying transportation capacity, I do not confirm. The Postal Service does take volume into account when specifying purchased highway transportation capacity.

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Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

FGFSA/USPS-T-13-45 Your response to FGFSA/USPS-T-13-9 refers to increases in volume on a route. Please address how the purchased capacity responds to decreased (sic) in volume.

FGFSA/USPS-T-13-45 Response:

The converse applies.

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Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

FGFSA/USPS-T-13-46 Explain how "The cubic foot-miles in my analysis are directly related to mail volume."

FGFSA/USPS-T-13-46 Response:

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Consider the definition of a direct relationship:1

When two variables — such as consumption and income — move in the same direction, they are set to be **directly related**. (Emphasis in original).

Now, consider my response to FGFSA/USPS-T13-19 (from which I believe this quotation was taken) where I state:

The cubic foot-miles in my analysis are directly related to mail volume. A sustained increase in mail volume will cause cubic foot-miles to increase, and a sustained decrease in mail volume will cause cubic foot-miles to decrease.

<sup>1</sup>See, Arnold, Roger, <u>Macroeconomics</u>, 3<sup>rd</sup> Edition, West Publishing Co., St. Paul, MI at page 30.

#### Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

FGFSA/USPS-T-13-47: For Intra-BMC contracts, is the capacity contracted for based on the volume of the outbound (out from the BMC) mail? If the inbound volume is significantly lower than the outbound volume, does the contract provide for use of a smaller capacity on the inbound segment of the route?

FGFSA/USPS-T-13-47 Response:

Please see my responses to FGFSA/USPS-T13-7, FGFSA/USPS-T13-8, FGFSA/USPS-

T13-9 and FGFSA/USPS-T13-10 which all discuss how capacity on a contract is specified

by the Postal Service.

Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

FGFSA/USPS-T-13-48 Refer to your response to FGFSA/USPS-T-13-26 a) How many times have trucks been added to expand capacity?

- b) How many time have the number of route/trips been increased?
- c) How many time have the frequency of the trips been increased?
- d) How many time have the routes been reconfigured?
- e) What actions have been taken to reduce the cubic capacity of the contract requirements? Please provide specifics.

FGFSA/USPS-T-13-48 Response:

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a.-d. There are about 15,000 purchased highway transportation contracts. Each one holds the potential to be adjusted in the ways described above. It is thus impossible to develop the requested frequency distribution. Moreover, please recall that my analysis measures the response of cost to changes in the cubic foot-miles of purchased highway transportation. It is an update and refinement of the Commission's approach in Docket No R87-1. One of the strengths of the that approach is that accurate measurement of volume variability does not require the type of detailed information specified in the interrogatory. It is entirely consistent with using the least costly alternative to increase capacity. As the Commission stated:<sup>1</sup>

See, PRC Op., R87-1, at page 316.

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Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

The record shows that managers choose from a full range of alternatives in meeting the demands caused by volume changes. Many less costly alternatives, such as requiring an extra trip, or rearranging the routes serving a number of facilities, may be employed before an additional truck is put under contract.

e. The cubic capacity of a contract would be reduced by reducing the number of trucks specified on the contract, reducing the size of the trucks on the contract, or both.
In addition, the total cubic capacity used on a contract cost segment would be reduced by the elimination of a trip

Response of United States Postal Service Witness Bradley

to

Interrogatories of Florida Gift Fruit Shippers Association

FGFSA/USPS-T-13-49 Refer to your response to FGFSA/USPS-T-13-27.

- a) Explain how the distance between facilities influences the determination of the capacity of the vehicle for a route.
- b) Identify all factors which influence the selection of the appropriate capacity of the vehicle for a route which are equal to or greater than the volume of outbound mail for the route.
- c) How many contracts provide for one-way trips with different size trucks, in the manner you refer to in paragraph c. of your response?
- d) How many Intra-BMC contracts specified that a portion of the route be serviced with a truck of one capacity and another portion of the route serviced with a truck of a different capacity?
- e) How many other highway route contracts provide for a portion of the route to be serviced by a truck of one capacity and another portion of the route serviced with a truck of a different capacity?
- f) Identify the number of times where the volume of the outbound mail has not determined the capacity of the truck for a specific route.
- g) Where there is a large imbalance in the outbound and inbound volumes, and the capacity of the truck is determined by the outbound volume,
  - i) is the excess capacity on the inbound trip "caused" by the volume of the inbound mail?
  - ii) does the Postal Service contract for a smaller truck capacity for the inbound trip?

FGFSA/USPS-T-13-49 Response:

a. If facilities are close together, multiple trips may be feasible. When multiple trips are

possible a smaller truck (in terms of cubic capacity) could be used than when only

one trip per day is possible.

b. I know of no way of determining the relative size of the various factors that influence capacity. Thus, I cannot say which are equal to or greater than the volume of

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outbound mail.
Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

- c. I have not collected any such information and do not need to for my analysis of the response of cost to variations in cubic foot-miles.
- d. I have not collected any such information and do not need to for my analysis of the response of cost to variations in cubic foot-miles.
- e. Please see my responses to FGFSA/USPS-T13-7, FGFSA/USPS-T13-8, FGFSA/USPS-T13-9 and FGFSA/USPS-T13-10, FGFSA/USPS-T13-42 and FGFSA/USPS-T14-43, which all discuss how capacity on a contract is specified by the Postal Service.
- f. Please see my responses to FGFSA/USPS-T13-7, FGFSA/USPS-T13-8, FGFSA/USPS-T13-9 and FGFSA/USPS-T13-10, FGFSA/USPS-T13-42 and FGFSA/USPS-T14-43, which all discuss how capacity on a contract is specified by the Postal Service.

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Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

FGFSA/USPS-T-13-50 Do the outstanding contracts for purchased transportation as of any date establish the capacity for each route as of that date? If not, please explain fully.

FGFSA/USPS-T-13-50 Response:

A contract's annual capacity is specified by the cubic foot miles provided per year on that contract. To the extent the contract specifies the annual cubic foot-miles required for the contract, it specifies the annual capacity.

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# Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

FGFSA/USPS-T-13-51 Identify the number of contracts for Intra-BMC and Inter-BMC that specify one-way transportation.

FGFSA/USPS-T-13-51 Response:

The requested information is not available. Moreover, it is not required for my updating of the Commission's analysis of the relationship between cost and variations in cubic footmiles of purchased highway transportation.

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#### Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

FGFSA/USPS-T-13-52 Please explain how "the transportation of inbound mail is often produced in common with the transportation of outbound mail." (refer to your response c to FGFSA/USPS-T-13-30)

FGFSA/USPS-T-13-52 Response:

Common costs can be defined as occurring when the same inputs or production process is used to produce two or more outputs in potentially variable proportions. Consider a truck that leaves facility A, travels to four other facilities and then returns to facility A. Assume that the truck only has one driver and that different classes of mail can be loaded onto the truck in variable proportions. If some of that mail is loaded onto the truck at facility A and unloaded at the other facilities, whereas other mail is loaded at the other facilities and unloaded at facility A, then the cost of the driver would be a common to what you have described as inbound mail and to what you have described as outbound mail.

#### Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

FGFSA/USPS-T-13-54 Assume that the cost of providing two or more services is described by economists as a joint cost; i.e., the services are produced in fixed proportions that cannot be varied. What is the most economically correct procedute (sic) to allocate the joint cost between the services? Please fully explain.

FGFSA/USPS-T-13-54 Response:

The economically correct way to analyze product costs in a multi-product firm is to

calculate the marginal cost for each product. For example, see the testimony of Prof.

Panzar in Docket No. R90-1 (Remand):1

As is well-known, when an enterprise produces more than one service under conditions of joint or common costs (i.e., when there are economies of scope), there is no way to define the unit (average) cost of an individual service except through some arbitrary cost allocation procedure. The cost of a marginal unit of any service remains perfectly well-defined, however, since it merely involves the thought experiment of calculating the total costs of the enterprise with and without said unit and taking the difference.

<sup>1</sup><u>See</u>, Direct Testimony of John C. Panzar, USPS-REM-T-2, Docket No. R90-1 (Remand) at page 9.

Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

FGFSA/USPS-T-13-55 If joint costs either are not or cannot be allocated to the individual services in an economically rational was, what is the economically correct way of analyzing the cost of services produced jointly?

FGFSA/USPS-T-13-55 Response:

The economically correct way of analyzing costs of individual services in a multi-product

firm is to calculate the marginal cost for each product.

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## Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association

FGFSA/USPS-T-13-56 Do you agree that the cost of providing postal transportation capacity in a single vehicle from a BMC to one or more destination postal facilities and a return from those facilities to the BMC is a joint cost? If not, please fully explain.

FGFSA/USPS-T-13-56 Response:

No. These costs are common costs not joint costs. The transportation of different classes

and subclasses of mail does not occur in fixed proportions.

#### Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association (Redirected from Witness Nieto)

## FGFSA/USPS-T-2-42

Do you agree that the cubic feet of available capacity for any given route on any particular day is provided in fixed and equal amounts on each mile of the route service (sic) by the vehicle on that day? Please fully explain any disagreement.

#### FGFSA/USPS-T-2-42 Response:

The question is unclear. If it is asking if the transportation capacity that the Postal Service can obtain on a given route is fixed for a given day, I do not agree. The Postal Service has flexibility in its purchased transportation network and can specify capacity variation by day. For example, certain route trips will not be run on weekends, so the capacity on a particular route (defined by a given origin/destination pair) will vary by day. Moreover, the amount of cubic capacity that transverses a given mile of highway may vary across days as more than one route trip can transverse the same mile of highway.

If, on the other hand, the question is asking whether or not the size of a truck generally stays constant as it travels down the highway, I would agree.

#### Response of United States Postal Service Witness Bradley to Interrogatories of Florida Gift Fruit Shippers Association (Redirected from Witness Nieto)

#### FGFSA/USPS-T-2-43

Do you agree that, for any given route on any particular day, the cost of providing cubic capacity for each mile of the route represents an example of what economists refer to as a "joint cost"?

If you do not agree, please explain how the contractor can (and does) vary the amount of capacity on different segments of the route.

#### FGFSA/USPS-T-2-43 Response:

No. The question is fundamentally flawed; it confuses inputs and outputs. Joint costs are defined by the production of two <u>outputs</u> in fixed proportions. The question asks about fixed proportions in <u>inputs</u>. Moreover, in purchased highway transportation, the inputs are not used in fixed proportions. The relationship between inputs is revealed by examining how inputs vary as the level of production varies, not as time varies. The question thus confuses the response of inputs to changes in the level of production with determination of the rate of production through time. The fact that the time rate of production may be constant, at a given level of output, does not require that inputs be used in fixed proportions to produce different levels of output. As the total cubic foot-miles of transportation provide, to the Postal Service increases (or decreases), the proportions of labor, capital, fuel and so on can and will vary in their proportions.

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#### Response of United States Postal Service Witness Bradley to Interrogatories of MH

MH/USPS-T13-1. Please explain fully your understanding of the reasons why the Postal Service, with its economies of scale, has been unable to negotiate purchased transportation contracts that are competitive with the purchased transportation contracts negotiated by mailers who dropship (bypassing some or all transportation provided by the Postal Service). Do the reasons include the Postal Service's reliance on rigid, four-year highway transportation contracts that are not negotiated, and/or the Postal Service's inadequate projections of volumes in the process of entering into transportation contracts?

MH/USPS-T13-1. Response:

My study of the volume variability of the Postal Services purchased transportation did not

require me to have studied the contracts negotiated by mailers who dropship. I thus

cannot comment on the substance of your allegation, let alone speculate about reasons

for it occurring.

## Response of United States Postal Service Witness Bradley to Interrogatories of MH

MH/USPS-T13-2 With reference to your testimony at page 9, line 18, through p. 10, please confirm that dropshipping does not necessarily drive substantial transportation costs out of the Postal Service network (with the possible exceptions such as plant-load costs.)

MH/USPS-T13-2 Response:

Confirmed. For example, in a situation of growing mail volume, dropshipping could simply

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keep costs from getting as high as they otherwise would have been.

# Page 2 of 1

#### Response of United States Postal Service Witness Bradley to Interrogatories of MH

MH/USPS-T13-3. Please explain whether or not you estimate the same volume variability of Postal Service transportation costs for Periodicals Regular mail as for other mail classes. To the extent you do make such an estimate, please explain whether or not you believe that Periodicals mail is likely to be transported by the same vehicles, in the same proportion, as all other classes of mail, and explain the basis for any such belief.

MH/USPS-T13-3 Response:

My analysis is only part of the determination of the class-specific volume variable purchased highway transportation costs. My analysis is part of what has been called the "attribution step" in which the pool of volume variable costs is determined by multiplying a "volume variability" times a pool of accrued cost. I estimate the volume variabilities. My work, therefore, does not involve class of mail and I am not required to form a set of beliefs about class-specific allocations of cost. Information relative to things like the types of vehicles that carry a particular class of mail is part of the "distribution step" contained in witness Nieto's testimony (USPS-T-2).

## Response of United States Postal Service Witness Bradley to Interrogatories of MH (Redirected from Witness Nieto)

MH/USPS-T2-5. With reference to your testimony on p.2.

a. Please explain fully the parameters that determine the amount to be paid under purchased highway contracts (e.g., per mile, per trip, per year, etc.)

MH/USPS-T2-5 Response:

- a. Purchased highway transportation contracts have a variety of payment methods, dependent upon the nature of the transportation required. Most contracts are paid
  - on a per annum basis but contracts may specify payment by a variety of methods,
    - Ike per trip or per mile. The main parameter that drives the amount to be paid on a contract is the amount and nature of the transportation This includes specifying the trip routing and mileage, the trip frequency, the Postal facilities served, the arrival times, and the vehicle requirements required on the contract.

#### Response of United States Postal Service Witness Bradley to Interrogatories of MPA

MPA/USPS-T13-1. Please refer to your direct testimony at page 18, lines 15-16, and confirm that the annual cubic foot-miles variable for a route is calculated as the product of the average truck capacity (in cubic feet) on the route and the annual miles on that route. If you do not confirm, please explain.

- a. Please confirm that the purpose of my testimony is to estimate the volume variability of purchased highway transportation costs. If you do not confirm, please explain.
- b. Please confirm that your CFM variable reflects the cubic capacity of the *truck*, rather than the actual volume of *mail*, on a route. If you do not confirm, please explain
- c. Your testimony at page 12, lines 14-24 and page 18, lines 10-16, seems to indicate that the HCSS data set does not contain mail volume variables. Is that a correct supposition? If not, please explain.
- d. Please confirm that in his study of volume-variability of vehicle service driver costs, witness Wade's analysis relies on the estimated actual volume of mail on a route (see his Workpaper C at page 2, lines 16-17). If you do not confirm, please explain.
- e. If HCSS contained volumes, would it have been preferable to have used actual volumes rather than truck capacities in calculating cubic foot-miles for your regression analysis. Please explain why or why not.
- f. Does you methodology, in effect, assume 100 percent capacity utilization of the trucks in the purchased highway transportation network? If your answer is anything than an unqualified "yes," please explain fully.
- g. To the extent that the trucks in the purchased highway transportation network operate at less than 100 percent of their rate capacity, do your volume variability estimates overstate the true variabilities? Please explain fully.

MPA/USPS-T13-1 Response:

Confirmed.

#### a. Confirmed. As I say on page 2 of my testimony:

The purpose of my testimony is to update and refine the analysis of purchased highway transportation done by the Postal Rate Commission ("the Commission"). The Commission performed its analysis in Docket No. R87-1 and both the Commission and the Postal Service currently use it in calculating volume-variable purchased highway costs

- b. Confirmed.
- c. Yes.

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- d. This part of the interrogatory has been redirected.
- e. Yes quite possibly, depending upon the quality and quantity of the available data. If cubic foot-miles of mail transported per year on each contract were available, then no assumption about unused capacity would be required. In the ideal, one would like a direct measure of volume, by class of mail. Then, in theory, the volume variable costs could be estimated without the need for a distribution key study like TRACS.
- f. No, I think not. Rather, the working assumption is the unused capacity is variable with volume to the extent used capacity is variable with volume. For example in

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# Response of United States Postal Service Witness Bradley to Interrogatories of MPA

Docket No. R84-1, the Commission stated:1

Having considered the issue again on this record, we find that capacity, which includes both utilized and unutilized portions, is directly related to volume if a reasonable time period is examined. In Docket No. R80-1, we found that unused capacity should not distort the relationship between volume and costs.

g. No. If one accepts the Commission's reasoning on unused capacity (as I do), then

the variability measured with respect to capacity reflects the true volume variability.

# <u>See, PRC OP. R84-1., at 244.</u>

MPA/USPS-T13-2. Please refer to your direct testimony at pages 46-50, where you discuss your decision to remove a number of "unusual" observations from you data set prior to performing your regression analysis, and the impact of this decision on your estimated variabilities.

- a. Please confirm that your analysis of "unusual" observations identified anomalies along the following dimensions: (I) extremely low annual cost, (ii) extremely low annual CFM, (iii) extremely long or short route length, (iv) extremely low annual miles, (v) extremely high or low cost per CFM, and (vi) extremely high or low cost per mile. If you do not confirm, please explain.
- b. Please describe the method you used to identify these unusual observations along each of these dimensions, including (but not limited to) the ranges of values you chose to include and exclude, the cutoff values you chose in defining zones of exclusion, and your justification for these cutoff values.
- c. At page 48, lines 1-3 of your direct testimony you stat e that "there should always be a presumption for using valid observations, even if the values for the particular observation are not typical of the rest of the data" (emphasis added). At lines 3-4 of the same page, you state that "if the data are from special cases ... their use could, potentially, lead to misleading results." Please explain how the values for particular observations could be atypical of the rest of the data without being "special case."
- d. Could other knowledgeable, well-intentioned researchers, faced with the same data set and charged with the same task (namely, HCSS and calculating purchased transportation variabilities, respectively) come up with a different set of "unusual observations" to delete. Might such a researcher decide to leave said variables in the analysis?

#### MPA/USPS-T13-2. Response

a. Confirmed.

b. For a complete discussion of the method used, please see my response to

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OCA/USPS-T4-1 in Docket No. MC97-2 and my response to OCA/USPS-T13-4.

- c. As I said in my testimony at page 47, the existence of these unusual observations raises a difficult problem. The essential issue in determining whether or not to eliminate the data from the regression is to ascertain if the data are generated by the same data generating process or not. If an observation is not typical of the majority of the data, but the researcher has good reason to believe that it was generated by the same underlying process as the main data, then it should be included, because it helps illuminate the true process. On the other hand, if the researcher believes that the data are generated by an alternative data generating process, then the observation should omitted because its inclusion would cloud estimation of the data generating process at issue. Because of the inherent subjectivity of this type of decision, I presented the econometric results both with the data included and the data excluded.
- d. Yes, although I think that there would be much commonality among the excluded data sets. Therefore, the effects on the estimated equations would likely be similar.
  In addition, a researcher may decide to keep the data in. That is one of the reasons that I presented the econometric results based upon the data including the unusual observations.

## Response of United States Postal Service Witness Bradley to Interrogatories of OCA

OCA/USPS-T-13-1. Please refer to pages 12-16 of your testimony. These pages describe the Highway Contract Support System (HCSS) and a data set created from that system, referred to as the HCSS data set. If you cannot respond, please refer these questions to a witness more knowledgeable of the HCSS.

- a. Please confirm that workpaper WP-1 describes how the HCSS data set was created from the HCSS. If you do not confirm, please explain.
- b. Please confirm that the HCSS itself is not documented in your workpaper WP-1. If you do not confirm, please explain.
- c. Please confirm that the variables in the HCSS data set are a subset of the variables available in the full Highway Contract Support System. If you do not confirm, please explain.

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OCA/USPS-T13-1 Response:

- a. Confirmed.
- b. Confirmed.
- c. Confirmed.

OCA/USPS-T13-3. Please describe all quality control checks and audits performed on Highway Contract Support System data. For example, are any procedures built into the data entry system to identify and correct unusual data entries? If you cannot respond, please refer these questions to a witness more knowledgeable of the HCSS.

- a. For each of these checks or audits, please describe who performs them.
- b. Would you expect that an electronic database for managing contracts would accept unusual data values? Please explain.
- c. Suppose an annual contract cost of \$1 were entered (or generated). Please describe the quality control checks and audits that are designed to flag such a potentially erroneous data value.

OCA/USPS-T13-3 Response:

- I assume that you are referring to the entry of numerical data like I used in my analysis. All contract-specific data are verified on-site by a Transportation Contract Specialist. Furthermore, a printed version of the contract specifications is produced, and is reviewed and signed by the contractor.
- Yes, if the contracts contained a wide variety of the valid data values. In the case of the Postal Service purchased highway transportation network, there is a very wide range of unusual but valid data values. In fact, I understand that the Postal Service purchased highway transportation network contains

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so many potentially unusual situations that the need for entry of unusual values is virtually a system requirement.

c. Please see my response to part a. Also please note that a value of \$1 per year to pay for an annual contract is not necessarily erroneous. I have been told by Postal Service transportation experts that some such contract pay rates do exist and are valid.

Page 2 of 2

OCA/USPS-T13-4. Please refer to your response to [Docket No. MC97-2] OCA/USPS-T4-1. In this response you describe the process used to identify unusually large or small data values. In addition to that analysis, what kinds of edits or reviews did you perform to check for logically inconsistent data? For example, a data value in one field of a record may not be unusually large or small, but it could be inconsistent (or highly improbable) with respect to other fields for that record.

#### OCA/USPS-T13-4 Response:

My econometric analysis has three variables: the dependent variable, annual cost and the two explanatory variables, cubic foot-miles and route length. An econometric analysis attempts to identify the relationship between the dependent variable and the explanatory variables. Thus, one is concerned about observations in the data set that could possibly distort the identification of the true relationship. This distortion can only come about because of an implausible relationship, in the subject observation, between the dependent variable and the explanatory variables. In the case of the purchased highway transportation analysis, this distortion would be manifested in extremely high or low variables of cost per cubic foot-mile or cost per mile. Therefore, to check for possible distortionary observations, one should review the values of cost per cubic foot-mile and cost per mile in the HCSS data extract. I performed such a review.

# Response of United States Postal Service Witness Bradley to Interrogatories of OCA

OCA/USPS-T13-5. Please confirm that the first three digits of the HCRID variable of the HCSS data set refer to a 3-digit ZIP Code. If you do not confirm, please explain how the first 3 digits of the HCRID variable are formed. If you do confirm, please state whether the ZIP Code is determined by the route's originating office or another location.

OCA/USPS-T13-5 Response:

A detailed description of the rules for assigning highway contract route numbers is provided in my testimony at Exhibit-13A, which contains Transportation Management Instruction DM-150-83-2, entitled "Highway Contracts--Assignment of Contract Route Numbers."

The first three digits of HCRID generally reflects the three-digit ZIP Code of the area in which the contract operates, but exceptions do occur. On occasion, a DNO may violate these instructions, if for example, they run out of relevant numbers.

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# Response of United States Postal Service Witness Bradley to Interrogatories of OCA

OCA/USPS-T13-6. Please refer to pages 1-3 of your workpaper WP-1. These pages describe the variables in the raw HCSS data set. Please confirm that the variables COST, FUEL, HDWAGE, and CPICOST in your PCR-12 SAS programs correspond to ANNUAL COST, FUEL COST, HIRED DRIVER WAGES, AND CPI COST ITEMS as described in WP-1. If you do not confirm, please provide definitions for each of the variables in your PCR-12 library reference data sets.

OCA/USPS-T13-6 Response:

Confirmed.

# Response of United States Postal Service Witness Bradley to Interrogatories of OCA

OCA/USPS-T13-7. The definition of FUEL COST at page 2 of your workpaper WP-1 states, "This amount is only part of the total annual cost and this variable is not used in the analysis."

- a. Please confirm that the value of FUEL cannot exceed the value of COST in the HCSS data set. If you do not confirm, please explain.
- b. Did you notice that the fuel cost equaled the total annual cost in 577 of the HCSS data set observations? If so, did you make inquiries as to whether this was unusual? Please explain.
- c. Please provide an explaination (sic) of why the total cost could equal the fuel cost for valid data.

OCA/USPS-T13-7 Response:

- a. Confirmed.
- I was aware that for some contract cost segments, the value for fuel cost equaled the annual cost. Because this is not useful information and does not affect my analysis, I did not count the number of times that it occurred.
- c. The Postal Service pays the total cost specified in the contract, but it is up to the contractor to decide how to allocate the total cost across the various types of costs that comprise the cost statement. This allocation has no bearing on the amount of payment. Thus, the allocation of costs to various fields like fuel cost or hired driver wages is arbitrary and cannot be used in

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an analysis of purchased highway contract costs. This is why, as I stated, I did not use the variable in my analysis.

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OCA/USPS-T13-8. The definition of HIRED DRIVER WAGES at page 2 of your workpaper WP-1 states, "This amount is only part of the total annual cost and this variable is not used in the analysis."

- a. Please confirm that the value of HDWAGE cannot exceed the value of COST in the HCSS data set. If you do not confirm, please explain.
- b. Did you notice that the hired driver wages equaled the total annual cost in 80 of the HCSS data set observations? If so, did you make inquiries as to whether this was unusual? Please explain.
- c. Please provide an explaination of why the total cost could equal the hired driver wages for valid data.
- d. If the hired driver cost equals the total annual cost, then the fuel cost is zero. Please explain how fuel is provided if there is no cost.

OCA/USPS-T13-8 Response:

a. Confirmed.

- I was aware that for some contract cost segments, the value for hired driver wages equaled the annual cost. Because this is not useful information and does not affect my analysis, I did not count the number of times that it occurred.
- c. The Postal Service pays the total cost specified in the contract, but it is up to the contractor to decide how to allocate the total cost across the various

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# Response of United States Postal Service Witness Bradley to Interrogatories of OCA

types of costs that comprise the cost statement. This allocation has no bearing on the amount of payment. Thus, the allocation of costs to various fields like fuel cost or hired driver wages is arbitrary and cannot be used in an analysis of purchased highway contract costs. This is why, as I stated, I did not use the variable in my analysis.

d. Your assumption is that the arbitrary allocation of all costs to the hired driver wages category causes the true cost of fuel to equal zero. That assumption is not correct.

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## Response of United States Postal Service Witness Bradley to Interrogatories of OCA

OCA/USPS-T13-9. The definition of CPI COST ITEMS at page 2 of your workpaper WP-1 states, "This amount is only part of the total annual cost and this variable is not used in the analysis."

- a. Please confirm that the value of CPICOST cannot exceed the value of COST in the HCSS data set. If you do not confirm, please explain.
- b. Did you notice that the CPI cost items equaled the total annual cost in 78 of the HCSS data set observations? If so, did you make inquiries as to whether this was unusual? Please explain.
- c. Please provide an explaination of why the total cost could equal the CPI cost items for valid data.
- d. If the CPI cost items equals the total annual cost, then the fuel cost and hired driver wages are zero. Please explain how fuel is provided if there is no cost. Under what circumstances would a contract have neither fuel costs nor driver wages? Please explain.

## OCA/USPS-T13-9 Response:

a. Confirmed.

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- b. I was aware that for some contract cost segments, the value for items covered by the CPI adjustment equaled annual cost. Because this is not useful information and does not affect my analysis, I did not count the number of times that it occurred.
- c. The Postal Service negotiates with each contractor as to what cost items will be covered by the CPI cost adjustment. In any particular case, it could be

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all of the costs on the contract or it could be none of the costs on the contract. The amount of cost covered by the CPI adjustment varies on a case-by-case basis.

d. Your assumption is that if the costs covered by the CPI adjustment equals the total cost of the contract, then the actual fuel costs and the actual hired driver wages are zero. That assumption is not correct on two grounds. First, as stated in my response to OCA/USPS-T13-7 and OCA/USPS-T13-8, the allocation of costs to these various categories is arbitrary. Second, the CPI cost item just lists those costs covered by the CPI adjustment. It is not an amount of cost and would include things like fuel and hired driver wages. Adding the costs covered by the CPI adjustment to other cost categories would amount to double counting in many cases.

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## Response of United States Postal Service Witness Bradley to Interrogatories of OCA

OCA/USPS-T13-10. Please consider the relationship between the variables COST, FUEL, HDWAGE, and CPICOST in the HCSS data set.

- a. Other than FUEL, HDWAGE, and CPICOST, are there other costs which must be added to produce the total annual cost, COST? If so, please explain.
- Please confirm that according to the definitions at page 2 of your workpaper WP1, the following relationship should hold for valid data: COST<u>></u>FUEL+HDWAGE+CPICOST.
- c. Suppose that an observation had values for these variables so that COST<FUEL+HDWAGE+CPICOST. Please confirm that these data values are not logically consistent with one another. If you do not confirm, please explain.
- d. If COST<FUEL+HDWAGE+CPICOST for an observation, would that observation be considered unusual? Please explain.
- e. Did you notice that COST<FUEL+HDWAGE+CPICOST for 536 of the HCSS data set observations? If so, did you make inquiries as to whether this was unusual? Please explain.
- f. Please provide an explaination of why the total cost could be less than the sum of the fuel cost, the hired driver wages, and the CPI cost items for valid data.
- g. Please confirm that a data entry error for any one of the variables (COST, FUEL, HDWAGE, or CPICOST) could result in an illogical relationship, such as COST<FUEL+HDWAGE+CPICOST.

OCA/USPS-T13-10 Response:

a. No costs are "added together" to produce total annual cost. The total annual

cost is specified in the contract and the contractor can arbitrarily assign those

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# Response of United States Postal Service Witness Bradley to Interrogatories of OCA

costs to the cost categories. In addition, the CPI cost item is not a category of cost but an articulation of the amount of cost covered by the CPI adjustment. This amount could be as much as all of the costs on the contract. Obviously it is a mistake to add this listing of costs covered by the CPI adjustment to other categories of cost.

- b. Not confirmed.
- c. Not confirmed. As explained above, adding the CPI cost items to other categories of cost amounts to double counting and could easily generate a value which is greater than the total annual cost of the contract. That number is not meaningful, however.
- d. No. Please see my answer to part c. above.

e. Because the summation of costs that you propose is meaningless, I did not make the calculation. I thus did not look for the conditions posed in this question.

# Page 3 of 3

# Response of United States Postal Service Witness Bradley to Interrogatories of OCA

- f. Please see my answer to part c. above.
- g. Data entry errors could occur for any of the variables, but the condition you propose will occur with correctly entered data. It is thus not a useful way to look for data entry errors.

# Response of United States Postal Service Witness Bradley to Interrogatories of OCA

OCA/USPS-T13-11. Please refer to Table 2 of your response to OCA/USPS-T4-1. In this table, the contract with HCRID 99730 is designated as unusual because its route length is 501.0 mile.

- a. Are there SCFs that cover a large enough geographic area to allow route lengths of 501 miles? For example, could an SCF in Alaska contain a 501 mile route lengh (sic) contract?
- b. Could this observation have been mistakenly entered as intra-SCF instead of, for example, inter-BMC? Please explain.

OCA/USPS-T13-11 Response:

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- a. Because highway routes are not necessarily straight line routes, it would
  - seem like there would be many SCF areas that could contain a 501 mile route.
- b. It is possible, but given that the contract specifies an 800 cubic foot truck, it seems unlikely.

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OCA/USPS-T13-12. Please refer to the HCSS data set contained in library reference PCR-12.

- a. In the creation of the HCSS data set, did you check for records identical or almost identical? If so, what were the results and how was this accomplished. If not, why not?
- b. Please confirm that there are 3 identical records in the HCSS data set with HCRID 77341. If you do not confirm, please explain. If you confirm, please explain how these duplicate records are handled in your analysis. Is it unusual to have duplicate records in this data set? Please explain.
- c. Please confirm that cost segments A and B of HCRID 12507 have identical records on the HCSS data set (except for cost segment values). If you do not confirm, please explain. If you do confirm, please explain how this duplicate data is handled in your analysis. Is it unusual to find records that are identical except for one value in this data set? Please explain.
- d. Please refer to Table 1 of your testimony. This table suggests that data values for annual cost, truck size, number of trucks, and annual miles should be different for distinct cost segments in one HCRID. Please clarify whether different data values for distinct cost segments is the usual case.

#### OCA/USPS-T13-12 Response:

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 Yes, for example, as discussed on page 16 of my testimony, if there are multiple truck sizes on a contract cost segment, my HCSS extract data set will have virtually identical records. Identical records are eliminated in the computer programs. See, for example, the program TRANSEQ INTERBMC.FIN.CNTL. At lines 76 to 79, identical observations would be eliminated by the use of PROC MEANS.

- b. Confirmed. The duplicate records are eliminated through the application of PROC MEANS in the computer programs. I believe that it is unusual to have duplicate records in this data set because of the small number of observations eliminated at this stage of the program.
- c. Confirmed. Contract 53135 is a Plant Load Trip contract. If two identical trips were scheduled at two different times of the year, two identical contract/cost segments could be generated. I would note that this contract also has three contract/cost segments that are similar, but different. In my analysis, each of the 5 cost segments reflects a separate transaction between the contractor and the Postal Service, and each would be included in my data set. Because of the relatively small frequency of multiple cost segment contracts, I would think that this type of phenomenon occurs with relatively low frequency.

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#### Page 3 of 3

## Response of United States Postal Service Witness Bradley to Interrogatories of OCA

d. In footnote 9 on page 15 (two lines before Table 1) I state:

Route part / cost segments can also arise if there is more than one payment type on a contract. For example, there could be an annual pay route part/ cost segment and a per-trip pay route part / cost segment on a single contract.

If the rate for the per-trip segment was essentially the same as for the annual

pay segment, the two could generate very similar, if not identical, records.

Table 1 was demonstrates the other occurrence of multiple cost segments

in which the two cost segments were heterogenous. As I state starting at line

16 on page 15:

The additional detail is useful because it permits breaking a relatively heterogenous contract into two relatively homogenous cost segments. The cost of each route part / cost segment (and thus type of transportation) is associated with just the cubic foot miles on that route part / cost segment. I can thus treat each cost segment as if it were a separate contract. This disaggregation provides information that is a degree finer than the contract level. The finer detail allows for the possibility that discrete types of transportation can be specified and paid for separately within a single contract.

As the quotation indicates, the disaggregation is useful because it permits

breaking up a heterogenous contract into its homogenous parts. It does not

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require that the contract be heterogeneous.

OCA/USPS-T13-13. Please refer to your testimony at pages 44-47 and to your response to [Docket No. MC97-2] OCA/USPS-T4-1, page 4. You note that you deleted from your database a contract with the "unusual" route length of 501 miles, which is approximately 10 times the average route length for Intra-SCF Van contracts.

- a. Did you consider deleting contracts that were shorter than average by a factor of 10 (i.e., less than five miles)? If not, why not? If you did, were any contracts deleted as a result of such consideration? If so, please list the HCRID of each such contract.
- b. Did you consider deleting contracts that were shorter than average by a factor of 100 (i.e., less than 0.5 miles)? If not, why not? If you did, were any contracts deleted as a result of such consideration? If so, please list the HCRID of each such contract.

#### OCA/USPS-T13-13 Response:

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- a. As I stated on page 2 of my answer, I did not impose a priori numerical boundaries in looking for unusual observations or outliers. In this case, I relied upon visual inspection of the data, therefore, I did not use the factor of ten that you suggest. In other circumstances, when visual inspection is not feasible, the use of numerical boundaries may be appropriate.
- b. As I stated on page 2 of my answer, I did not impose a priori numerical boundaries in looking for unusual observations or outliers. In this case, I relied upon visual inspection of the data, therefore, I did not use the factor of one

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# Response of United States Postal Service Witness Bradley to Interrogatories of OCA

hundred that you suggest. In other circumstances, when visual inspection is not feasible, the use of numerical boundaries may be appropriate.

OCA/USPS-T13-14. Please refer to pages 131-34 of your workpaper WP-7. These pages contain a listing of "unusual" contracts deleted from your analysis.

- a. The fourth column of data in this listing is labeled "CAT." This column contains numerical values between one and seven, inclusive. Please state the purpose of "CAT" and indicate the meaning of each possible value appearing in this column.
- b. Observation 10 on page 131 has HCRID of 92640 and AVECUBE of 13500. Please confirm that the value 13500 is erroneous. (The largest vehicle cube shown on page 7 of WP-1 is 3000.) If you do not confirm, please explain.
- c. As part of your search for "unusual" contracts, did you sort on the field "AVECUBE" and examine very small and very large values of this variable? If not, why not? If you did, were any contracts deleted as a result of such consideration? If so, please list the HCRID of each such contract.
- d. Observation 11 on page 131 has HCRID of 12801, VEHGRP of 1, and AVECUBE of 8100. Please confirm that the value 8100 is erroneous. (The largest vehicle cube shown on page 7 of WP-1 is 3000.) If you do not confirm, please explain.
- e. Observation 140 on page 133 has HCRID of 25013, VEHGRP of 10, and AVECUBE of 5164. Please confirm that the value 5164 is erroneous. (The largest vehicle cube shown on page 7 of WP-1 is 3000.) If you do not confirm, please explain.
- f. As part of your search for "unusual" contracts, did you sort on the fields "VEHGRP" and "AVECUBE" and examine values of AVECUBE that were inconsistent with VEHGRP? If not, why not? If you did, were any contracts deleted as a result of such consideration? If so, please list the HCRID of each such contract.
- g. The smallest vehicle cube shown on page 6 of WP-1 is 40. Please confirm that any value for AVECUBE less than 40 is erroneous. If you do not confirm, please explain.

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## Response of United States Postal Service Witness Bradley to Interrogatories of OCA

#### OCA/USPS-T13-14 Response:

a. The variable CAT identifies the unusual observations. If the value is greater than zero, the observation is unusual and deleted. See line 30 that states:

IF CAT GT 0 THEN DELETE.

The term "GT" means "greater than" in SAS language. All of the observations in the data listed on pages 131 through 134 should have a value for CAT greater than zero (they do.)

- b. Not confirmed. The values of vehicle cubic capacity listed on page 7 of workpaper one is illustrative only. I do think that the average cube is unusual and possibly erroneous.
- c. The purpose of my data inspection is to identify any observations that could distort the estimation of the true econometric relationship. To that end, I examined the variables included in the regression, annual cost, annual cubic foot-miles and route length the relationship among them (cost per cubic foot-mile and cost per mile). To the extent additional variables like the average capacity provided information on a variable, I examined them. In this particular case, two observations stand out. HCRID 92640 has an average

cube of 13,500 cubic feet and HCRID 12801 has an average cube of 8,100 cubic feet. Both of these HCRIDs have very low cost per cubic foot-mile and were deemed unusual and omitted on that basis.

- Not confirmed. The values of vehicle cubic capacity listed on page 7 of
   Workpaper WP-1 are illustrative only. I do think that the average cube is
   unusual and possibly erroneous. This observation was omitted.
- e. Not confirmed. The values of vehicle cubic capacity listed on page 7 of workpaper one is illustrative only. I do think that the average cube is unusual and possibly erroneous. This observation was omitted.
- f. No. The numerical values for the variable VEHGRP are illustrative only and are not used in my analysis. The creation of this variable was part of an early attempt to investigate the HCSS, before I found out that the truck cube for each HCRID cost segment was available from HCSS. I included this variable in the documentation for the sake of completeness so that inquisitors could observe all of the variables requested, including those not used. The only role that the variable VEHGRP plays is to identify the Intra-

# Response of United States Postal Service Witness Bradley to Interrogatories of OCA

BMC "power only" contracts. (They do not have cubic capacity specified). Because the numerical values for variable VEHGRP have no meaning for my analysis, no sorting should be done on their values.

g. Not confirmed. The value of 40 for vehicle capacity shown in Workpaper
 WP-1 is merely illustrative. I used the actual vehicle capacities from HCSS
 and did not rely on the illustrative numerical values for the variable VEHGRP.

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## Response of United States Postal Service Witness Bradley to Interrogatories of OCA

OCA/USPS-T13-15. Please refer to page 5 of your workpaper WP-1. Item 5 on this page appears to document the values for the route type variable on the HCSS data set.

- a. Please confirm that the route type codes of 1 through 6 correspond to the possible values of the variable RTYPE on the HCSS data set. If you do not confirm, please explain.
- b. Please explain the difference in meaning between codes 5 and 6. Code 5 appears to be "Combination Transportation/Box Delivery" and code 6 is described as "Combination Box Delivery/Transportation."

OCA/USPS-T13-15 Response:

a. Confirmed.

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b. Codes 5 and 6 are both codes for "combination" routes types. Combination route types, as the title indicates, combine transportation and box delivery on a given contract cost segment. Code 5 is for combination contract cost segments that initiate their service with transportation service and Code 6 is for combination contract cost segments that initiate their service that initiate their service with transportation service with box delivery service.

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## Response of United States Postal Service Witness Bradley to Interrogatories of OCA

OCA/USPS-T13-16. Please refer to item 10, pages 6-7 of your workpaper WP-1. This appears to document the relationship between vehicle type, vehicle group, and cubic feet for the vehicle.

- a. Please explain how this table is used in creating the HCSS data set.
- b. Please confirm that according to this table, vans in vehicle group 6 have cubic capacity of 1000 cubic feet. If you do not confirm, please explain the entry for vehicle group 6 in this table.
- c. Please explain why group 12 has "No Cube" as its entry in this table.

OCA/USPS-T13-16 Response:

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a. As explained in my answer to OCA/USPS-T13-14, the numerical values for

this variable played no role in my analysis. The table created before I was

aware that the actual cubic capacities were available from HCSS.

- b. Not confirmed. The numbers in this table are merely illustrative.
- c. This grouping would include "power only" contracts that do not require the

contractor to provide cubic capacity. Please see page 22, line 5, for a

discussion of these contracts. Footnote 13 on that page states:

These contracts were identified with vehicle capacity that is in "Vehicle Group 12." Being in this group signifies that the capacity of the vehicle used in the contract has zero cubic feet, suggesting the possibility that only a power unit was provided.

## Response of United States Postal Service Witness Bradley to Interrogatories of OCA

OCA/USPS-T13-17. Please refer to your response to [Docket No. MC97-2] OCA/USPS-T4-5(d). There you state, "The HCSS system generates the hard copy contracts, it is not a 'data entry' system in which hard copy data is entered."

- a. Did the HCSS generate every value of every field in your datasets? If not, please identify the fields of your datasets that were generated by the HCSS.
- b. Are some numerical data entered into the HCSS manually? If so, did any of that manually entered data find its way into your datasets? If so, please identify the fields of your datasets that were originally entered into the HCSS manually.
- c. Did you generate some of the values in your datasets? If so, please identify the fields you generated and provide citations to the computer code that generates the values.
- d. Please describe how the fields CSTSEG, YRMILE, BOX, COST, VEHGRP, NUMTRK, TRCUBE, NUMTRP, and RL are entered into or generated by the HCSS.

.OCA/USPS-T13-17 Response:

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 a. No. The cubic capacity for intra-BMC power only contracts was derived from a survey of BMCs. Please see page 22 of my testimony and Docket No.
 MC97-2 Library Reference PCR-13 for a discussion of the survey. The remaining input variables were generated by HCSS. For a listing, please see workpaper WP7 at page WP7-4, Section C.1., " Definitions of Input Variables.

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- b. My data are taken as an <u>output</u> from HCSS. If data for the relevant variables were entered manually <u>into</u> HCSS, then those data would have "found their way" into my HCSS extract.
- c. I did not generate any of the <u>values</u> for the data that are read into my analysis. As even a cursory review of my workpapers reveals, however, I did create new <u>variables</u>. The mathematical definitions and verbal descriptions for the variables that I created are contained in my workpapers. For example, please see page Workpaper 7, at page WP7-5, Section C.2., "Output Variables" where I state:

Although there are not any output variables, this is a listing of any important intermediate variables created by the program. The mathematical definitions of all of these variable are given in the source code.

- CUBE This is the sum of all truck capacities (in cubic feet) on the HCRID/cost segment.
- BOXRT This is an indicator variable that identifies box routes.
- AVECUBE Total truck Capcity (in cubic feet) divided by the number of trucks.

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# Response of United States Postal Service Witness Bradley to Interrogatories of OCA

| CFM      | - | Cubic foot-miles. This is the product of average cubic capacity and annual miles.       |
|----------|---|-----------------------------------------------------------------------------------------|
| CSTCFM   | - | Cost per cubic foot-mile.                                                               |
| A1 - A12 | - | Indicator variables, each identifying the area from which the HCRID/cost segment comes. |

d. For a description of how these variables were generated for my analysis data set please see Workpaper 1 where the variables are defined in verbal terms and the computer code that generated them is presented.

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OCA/USPS-T13-18. Please refer to page 12, line 9 of your testimony. You state, "HCSS is a tool that is useful in managing contracts."

- a. Is the HCSS used in any way relating to disbursement of payments to contractors?
- b. Does the HCSS have built-in edit checks that flag inconsistent or implausible data with respect to specific contract segments?
- c. If so, can these edit checks be ignored or over-ridden by users of the HCSS?
- d. If a contract is amended, corrected, or otherwise modified, do old versions of the contract remain in the HCSS?
- e. If a contract is amended, corrected, or otherwise modified, is it ever given a new HCRID?
- f. How is it that duplicate, or almost duplicate, records exist in your datasets?

OCA/USPS-T3-18 Response:

- a. No. The HCSS does not determine the actual payments.
- b. Because of the variety of actual contract specifications, the HCSS designers determined that it was not feasible to build in these "inconsistency" checks.
  For example, there is a valid contract in which the contractor, for his or her own reasons, provides the service for \$1 a year. As long as the service is reliable, the Postal Service benefits from, and should take advantage of,

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## Response of United States Postal Service Witness Bradley to Interrogatories of OCA

these unusual circumstances.

- c. Not applicable.
- d. Yes.

- e. Rarely. The only circumstance that I could find in which an amended contract will be give an new HCRID is when the contract specialist changes the "headout" or starting point of the transportation specified on the contract. In this case, the HCRID could change.
- f. A duplication would occur if a contract specialist fails to terminate an old contract when the new contract is activated. Although the two services would not overlap in reality, it is possible for both to be contained in the database. Although each was a valid observation in its own time, they should not overlap.

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OCA/USPS-T13-19. Please refer to the observations for HCRID 179GR, CSTSEG A and B, in the HCSS data set of PCR-12.

- a. Please confirm that these two records have identical data for all variables except for NUMTRK (10 for CSTSEG A and 1 for CSTSEG B). If you do not confirm, please explain.
- b. Please explain why CSTSEG A has a NUMTRK value ten times as large as that of CSTSEG B, yet the cost variables for both records are identical.
- c. Please confirm that the variable CUBE in your WP-7 SAS programs would be ten times larger for CSTSEG A than for CSTSEG B for this HCRID. If you do not confirm, please explain.

OCA/USPS-T13-19 Response:

- a. Almost confirmed. As your question indicates, the two records have different values for the variable "Cost Segment". Other than that, they are identical.
- b.& c. Confirmed, but I would note that the cubic foot-miles variable, that I use in my analysis, will not be 10 times as large for Cost Segment B. The variable "CUBE" is not used in constructing cubic foot-miles. The variable AVECUBE is multiplied by annual miles to construct cubic foot-miles. AVECUBE is calculated by dividing CUBE by the number of trucks. Because HCRID 179GR Cost Segment B has values for both CUBE and numbers of trucks which are 10 times as large as those for Cost Segment A, the AVECUBE variable will be identical. Thus the calculated cubic foot-miles, like the costs, will be the same size for both cost segments.

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OCA/USPS-T13-20. Please refer to the HCSS data set of PCR-12. Except for the value of HCRID, all data for the following pairs of HCRIDs are identical: (25838, 25839) and (60223, 68023).

- a. Please confirm that only one of the HCRID values in each pair is correct, and the other represents erroneous data. If you do not confirm, please comment on the probability that all data fields would exactly match for two separate contracts.
- b. Did you review the contracts for each of these HCRIDs to determine whether they could be duplicates, with an incorrect HCRID? If so, what were the results? If not, why not?

#### OCA/USPS-T13-20 Response:

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- a. It is not that the data contained in the contract specification are erroneous, but that they are duplicative. In the instance of the first two HCRIDs (25838 and 25839) a new contractor may have replaced an old one. The contract specifications remained the same, but the HCRID was changed. Apparently the old contract was not eliminated from the HCSS when the new one was activated, and an overlap occurred. In the instance of the last two HCRIDs, the contract was switched from one administrative area to another and was not eliminated from the HCSS database at the original administrative area.
- b. I did not review the contracts for each of these HCRIDs. I was not aware of

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## Response of United States Postal Service Witness Bradley to Interrogatories of OCA

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the near duplication of the HCRIDs until you brought it to my attention. The results of my subsequent investigation into the matter is described in my answer to part a. above.

### Response of United States Postal Service Witness Bradley to Interrogatories of OCA

OCA/USPS-T13-21. Please refer to your Response to [Docket No. MC97-2] OCA/USPS-T4-4, dated April 8, 1997. You state that "HCSS is a transportation contract management system in which each of the hardcopy contracts was replaced by an electronic representation." What is your understanding of how difficult or easy it is to retrieve and look at actual contractual provisions? For example, can one use a computer on-line with the HCSS system to call up a specific contract and view or print the actual contract provisions?

OCA/USPS-T13-21 Response:

It is my understanding that one could go to a DNO, sit down at a computer with an

HCSS specialist and call up the current technical specifications (annual miles, cost,

etc.) of a particular contract cost segment. It is also my understanding that it is more

difficult to print a contract because of the necessity of replicating all of the language

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included in the contract.

OCA/USPS-T13-22. In response to part (b) of your response to interrogatory [Docket No. MC97-2] OCA/USPS-T4-4, you replied in part that "HCSS is an actively used management data system that exists only in electronic form . . . ." Please now refer to the Objection of the United States Postal Service to Office of the Consumer Advocate Interrogatory OCA/USPS-T4-2 to Witness Bradley, filed March 17, 1997 ("Objection"). There it is stated:

Moreover, producing the hard copy contracts would be unduly burdensome. As should be clear from his testimony, witness Bradley had no need for, and thus does not have, the hard copy contracts. The Postal Service does not have all of the contracts in a central repository. The hard copy contracts for their respective areas are kept by each of the twelve Distribution Network Offices ("DNO's") and branches. In fact, since these were contracts in force in FY 1995, some of the DNO's may even have archived some of the pertinent contracts.

Please explain the apparent contradiction as to whether or not hard copy contracts actually exist.

#### OCA/USPS-T13-22 Response:

I apologize for any confusion I have created over the existence of the hard copy contracts. I apparently wasn't as clear as I might have been. I will try now to clearly explain my understanding of how HCSS works, which I think will resolve the apparent contradiction.

HCSS is indeed an electronic system. It is used in the management and production of contracts. It is not a "database" in the sense that data from hardcopy contracts are continually being entered into HCSS to update it. Just the opposite. HCSS is

used to generate the hardcopy contracts. Suppose a new contract is being let. The specifications will be manually entered into the HCSS and the set of contract provisions will be established. This provisional contract will then be put out to bid. Once a winner is found, the HCSS will be used to generate the hard copy contract. That contract is then signed and archived. These hardcopies are not kept centrally or even on site at some or all of the DNOs.

Of course, the HCSS had to be initialized when it was set up. This initialization is where the keypunching of the data that had been in the hardcopy contracts took place. The data were entered primarily by transportation specialists and were checked against the hardcopy contracts by Postal Service supervisors. In addition, the initialization process at each of the 12 DNOs was reviewed and verified by a team of HCSS programming and transportation experts. Finally, a copy of the output from each contract was sent to the relevant contractor for approval. For each initialized contract, each contractor signed that data for their contract(s), as they exist in HCSS, are correct. Thus, the data that exist in HCSS are, by definition, "correct," and all future contract actions work off the data as they were entered in HCSS. The HCSS data thus constitute the hard copy data. For all subsequent contracts and contract actions, the hardcopy contracts are generated from HCSS.

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It is also my understanding that although a computer program can extract the required information in electronic form from HCSS with relative ease, locating and retrieving the hard copy contracts is a difficult and time consuming process.

OCA/USPS-T13-23. Please refer to the portion of the Objection, supra, where it is stated: "As should be clear from his testimony, witness Bradley had no need for, and thus does not have, the hard copy contracts." However, in response to [Docket No. MC97-2] OCA/USPS-T4-5(b), in which OCA had asked whether you had ever requested to look at the contracts in their hard copy form, you stated:

Yes, I provided contractors for the Postal Service with a list of the unusual HCRIDs and area offices (DNOs) in which they reside. I then requested that they attempt to either obtain the hardcopy contracts or explanations for the observations. It is my understanding that an administrative mixup resulted in the information not being obtained.

- a. Please explain the apparent contradiction as to whether you "had no need" to see the hard copies of the contracts.
- b. Did attorneys for the Postal Service interview you for purposes of filing the Objection?
- c. Please describe in full what you understand the "administrative mixup" to have been.
- d. Once the "administrative mixup" had been explained to you, was it not possible to pursue the matter further, by straightening out whatever "administrative mixup" had occurred.

OCA/USPS-T13-23 Response:

a. In fact, my entire response is given by:

Yes. I provided contractors for the Postal Service with a list of the unusual HCRIDs and area offices (DNOs) in which they reside. I then requested that they attempt to either obtain the hardcopy contracts or explanations for the observations. It is my understanding that an administrative mixup resulted in the information not

## Response of United States Postal Service Witness Bradley to Interrogatories of OCA

being obtained. Because of the extremely small number of such observations (30 out of 4,000), because I made explicit the effect of these observations and thus brought them to the attention of all participants, and because I am not relying upon them in my recommended variabilities, I did not delay filing my testimony in the absence of a response.

My interpretation of the quotation is that I was able to complete my analysis and file my testimony without reviewing the hard copy contracts. It is in that sense that I had "no need" for the hardcopy contracts. Moreover, because: (1) I presented a complete list of the observations eliminated, (2) I estimated and presented variabilities with unusual observation included, (3) I estimated and presented variabilities with the observations excluded, and (4) there are very small number of observations at issue, I believe that the Commission can evaluate my results without seeing the hardcopy contracts.

b. Objection filed on July 28, 1997.

c. To the best of my knowledge, there was a communications problem between
 Postal Service contractors and Postal Service headquarters staff about the
 production and dissemination of a letter requesting the desired information.

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d. I was not aware of the mixup until I after I received your interrogatory. I interpreted the lack of response from the DNO's as an indication of the difficulty they had in tracking down hard copy contracts. Once I found out about the mixup, I did encourage pursuing the matter further. The responses the Postal Service received are in Library Reference H-181.

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#### Response of United States Postal Service Witness Bradley to Interrogatories of OCA

OCA/USPS-T13-24. You also state that "HCSS is a 'live' data set in the sense that contract information is regularly updated. It is therefore necessary to take a cross section at a single point in time. Review of the same HCRID, at a later point in time, generally will not provide the same information, if the contract has been changed."

- a. Does this mean that retrieving both the numerical data from the contracts and the verbal contractual provisions in the corresponding contracts from the HCSS or any other source cannot be replicated?
- b. If this information database cannot be replicated, please comment on the observation that it is a fundamental tenet of econometric (and scientific) analysis that data, findings and conditions upon which conclusions are based (here, the original database) must be able to be replicated.

#### OCA/USPS-T13-24 Response:

a. I am not familiar with the verbal contract provisions. (I did not receive them in Docket No R87-1 when I constructed an electronic data set from hardcopies. Even then the "hardcopy contracts" were just those pages that listed the technical specifications of the contract.)

Unlike most data sets, it may be possible to replicate the extract that was created from HCSS. HCSS apparently keeps an electronic history of each contract and it is theoretically possible to reconstruct the contract as it stood at the time the extract was created.

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### Response of United States Postal Service Witness Bradley to Interrogatories of OCA

In contrast, I think it would be even more difficult, if not impossible, to replicate the purchased highway contract data that I and the Commission used in Docket No. R87-1, and that served as the basis for the estimated variables used since that time.

b. I think that you are confusing replication of econometric results with replication of data. Most econometric data are from one-time events like surveys of household income, collection of firm-specific data on output and costs, or macroeconomic conditions. Because the conditions that generate these data will never and can never be repeated, the data they generate cannot be replicated. The key issue is whether the econometric results can be replicated from that data.

The replication programs in econometrics that I am familiar with, and have participated in, require researchers to submit their data, to see if others can replicate the results alleged generated by those data. These programs do not require replication of the data.

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## Response of United States Postal Service Witness Bradley to Interrogatories of OCA

OCA/USPS-T13-25. In response to [Docket No. MC97-2] OCA/USPS-T4-4(d) you stated, in part:

Before the data were converted to spreadsheet form, I uploaded them to the Postal Service mainframe computer. There, I performed certain manipulations, like calculation of descriptive statistics. I then downloaded the data from the Postal Service mainframe computer, read it into a spreadsheet program, and parsed it. After parsing the data, I checked the means of each variable against the means of the same variables calculated on the mainframe. Observing that the number of observations and the means were identical, I concluded that the data were identical.

Confirm that this exercise would not have uncovered data input errors into the HCSS by personnel at the twelve DNOs (where, we presume, contractual data originally was entered). If not confirmed, please explain.

OCA/USPS-T13-25 Response:

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Confirmed. However, I would note that other procedures, such as having each

contractor review and verify to the HCSS data for his or her contract, are used by

the Postal Service to uncover data errors.

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## Response of United States Postal Service Witness Bradley to Interrogatories of OCA

OCA/USPS-T13-26. Please refer to your response to OCA/USPS-T4-5. You stated that you "discussed the existence and general nature of these unusual observations with postal personnel and contractors."

- a. Please describe your full recollections of these discussions.
- b. Did Postal Service employees or contractors ever state or hypothesize that any of the unusual observations could be accounted for by contracts that were inappropriately entered into? If so, describe fully.

## OCA/USPS-T13-26 Response:

a. I recall bringing the existence of these observations to the attention of Postal
 Service employees or contractors and suggesting that the be excluded from
 the data on which the recommended variabilities were estimated. I also
 recall discussing an effort to obtain either the contracts for these
 observations or an explanation of the observations themselves.

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b. No.

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OCA/USPS-T13-27. In your response to [Docket No. MC97-2] OCA/USPS-T4-5, you stated that "[i]n my judgement, whether the unusual observations are the result of data entry errors or simply cover an atypical situation is irrelevant for the econometric exercise."

- a. Is it your position, then, that data may be excluded from a set for no other reason than that the data is "atypical, i.e., much higher or lower than comparative data?" If it is, please provide citations to the economics literature supporting such a position.
- b. You also state that "given the fact that much more data are available now than in the past, 'correcting' these observations, even if possible, is not necessary."
  - (I) Given your understanding of the HCSS system, is "correcting" these observations possible, e.g., by looking at the underlying hard copy contracts?
    (ii) Please explain why correcting these observations is not necessary when Table 15 of your Direct Testimony ("Effects of Eliminating a Small Number of Unusual Observations") shows variability changes as high as 10.47%.

OCA/USPS-T13-27 Response:

a. The quotation that is in your question does not appear in my answer. My

actual statement is:

Because of the extremely small number of such observations (30 out of 4,000) and because I am not relying upon them in my recommended variabilities, I felt that it was not critical to pursue the matter further. In my judgement, whether the unusual observations are the result of data entry errors or simply cover an atypical situation is irrelevant for the econometric exercise.

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I did not equate an atypical observation with being "much higher or lower

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than comparative data." Rather, my recommendation was that in the case that the data were atypical or erroneous, it is appropriate to remove them from the econometric exercise. The fact that an observation came from an atypical situation will distort the true relationship being investigated. This is not to say that data that are in extreme ranges are not valuable. Rather, it is trying to be sure that all of the data used in the estimation are from the same structural econometric relationship. For example, researchers often omit the "war years" from historical econometric analyses because the structure of the economy was distorted during the period of World War II. If the data are not generated by the same data generating process, or if the data are erroneously constructed, they should be excluded from the analysis.

Finally, please recall that while I did estimate econometric regressions excluding these observations, I did not exclude these observations from the data set. That is, I presented econometric results both with the observations included and with the observations excluded.

b.i. I believe it may be possible. To the extent that a historical record exists, then the current observations can be checked against that historical record.

## Response of United States Postal Service Witness Bradley to Interrogatories of OCA

However, it is my understanding that hardcopy contracts are printed from the HCSS and this limits the usefulness of hardcopies in "checking" the values contained in HCSS.

b.ii. The reason that the variabilities change when the observations are omitted is because those observations are dramatically <u>different</u> from the rest of the observations in terms of their relationship between cost and cubic foot-miles. If these observations were corrected so that they were like all of the other observations, then they would no longer exert an influence on the regression and the current results (with the observations omitted) would be maintained.

By way of analogy, suppose we were trying to determine the color of marbles in an urn. Consider an earn full of 100 marbles, of which 95 are red and 5 are white. If one removes the 5 white marbles, then the urn is filled with just red marbles. If one "corrects" the 5 white marbles by painting them red and returns them to the urn, once again the urn is filled with just red marbles.

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OCA/USPS-T13-28.Please refer to your response to [Docket No. MC97-2] OCA/USPS-T4-5 in which OCA asked whether or not the data sets with which you worked could have been infected with data entry errors. You replied that the HCSS system "is not a 'data entry' system in which hard copy data is entered." You further replied that you "attempted to minimize keypunch errors by using a computer program to extract the data from each HCSS site rather than keypunching it."

- a. One of our concerns is the possibility of data entry errors by the personnel who originally entered the data into the HCSS system, presumably at the twelve DNOs. Please explain how contract data gets into the system in the first place.
- b. Please explain how employees who first enter the data into the system are monitored in terms of quality control. If you do not personally know the answer to this, as with all other interrogatories, please refer it to another person for response.
- c. Please respond again to OCA/USPS-T4-7, with respect to the initial input of contractual information into the HCSS system, presumably at the twelve DNOs.

OCA/USPS-T13-28 Response:

a. Please see my response to OCA/USPS-T13-22.

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 As HCSS existed at the time I took my extract, the "data" were entered as the contract is constructed. That is, the transportation specialists use HCSS to specify and build the contract. The specifications are checked by the transportation specialist, the contractor, and by an administrative official

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## Response of United States Postal Service Witness Bradley to Interrogatories of OCA

responsible for making payments on the contract.

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When HCSS was initialized, the data entry was reviewed by Postal Service transportation specialists, Postal Service supervisors and the contractor, who signed a contract amendment agreeing to its accuracy.

c. The initialization of the data occurred before I was involved with obtaining an HCSS extract. Therefore, it was impossible for me to have contact with the individuals who entered the data. After the initialization, the HCSS data existed in electronic form and no further data entry was required to produce the data sets that I analyzed.

OCA/USPS-T13-29. Please refer to your response to [Docket No. MC97-2] OCA/USPS-T4-9, including the standard Postal Service forms that were attached.

- a. The first page of the attachment is entitled "Transportation Services Bid or Proposal & Contract for Regular Service." Is this the basic contract document from which information is extracted to be put into the HCSS system? If not, what is its purpose?
- d. Refer to the block with the heading "2. Rate of Compensation, Bid or Proposal" on that same first page. Inside the block appears the following: "WRITTEN DOLLAR AMOUNT (Bid or proposal must be submitted on a single annual rate basis unless the solicitation specifically calls for bids/proposals at a per mile, per trip, or other unit rate.)" Is it possible that some of the "unusual observations" noted in your analysis may have occurred because of confusion as to what type of solicitation was called for, e.g., a contract recorded as having an "annual cost" of \$1 in reality reflected a contract for \$1 per mile?
- c. Refer to the page entitled "Highway or Domestic Water Transportation Contract Information and Instructions" which follows the page entitled "Amendment No. 3." In Part (A)(2) of the instructions, reference is made to contract solicitations for "advertised contracts" and "negotiated contracts." Please explain the differences between the two types of contracts, and what discretion the Postal Service has to employ one kind of contract over another. Please also supply documents containing guidelines or regulations that explain the differences and the scope of Postal Service discretion.

OCA/USPS-T13-29 Response:

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- a. Redirected to the Postal Service.
- b. It is possible, but unusual values for compensation do exist for valid contracts. For example, I have been told about a valid contract that is in

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## Response of United States Postal Service Witness Bradley to . Interrogatories of OCA

place for annual service at the rate of \$1 per year. I am also told that there is no requirement that the contractor make a profit. It is thus quite possible that these unusual values are valid but just atypical.

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c. Redirected to the Postal Service.

## Response of United States Postal Service Witness Bradley to Interrogatories of OCA

OCA/USPS-T13-30. Please refer to page 76 of your workpaper WP-7.

- a. Please confirm that at lines 61-67, you are assigning values to the TRCUBE variable. If you do not confirm, please explain.
- b. Please explain how the values for individual vehicle cubic capacity can be determined and assigned by your SAS program, yet these values do not appear in the HCSS data set.

OCA/USPS-T13-30 Response:

- a. Partially confirmed. Lines 61-67 are assigning values for just the intra-BMC "power only" contracts.
- b. As explained on page 22 of my testimony, the cubic capacity values for intra-BMC power only contracts were derived from a special survey. In fact, the values for the capacities listed on lines 61-67 are presented in my testimony on page 23 in Table 4 under the title "Average-Size Trailers in Leased Trailer Fleets."
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OCA/USPS-T13-31. Please refer to page 6 of your workpaper WP-1. The programming specifications for vehicle cubic capacity states:

Determine which Vehicle Group by selecting the VC\_CODE from the Vehicle\_Characteristic\_T table to determine which Vehicle Group that vehicle belongs. Also, specify how many cubes for the vehicles for that same VC\_CODE exists for that route.

- a. Please amplify or clarify the above instructions.
- b. Were you involved in the creation of the HCSS data set or the preparation of the computer specifications? If so, when did you become involved in the preparation of the HCSS data set?
- c. Did you examine values of the variable TRCUBE as part of your process of identifying unusual observations? If so, please explain the results of your analysis of that variable.
- d. Please confirm that workpaper WP-1, page 6, indicates permissible values for vehicle cubic capacity of 40, 50, and 90 for group 1 vehicles. If you do not confirm, please explain what the values 40, 50, and 90 represent. Please list all permissible values fro TRCUBE for group 1 vehicles and explain how you arrived at those values.
- e. Please explain how the HCSS data set can contain values for group 1 vehicles for TRCUBE as large as 136 (HCRID 12976) or as small as 25 (HCRID 31537). Are these observations unusual since the TRCUBE values are outside of the range of values given in your WP-1 for vehicle group 1? Please explain.
- f. Please confirm that the largest vehicle cubic capacity listed in the table at pages 6-7 of WP-1 is 3000 for 48-foot tandem axle trailers. If you do not confirm, please provide the correct figures and explain what the 3000 figure represents.
- g. Among the "usual" observations in your data set, there are nine HCRIDs (12048, 32712, 35021, 50019, 755AA, 91716, 92032, 92333, and 92354) with TRCUBE values exceeding 5000. Please explain why these should not

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be classified as unusual observations.

- h. Please refer to the observation for HCRID 12048, CSTSEG A. This contract is for a group 1 (passenger car, four wheel drive, boat, or station wagon) vehicle with a TRCUBE value of 5400. Please confirm that this is an erroneous value for vehicle capacity. If you do not confirm, please explain any special characteristics of this vehicle. If you do confirm, please explain why it is not considered unusual.
- I. Please refer to the observation for HCRID 755AA, CSTSEG A. This contract is for a group 6 (van, with WP-1 cube listed at 800) vehicle with a TRCUBE value of 9000. Please confirm that this is an erroneous value for vehicle capacity. If you do not confirm, please explain any special characteristics of this vehicle. If you do confirm, please explain why it is not considered unusual.

#### OCA/USPS-T13-31 Response:

- a. Select the vehicle group for a given contract cost segment. Obtain the cubic capacity of the vehicle(s) on a given contract cost segment. The computer code identifies the actual cubic capacity of the vehicles on the contract cost segment. In the case of the automobile group and the pickup/minivan group there are multiple truck sizes (over a small range). For these instances, the average-size vehicle for the vehicles actually on the contract is used.
- b. I was involved in specifying the variables that would be extracted from HCSS. I was not involved in writing any computer code that does the

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## Response of United States Postal Service Witness Bradley to Interrogatories of OCA

extraction. I was involved with constructing the HCSS extract from the beginning of the process.

- c. No. My investigation took place at the analysis data set stage. TRCUBE is not an active variable at that stage. Morever, the econometric relationship depends upon the relationship between cost, cubic foot-miles and route length. TRCUBE only matters to the extent it influences cubic foot-miles.
- d. Not confirmed. These values are illustrative. There is no limit on the permissible values.
- e. The HCSS data set contains the actual recorded cubic capacity of a vehicle regardless of what group it is in. These values are not outside the range of values for group 1 because there is no limit on the range. The values in WP-1 are illustrative only.
- f. Not confirmed. This value is illustrative only.

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g. There are two types of HCRIDs listed. The first type includes HCRIDs 12048,

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35021, 50019, 91716, 92032, 92333, and 92354. These contract cost segments include vehicle capacities of 5,400 or 6,000. There is nothing unusual, per se, about these capacities, as these values could be associated with tandem trailers. The other two contract cost segments, 32712 and 755AA, are more unusual and were certainly candidates for exclusion. In fact, both are on the borderline in terms of cost per cubic foot-mile within their account categories. (All of the observations with a lower cost per cubic foot-mile were eliminated.) However, in the spirit of parsimonious exclusion, these contract cost segments were left in the analysis, in part because their cost per mile was in the middle of the pack.

- h. Not confirmed. This capacity is associated with a tandem trailer and is thus not unusual. The vehicle grouping variable is only illustrative.
- I cannot confirm that it is erroneous because I have not investigated this single data point. As discussed in my answer to part g., this particular cost segment is on the borderline, in terms of cost per cubic foot-mile but I chose to include it.

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OCA/USPS-T13-32. Please refer to workpaper WP-7, page 13, lines 38-65.

- a. Please confirm that this code identifies box route contracts by examining values for the variables HCRID, BOX, RTYPE, and TRCUBE. If you do not confirm, please explain.
- b. Please confirm that contracts with RTYPE 5 or 6 (combination transportation/box delivery) are classified as box route contracts if they are not intra-city contracts, if BOX>0, and if TRCUBE<300. If you do not confirm, please explain and correct this statement.
- c. Please confirm that there are approximately 75 observations on the HCSS data set that have RTYPE 5 or 6, are not intra-city, have BOX>0, but have TRCUBE>300. If you do not confirm, please correct these figures.
- d. Please refer to HCRID 04467, CSTSEG A. This contract has one vehicle with capacity of 330 and 241 boxes. Please explain why this should not be considered a box route contract. Please confirm that you classify this contract as an intra-SCF contract. If you do not confirm, please explain. If you do confirm, please explain whether this box route would be an "unusual" intra-SCF contract.

OCA/USPS-T13-32 Response:

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a. Confirmed

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b. Confirmed

c. Of the 6,231 observations in the regular intra-SCF data set, I found 71 observations that match your criteria.

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d. The existence of combination contract cost segments that provide both transportation services and box route services creates a classification problem. Fully aware than any classification scheme is in part arbitrary and subject to second guessing, I attempted to find, from an operational perspective, the best classification rule. That rule came from Postal Service transportation experts who consider a cubic capacity of 300 cubic feet to be a good dividing line between the type of vehicle that provides transportation services and the type of vehicle that provides box route services. According to that rule, the contract cost segment that you cite would provide primarily transportation services rather than box route services, and that is how it is classified.

This contract cost segment has annual miles of 14,049 and a truck capacity of 330 cube implying an annual cubic foot-miles of 4,636,038. At an annual cost of \$20,466 this implies a cost per cubic foot-mile of \$0.006018 and a cost per mile of \$1.9858. While both of these values are relatively high values for the intra-SCF account category, neither are extraordinary and this contract cost segment is not designated as unusual.

OCA/USPS-T13-33. Please refer to page 5 of your workpaper WP-1. The computer specification for box count states:

Box Count should be broken down by route part. Reference the Line of Travel screen (LAC018X1.INP) to see the select Service\_Point\_Trip\_T table.

- a. Please explain in more detail how the box count variable is constructed.
- Did you examine values of the variable BOX as part of your process of identifying unusual observations? If so, please explain the results of your analysis.
- c. Please refer to HCRID 00645, CSTSEG A. This contract record shows a value of 1882 for BOX, one vehicle of group 1 (car, four wheel drive, etc.) and a route length of 16.4. Please describe the characteristics that could allow a single vehicle to serve 1882 boxes. Could the data for this observation be erroneous, or just unusual? If it is just unusual, then please explain why this observation was not included in the list of unusual HCRID, CSTSEG pairs.

OCA/USPS-T13-33 Response:

- a. The box count variable is constructed by counting the number of boxes on the route.
- b. Yes, I examined the cost-per-box and the cost-per-mile for box route contracts as they are the relevant right-hand-side variables. In the instances where I found a very high or low cost per box, I looked at both the cost and

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the number of boxes for unusual values. Three contract cost segments stand out. Each has an unusually low cost-per-box and an unusually high number of boxes. Each was designated as an "unusual" observation and omitted from the final analysis data set. The three HCRIDs and their numbers of boxes are listed below:

| HCRID | Number of Boxes |
|-------|-----------------|
| 32057 | 4,435           |
| 80660 | 6,560           |
| 18480 | 8,044           |

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c. The data for this contract cost segment appears to be neither erroneous nor unusual. There are over 70 contract cost segments that serve over 1,000 boxes. In addition, the fact that it is a relatively short route (16.4) reinforces the likelihood that it is a route that serves a dense concentration of rural cluster boxes, apartment buildings, or NCDBUs.

OCA/USPS-T13-34. Please refer to the computer specifications for total annual mileage at page 5 of your workpaper WP-1.

- a. Please confirm that this is the specification for the creation of the variable YRMILE on the HCSS data set. If you do not confirm, please explain what the specification relates to and provide a definition of the YRMILE variable on the HCSS data set.
- b. Did you examine values of the variable YRMILE as part of your process of identifying unusual observations? If so, please explain the results of your analysis.
- c. Please refer to the HCSS record for HCRID 27291 CSTSEG A. Please confirm that this contract has just one vehicle (NUMTRK=1) and its annual mileage is 587,134. If you do not confirm, please explain the meaning of these variable values.
- d. Please confirm that one would have to average 67.025 mph, 24 hours a day, for 365 days in order to travel 587,134 miles in one year. Is this average vehicle speed usual for contract vehicles? Please explain.
- e. Please confirm that the HCRID 27291 CSTSEG A data is erroneous. If you cannot confirm, please explain how the vehicle can travel so many miles in one year.
- f. Please confirm that there are at least a dozen records on the HCSS data set for which the average annual miles per vehicle exceeds 400,000. If you do not confirm, please provide the correct figures. Please explain whether these contracts, vehicles, or possibly drivers are unusual.

OCA/USPS-T13-34 Response:

a. Confirmed.

- b. When the cost per mile or the cost per cubic foot-mile on a contract cost segment was particularly high or low, the annual miles variable was examined.
- c. Not confirmed. This contract cost segment has 7 vehicles, one vehicle that has a cubic capacity of 2,700 cubic feet and six vehicles that have a cubic capacity of 3,000 cubic feet. Contract cost segments with multiple sized trucks have multiple records in my HCSS data extract. Please see lines 5 through 10 on page 16 of my testimony for a discussion of this fact. More generally, the number of vehicles is not a variable that is used in my analysis except to find the average capacity on contract cost segments that have multiple sized trucks.
- d. As the calculation is not relevant, I did not check the arithmetic.
- e. Not confirmed. The 587,134 miles were not specified as being driven by one truck. Instead they are driven by 7 trucks. The yields a value of just over 83,000 miles per year per vehicle.
- f. Not confirmed, I could only find five such observations. Recall that the

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#### Response of United States Postal Service Witness Bradley to Interrogatories of OCA

designation of an "unusual" observation relates to estimating the relationship between cost and cubic foot-miles. If this relationship is unusual, then including the observation could distort the estimated equation. Whether or not these five observations are unusual in this sense depends upon the relationship between the cost and cubic foot-miles. If they have extremely high or low cost per cubic foot-mile, then they are candidates for omission. Because these observations are not in the extreme values for these key indicators, they should not be considered unusual for the purpose of estimating the econometric equation.

Finally, I understand that the number of trucks represents a guideline, but not absolute requirement, for a contract. In other words, the contractor can use any number of vehicles as long as the desired capacity is available where it should be when it should be. This means your inferences about actual operating conditions are not necessarily accurate.

## Response of United States Postal Service Witness Bradley to Interrogatories of OCA

OCA/USPS-T13-35. Please refer to the computer specifications for total number of trips at page 7 of your workpaper WP-1. This specification is as follows:

You may use the sqlca.sqlerrd[2] (number of rows processed) area as the Total Number of Trips. Do not use the highest trip number as the total number of trips since trip numbering is not always representative of the true coinciding trip number.

- a. Please confirm that this is the specification for the creation of the variable NUMTRP on the HCSS data set. If you do not confirm, please explain what the specification relates to and provide a definition of the NUMTRP variable on the HCSS data set.
- b. Did you examine values of the variable NUMTRP as part of your process of identifying unusual observations? If so, please explain the results of your analysis.
- c. Please explain whether NUMTRP refers to the number of trips in a day, month, year, or other time period.
- d. Please explain whether the time period for the NUMTRP variable is the same for the various account numbers, segments, and areas. How did you determine this to be the case?
- e. Please confirm that the HCSS data set variable SUMLNGTH is the product of NUMTRP and route length (RL) for routes having just one vehicle. If you do not confirm, please explain.
- f. Please refer to the HCSS observation with HCRID 619PR and CSTSEG A. This observation has NUMTRK=1, SUMLNTH(sic)=10924.7, NUMTRP=31, and RL=352.41. Please confirm that SUMLNTH(sic)=NUMTRP\*RL and that SUMLNGTH represents the annual mileage figure. If you do not confirm, please explain.
- g. Please refer to the HCSS observation with HCRID 841AD and CSTSEG A. This observation has NUMTRK=2, SUMLNTH(sic)=435.6, NUMTRP=66, and RL=6.60. Please confirm that SUMLNTH(sic)=NUMTRP\*RL and that SUMLNGTH represents less than 1/300<sup>th</sup> the total annual mileage figure. If you do not confirm, please

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## Response of United States Postal Service Witness Bradley to Interrogatories of OCA

explain and correct any figures. If you do confirm, please explain any differences between the definitions of the SUMLNGTH variable for this observation and for the HCRID 619PR observation.

OCA/USPS-T13-35 Response:

a. Confirmed.

- b. No. The number of trips is not used in my econometric analysis.
- c. None. The number of trips does not refer to any time period. It is the number of different scheduled route trips on the contract cost segment.
- d. There is no time period for the variable NUMTRP so there is nothing of this sort to be compared across account numbers segments and areas.
- e. Not confirmed. As I state on page 3 of Workpaper WP1-3:

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This variable measures the total route mileage for all trips on the contract cost segment. This is not the annual miles traveled.

The variable SUMLNGTH is the product of number of trips (NUMTRP) and route length (RL) for contract cost segments having route trips of all the same route length. (In this particular case the sum of route lengths equals the product of the

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## Response of United States Postal Service Witness Bradley to Interrogatories of OCA

number of trips times the route length for each.) For contract cost segments having multiple-length route trips, SUMLNGTH is the sum of the route lengths on all route trips.

- f. I confirm that for this plant load trip contract cost segment, the SUMLNGTH variable equals the product of number of trips time route length. (Recall that on a plant load trip contract cost segment, the service is contracted on a per-trip basis) This is because each of the 31 plant load trips had the same route length (perhaps the route between the plant and the postal facility.) I also confirm that for this contract cost segment the annual miles equals the SUMLNGTH variable. That is because for this plant load contract, each route trip occurs only once. On a contract cost segment in which the route trip is made daily, the annual miles will be about 300 times the route length as the trip is made about 300 times a year.
- g. I confirm that for this intra-SCF contract cost segment, the SUMLNGTH variable equals the product of number of trips time route length. This is because each of the 66 scheduled trips had the same route length (perhaps the route between two nearby postal facilities.) I also confirm that annual miles is a little more than 300 times the SUMLNGTH. This is what it should be if the trips are made daily (there are about 305 delivery days in the year). For a given trip, annual miles equals the

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## Response of United States Postal Service Witness Bradley to Interrogatories of OCA

the route length for that trip times the annual frequency (number of times per year

the trip is made.)

The variable SUMLNGTH is defined in the same way for both observations cited in the question.

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### Response of United States Postal Service Witness Bradley to Interrogatories of OCA

OCA/USPS-T13-36. Please refer to the SAS code at lines 81-89 of page 14 of your workpaper WP-7. This section of code begins with a comment that states, "CONSTRUCTING THE DATA SET ON THE BASIS OF THE HCRID & THE CONTRACT COST SEGMENT."

- a. Please confirm that the PROC MEANS contained in this section of the program combines multiple records having the same HCRID and CSTSEG into single observations. If you do not confirm, please explain.
- b. Please confirm that the PROC MEANS can assign a value to an output variable that is not a value contained in any of the original records having the same HCRID/CSTSEG combination. If you do not confirm, please explain.
- c. Please refer to HCRID 365AU, CSTSEG A. Two records are identified with this HCRID/CSTSEG combination, one having YRMILE= 12425.90 and the other having YRMILE= 12183.40. Please confirm that at the conclusion of the PROC MEANS procedure, the value of YRMILE is 12304.65 in data set TRASCF2 (neither of the above values for HCRID 365AU, CSTSEG A). If you do not confirm, please explain. If you do confirm, please confirm that the value of YRMILE used for analysis does not correspond to an actual value on the contract having HCRID 365AU.
- d. Please refer to lines 3-8 on page 16 of your testimony. Please confirm that if there are multiple records on a given cost segment because of multiple truck sizes on that cost segment, the multiple cost segment records would be combined into a single observation for that HCRID/CSTSEG by the PROC MEANS statement.

#### OCA/USPS-T13-36 Response:

a. Confirmed.

b. Not confirmed. In the code that you cite, PROC MEANS assigns to the output variable either the average value for the input variables being averaged or the

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### Response of United States Postal Service Witness Bradley to Interrogatories of OCA

summed value for the input variables being summed. Thus, PROC MEANS must assign a value to the "output variable" that contains the values for the "input variables." Those input values are either summed or summed and divided by the number of input values. However, it is clear that unless the values for the input variable are identical, the mean value will not equal the value for any one the input variables. In addition, the summed value will never equal the value of any one of the input variable.

c. Confirmed The value of 12,304.65 is the average of the two input values. It is 121.25 miles (less than one percent) larger than 12183.4 and 121.25 miles (less than one percent) smaller than 12425.90.

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d. Confirmed.

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### Response of United States Postal Service Witness Bradley to Interrogatories of OCA

OCA/USPS-T13-37. Please refer to your response to OCA/USPS-T4-7 and to your workpaper WP-1.

- Your response to part a of [Docket No. MC97-2] OCA/USPS-T4-7 states, There was no data entry required for the construction of the dataset I used. It existed in electronic form before the construction of the extract of the data used in my analysis.
  - Page 1 of WP-1 states,

A program was developed that could be used to extract the required variables from the HCSS data base at each individual HCSS site.

- (i) Do you consider entering data and developing a program to be different processes? If so, please describe the differences.
- (ii) Would you agree that entering data and writing computer code both involve keystroking? If not, please explain.
- (iii) Did the data in the HCSS data base always exist in electronic form? If so, please describe how the data were initially generated.
- b. Your response to part b of [Docket No. MC97-2] OCA/USPS-T4-7 states,
  I did work closely with postal data processing professionals and HCSS experts to ensure that the same type of data that I had used in Docket No R87-1 would be available, in reliable form, from HCSS.
  - (i) Did you participate in drafting the "Programming Specifications" that appear at pages 4-7 of WP-1? If so, please describe your participation and state the beginning and ending dates of your participation.
  - (ii) What is meant by the statement, "This project will initially be independent of the HCSS system." (WP-1 at 4.)
  - (iii) Please provide a copy (hard copy and diskette) of the program LAC990C1.PC referred to at page 4 of WP-1. How many versions of this program were tested at a single site before data were extracted at the 12 HCSS sites? At which HCSS site was the program tested? What "checks were made to ensure that the data were extracted correctly"?
  - (iv) Please provide copies (hard copy and diskette) of the programs actually used at each of the 12 HCSS sites to extract the variables required for your dataset.

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- (v) Please provide a copy (diskette) of the file LAC990D1.LST referred to at page 4 of WP-1.
- (vi) Please provide copies (diskettes) of the files actually generated at each of the 12 HCSS sites containing the variables required for your dataset and "sent to the St. Louis ISSC for collating into one file." State the dates on which each file was "sent to the St. Louis ISSC."
- (vii) Please provide a copy (diskette) of the collated file prepared at the "St. Louis ISSC [and] forwarded to Headquarters." State the dates on which this collated file was
  (a) completed and (b) received at Headquarters.
- (viii) Please provide a copy of the programming specifications and the actual code (hard copy and diskette) used for collating the data from 12 HCSS sites at the "St. Louis ISSC."
- (ix) Please describe the measures taken at the "St. Louis ISSC" and at Headquarters to maintain the integrity of the data extracted at the 12 HCSS sites.
- (x) Please state the number of records (observations, contract segments) in each of the following datasets: the extracted file produced at each HCSS site, the file for each HCSS site as received at the "St. Louis ISSC," the collated file produced at the "St. Louis ISSC," the collated file as received by Headquarters, and the collated file received by you.
- (xi) Is it your belief that no records (observations, contract segments) were lost, modified, or created during the process of being transferred from the 12 HCSS sites to the "St. Louis ISSC"? Please state the basis for your belief.
- (xii) Is it your belief that no records (observations, contract segments) were lost, modified, or created during the process of being collated at the "St. Louis ISSC"? Please state the basis for your belief.
- (xiii) Is it your belief that no records (observations, contract segments) were lost, modified, or created during the process of being transferred from the "St. Louis ISSC" to Headquarters? Please state the basis for your belief.
- (xiv) Is it your belief that no records (observations, contract segments) were lost, modified, or created at any time during the process of being transferred from the 12 HCSS sites to your custody? Please state the basis for your belief.
- (xv) Is it your belief that no records (observations, contract segments) were accidentially (sic) deleted, modified, or created while in your custody? Please state the basis for your belief.

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### Response of United States Postal Service Witness Bradley to Interrogatories of OCA

### OCA/USPS-T13-37 Response:

- a.(i). I consider them to be so. In so far as I know, data entry consists of creating an electronic data set from a set of existing data that are, perhaps, in a different medium. Developing a program includes things like learning the relevant computer language, figuring out the goals of the program, constructing the logic required to accomplish the goals of the program, and so forth.
- a. (ii.) They certainly can. If a keyboard is used to do the data entry or enter the computer code that comprises the program, then I would think that keystroking would be required. If a mouse or some other type of input device is used, then keystroking may not be necessary.
- a. (iii.) Yes. Please see my response to OCA/USPS-T13-22.
- b.(i.) Please see my answer to OCA/USPS-T13-31.b.

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b.(ii.) The HCSS extract for my analysis will be a one-time "snapshot" of the HCSS data, not a continuous extraction process.

- b.(iii.) Redirected to the Postal Service.
- b.(iv.) Redirected to the Postal Service.
- b.(v.) Redirected to the Postal Service.
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- b.(vi.) Redirected to the Postal Service.
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- b.(viii.)Redirected to the Postal Service
- b.(ix.) Redirected to the Postal Service.
- b.(x.) Redirected to the Postal Service.

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- b.(xi.) Yes. My experience with working with the Postal Service computer people is that they were serious, professional and competent. They understood the importance of taking care of the data and had no incentive, to my knowledge, to modify or manipulate the data in any way.
- b.(xii.) Yes. My experience with working with the Postal Service computer people is that they were serious, professional and competent. They understood the importance of taking care of the data and had no incentive, to my knowledge, to modify or manipulate the data in any way.

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- b.(xiii.) Yes. My understanding is that the diskettes were mailed to headquarters. The security of the mailstream is well known.
- b.(xiv.) Yes. Please see my answers to b.(xi.) though b.(xiii) above.
- **b.(xv.)** Yes. I was careful as I could be with the data. In addition, I recorded the number of observations that I originally received and, to the best of my ability, verified that I continued to have the number of observations in my data set.

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## Response of United States Postal Service Witness Bradley to Interrogatories of OCA

OCA/USPS-T13-38. Please refer to the HCSS data set record having HCRID 608MR, and CSTSEG A. This contract record has a value of NUMTRK=150, indicating 150 trucks are on the contract.

- a. Please confirm that the total annual cost for this contract is approximately \$65,902. If you do not confirm, please correct this figure.
- b. Please confirm that the eight largest NUMTRK values on this data set are 35, 36, 37, 39, 41, 45, 48, and 150. If you do not confirm, please explain.
- c. Please confirm that the total annual cost for all other HCSS data set contracts having NUMTRK values from 35 to 48 ranges between \$1,221,975 and \$5,269,309. If you do not confirm, please provide the correct range of annual contract costs for contracts having from 35 to 48 vehicles as reported in the NUMTRK variable.
- d. Please explain why this contract is so much less costly than any of the other contracts having large NUMTRK values.
- e. The following is a listing of plant load (ACCOUNT=53135) observations having annual cost between \$50,000 and \$100,000.

| 1  | 023BR | 1 | 30600.00  | 68048.6B | 9  | 2   | 2400 | 85.0   | 1 | 85.00   |
|----|-------|---|-----------|----------|----|-----|------|--------|---|---------|
| 2  | 080DR | 1 | 35254.60  | 92251.00 | 10 | 5   | 2700 | 140.2  | 4 | 35.05   |
| 3  | 173AR | 1 | 43784.00  | 69516.26 | 9  | · 3 | 2400 | 168.4  | 2 | 84.20   |
| 4  | 173NR | 1 | 56615.30  | 65673.00 | 10 | 1   | 2700 | 1085.0 | 1 | 1085.00 |
| 5  | 177HR | 1 | 40126.40  | 52080.19 | 9  | 1   | 2400 | 769.0  | 1 | 769.00  |
| 6  | 180QS | 1 | 42682.80  | 59663.00 | 10 | 8   | 2700 | 238.0  | 4 | 59.50   |
| 7  | 194BR | 1 | 25146.00  | 64134.36 | 9  | 2   | 2400 | 100.0  | 4 | 25.00   |
| 6  | 227MR | 1 | 35757.60  | 51486.00 | 10 | 4   | 2700 | 142.2  | 2 | 71.10   |
| 9  | 227MX | 1 | 64669.00  | 74928.00 | 10 | 4   | 2700 | 210.6  | 2 | 105.30  |
| 10 | 303AR | 1 | 50090.80  | 50018.59 | 10 | 1   | 2700 | 192.0  | 2 | 96.00   |
| 11 | 467NR | 1 | 44664.70  | 55426.14 | 11 | 1   | 3000 | 254.1  | 2 | 117.90  |
| 12 | 469NR | 1 | 51902.00  | 91312.50 | 9  | 1   | 2400 | 142.1  | 1 | 142.10  |
| 13 | 478MR | 1 | 96053.00  | 89233.00 | 10 | 2   | 2700 | 376.0  | 2 | 188.00  |
| 14 | 493CK | 1 | 61989.60  | 83330.35 | 8  | 3   | 1650 | 1188.0 | 6 | 198.00  |
| 15 | 531MR | 1 | 64900.00  | 59500.00 | 11 | 2   | 3000 | 259.6  | 2 | 129.80  |
| 16 | 535MR | 1 | 47269.80  | 90590.52 | 10 | 3   | 2700 | 942.0  | 6 | 157.00  |
| 17 | 535NR | 1 | 63450.90  | 94079.00 | 10 | 2   | 2700 | 1216.0 | 3 | 405.33  |
| 18 | 604BR | 1 | 56979.00  | 78205.45 | 10 | 6   | 2700 | 156.0  | 2 | 78.00   |
| 19 | 606MR | 1 | 322588.91 | 55640.00 | 10 | 3   | 2700 | 883.2  | 6 | 147.20  |
| 20 | 608MR | 1 | 118341.20 | 65902.33 | 10 | 150 | 2700 | 324.0  | 6 | 54.00   |
| 21 | 610AR | 1 | 101000.00 | 93000.00 | 10 | 4   | 2700 | 202.0  | 2 | 101.00  |
| 22 | 62BDR | 1 | 70200.00  | 73266.85 | 10 | 4   | 2700 | 180.0  | 2 | 90.00   |
| 23 | 724GR | 1 | 57241.50  | 91100.50 | 11 | 1   | 2900 | 1147.0 | 1 | 1147.00 |

- I. Would you classify any of the above observations as unusual? If so, which ones?
- ii. Does there appear to be a "break" in the data values for the variable NUMTRK? If so, what is the value of this "break" and how did you identify it?
- iii. Would you consider HCRID 608MR unusual, based on its NUMTRK value? If not, why not?
- iv. Is it possible that only the value for NUMTRK is unusual for HCRID 608MR and that in all other aspects, the observation is "usual?" If this is the case, would you recommend removing the observation from the data relied on for any plant load analysis? Please explain.

#### OCA/USPS-T13-38 Response:

a. Confirmed.

- b. Not confirmed. I found contract cost segments with higher values for NUMTRK.
- c. Not confirmed. I did not have to perform any such distributions in the course of my analysis. To perform such a distribution, one should first identify the observations having a value for NUMTRK in the range specified and examine the high and low values for the data included in that range.
- I don't believe that the value of NUMTRK as a determinative influence on the cost of the contract. I would be extremely hesitant to attempt to infer such a relationship.
  The key determinant of the cost of the contract is the cubic foot-miles of

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## Response of United States Postal Service Witness Bradley to Interrogatories of OCA

transportation that are specified and the nature of the transportation required. I suspect that the other contracts that you cite have a higher amount of cubic footmiles and thus a higher value of cost. As a general matter, cost rises as cubic footmiles increase. To determine if a particular contract is unusual, I would recommend examining its cost per cubic foot-miles, not the number of trucks specified. In fact, I understand that the number of trucks represents a guideline but not absolute requirement for the contracts. In other words, the contractor can use any number of vehicles as long as the desired capacity is available where it should be when it should be.

- e.i. No. To determine if a particular contract is unusual, I would recommend examining its cost per cubic foot-miles, not the number of trucks specified
- e.ii. Because I did not use the variable NUMTRK in investigating the data, I did not review its values for breaks.
- e.iii. No. To determine if a particular contract is unusual, I would recommend examining its cost per cubic foot-miles, not the number of trucks specified. On this basis, I would not consider HCRID 608MR unusual.

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## Response of United States Postal Service Witness Bradley to Interrogatories of OCA

e.iv. Yes. No. To determine if a particular contract is unusual, I would recommend examining its cost per cubic foot-miles, not the number of trucks specified. On this basis, I would not consider HCRID 608MR unusual.

### Response of United States Postal Service Witness Bradley to Interrogatories of United Parcel Service

UPS/USPS-T13-1. You state on page 13, line 11, of your testimony that the Highway Contract Support System ("HCSS") contains data on "nearly all contracts in force." Please define "nearly all" and identify the contracts not included.

UPS/USPS-T13-1 Response:

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I believe that my data set contains data on all of the purchased highway transportation

contracts in force in August of 1995. However, I am unaware of any method of definitively

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proving this belief. I thus inserted the qualifier "nearly" in my testimony.

#### Response of United States Postal Service Witness Bradley to Interrogatories of United Parcel Service

UPS/USPS-T13-2. Please describe the investigations you conducted into the completeness of the HCSS. Describe the information generated by those investigations, and explain the reasoning that led you to the conclusion that the HCSS contains data on "nearly all contracts in force."

UPS/USPS-T13-2 Response:

Because HCSS is the system used by the Postal Service to specify and produce all of the contracts in its purchased highway transportation system, it is highly unlikely, if not impossible, for HCSS not to include all contracts in force. Moreover, the process by which the data extract from HCSS was produced was carefully designed to remove all contracts in force from each of the DNOs. Because the same program was run on the same software at each of the DNOs, I believe that I received all of the contracts in force in August of 1995. For the reasoning that led me to include the word "nearly" in my testimony, please refer to my answer to UPS/USPS-T13-1.

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### Response of United States Postal Service Witness Bradley to Interrogatories of United Parcel Service

UPS/USPS-T13-3. Please describe the types of contracts that are excluded from the HCSS. Do these contracts differ in any systematic way from the contracts that are included in the HCSS?

UPS/USPS-T13-3 Response:

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I apologize for apparently inferring, through the use of the word "nearly," that some contracts are excluded from HCSS. To the best of my knowledge, there are no contracts excluded from HCSS.

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#### Response of United States Postal Service Witness Bradley to Interrogatories of United Parcel Service

UPS/USPS-T13-4. Please describe the effect that collection of data on the missing contracts and their inclusion in your econometric analysis would have had on your econometric results.

UPS/USPS-T13-4 Response:

I apologize for apparently inferring, though the use of the word "nearly," that some contracts are excluded from HCSS. To the best of my knowledge, there are no contracts excluded from HCSS. Clearly, there is no additional data collection effort required to obtain information on contracts that are not missing, and there is no impact on the econometric analysis.

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### Response of United States Postal Service Witness Bradley to Interrogatories of United Parcel Service

UPS/USPS-T13-5. At what point in the procurement cycle is a contract entered into the HCSS data base – at the point of issuance of the original solicitation of bids, upon receipt of a bid, upon selection of a contractor, or upon the formal signing of the contract?

UPS/USPS-T13-5 Response:

The Postal Service transportation specialist first enters the specifications for a contract before it is let out to bid. In addition, any modifications in the original specifications that take place before the contract is signed would be made through HCSS. HCSS is then used to produce the contract that is ultimately signed by the contractor. In addition, any subsequent modifications to the contract are made through HCSS. Please note, however, that the HCSS extract that I used includes only data from signed contracts.

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## Page 1 of 1

### Response of United States Postal Service Witness Bradley to Interrogatories of United Parcel Service

UPS/USPS-T13-6. You state on page 14, lines 4-5, of your testimony that "HCSS is a live data system in the sense that it changes as the contracts themselves change." Does the HCSS capture all changes made to a contract over its period of effectiveness, or only some changes? If the latter, please describe the types of changes that are not entered into the data base.

UPS/USPS-T13-6 Response:

The HCSS is designed to include all changes to signed contracts.

### Response of United States Postal Service Witness Bradley to Interrogatories of United Parcel Service

UPS/USPS-T13-7.

- (a.) Do the contracts contained in the HCSS specify the exact cost, the exact numbers of trucks and miles traveled, and the exact cubic capacities of the trucks to be provided under the contract?
- (b.) If the HCSS data base does not contain the exact cost, the exact numbers of trucks and miles traveled, and the exact cubic capacities of the trucks to be provided under the contract, please describe what it does contain, and how this differs from the quantities actually provided by the contractor?
- (c.) Do the cost amounts recorded in the HCSS contain the exact amounts paid to each of the contractors under these contracts? If not, by how much and in what ways do the actual payments differ from the costs recorded in the HCSS?

UPS/USPS-T13-7 Response:

- (a) The purchased highway transportation contracts specify the exact rate to be paid to the contractor, the exact amount of miles that must be covered, and the exact minimum cubic capacities that the contractor must provide. The contractor (at his or her own cost) may exceed this minimum up to a prescribed maximum. In addition, the number of vehicles specified on the contract is a guideline. The contractor may use more vehicles as long as he or she provides the required capacity over the required miles.
- (b) Please see my answer to part a.

# Response of United States Postal Service Witness Bradley to Interrogatories of United Parcel Service

(c.) No. The HCSS does not contain the exact cost paid to contractors but it does contain the exact basic contract rate paid to contractors. It is a management system, not an accounting system and, for example, does not include any payments made for exceptional service on a contract. The exact cost actually paid in a year would include the cost for exceptional service.

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### Response of United States Postal Service Witness Bradley to Interrogatories of United Parcel Service

UPS/USPS-T13-8.

- (a.) What oversight was made of the 12 DNOs to ensure that data extraction was performed correctly and accurately?
- (b.) Was there any oversight of each DNO's data collection and data entry process?
- (c.) If each DNO is responsible for entering its own data into the electronic data base, does each DNO scrub its own data? How?
- (d.) Is the entry error rate the same for all DNOs? If not, how might that affect the results?

#### UPS/USPS-T13-8 Response:

- (a) The data extraction was performed by running the identical computer program at all of the HCSS sites. Postal Service data processing professionals worked with HCSS-trained employees at each of the DNOs to ensure that they understood how the program worked before it was run and to be sure that it was run correctly at each site.
- (b) Yes. Please see my response to OCA/USPS-T13-22 for a description of both the initial and the ongoing data entry processes, and oversight thereof.
- (c.) There are two issues relevant to data entry, the initialization of HCSS and its ongoing use. When HCSS was first established, data from the hard copy contracts

### Response of United States Postal Service Witness Bradley to Interrogatories of United Parcel Service

had to be entered. These data were entered or reviewed by a Postal Service transportation specialist and were reviewed by Postal Service supervisors. The specifications included in HCSS were then printed out and sent to the contractor for verification. The contractor was required to sign that he or she accepted the contract specifications as entered in HCSS. All future payments and modifications of the contract thus work off the contract as it exists in HCSS. It is in this sense that the initialized data were scrubbed.

As an ongoing management tool, HCSS is used to produce the contract specifications that are put out to bid. In addition, HCSS is used to produce the final contract that is signed. As with the initialized data, the contractor must agree to the terms of the contract as specified in HCSS and payments are based upon that contract. It is in this sense the data for ongoing contracts are scrubbed.

(d) Because both the Postal Service and the contractor are obligated by the specifications included in HCSS, I would expect the entry error rate to be quite low, or in some sense even zero, for all of the DNOs.
# Response of United States Postal Service Witness Bradley to Interrogatories of United Parcel Service

UPS/USPS-T13-9. You state on page 22, line 1, of your testimony that you included both regular and emergency contracts in your analysis. Did you conduct any test to determine whether these two groups of contracts exhibit the same relationships between volume, route length, and cost? If so, what did these investigations reveal? Please supply copies of all computer programs, outputs, and other results produced in the course of these investigations.

UPS/USPS-T13-9 Response:

Because my own analysis in Docket No. R87-1 (USPS-T-9), and the analyses of UPS

witness Higinbotham (UPS-T-3), Postal Service witness Lion (USPS-RT-5), and the Postal

Rate Commission all combined regular and emergency contracts, I did so in my current

analysis. As such, I did not pursue the separation you propose in the question.

# Response of United States Postal Service Witness Bradley to Interrogatories of United Parcel Service

UPS/USPS-T13-10. You state on page 22, lines 7-14, of your testimony that you included both tractor-trailer and "power-only" contracts in your analysis. Did you conduct any test to determine whether these two groups of contracts exhibit the same relationships between volume, route length, and cost? If so, what did these investigations reveal? Please supply copies of all computer programs, outputs, and other results produced in the course of these investigations.

UPS/USPS-T13-10 Response:

I did not perform any such analysis before I received your interrogatory. Power only contracts are "tractor-trailer" contracts in which the trailer is provided by the Postal Service. I understand the cost of providing the trailer is a small percentage of the cost of a "regular" tractor-trailer contract. I thus did not expect a material difference between the power only and the regular contracts and combining the two seemed a reasonable way to increase the size of the data set used for my analysis.

Nevertheless, because it is an easy thing to check, I investigated the question subsequent to receiving your interrogatory. Specifically, I re-estimated the final Intra-BMC equations with the power only contracts excluded and with just the power only contracts included. The SAS logs and program outputs are attached to this interrogatory. As you can see from Table 15, page 50 of my testimony, there are 328 observations in the final Intra-BMC

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#### Response of United States Postal Service Witness Bradley to Interrogatories of United Parcel Service

regression with an estimated variability of 97.4 percent. Of those 328, 148 are power only contracts and 180 are regular contracts. As the attached programs show, the estimated variability for the power only contracts is 99.2 percent and the estimated variability for the regular contracts is 95.8 percent. These results indicate that it is proper to combine the two types of contracts in single regression. Moreover, to calculate an overall variability for the intra-BMC cost pool, these two variabilities must be combined by the method described in Exhibit USPS-13B of my testimony.

| Calculation of Volume Variability For Intra-BMC Contracts |                      |             |                      |                        |  |  |  |
|-----------------------------------------------------------|----------------------|-------------|----------------------|------------------------|--|--|--|
| Group                                                     | HCSS Accrued<br>Cost | Variability | Volume Variable Cost | Overall<br>Variability |  |  |  |
| Regular                                                   | \$109,348,216        | 95.8%       | \$104,762,152        |                        |  |  |  |
| Power Only                                                | \$57,290,353         | 99.1%       | \$56,769,011         |                        |  |  |  |
| Total                                                     | \$166,638,569        |             | \$161,531,163        | 96.9% -                |  |  |  |

As you can see, the results are virtually identical (about one-half a percentage point lower in the separated approach) to the case in which one combines the power only contracts with the regular contracts.

NOTE: The initialization phase used 0.13 CPU seconds and 1945K. OPTIONS NODATE; 00004100 1 OPTIONS LINESIZE=131 NOCENTER; 2 00003700 3 \* ESTIMATING VARIABLITIES ON HESS DATA; 00003900 4 \* BY ACCOUNT CATEGORY; 00004000 5 00004200 6 \* READING IN THE HOSS DATA 00004300 7 DATA TRAN1; INFILE TRA; 8 00004500 9 INPUT HCRID \$ 1-5 REN \$ 7 ACCOUNT 9-13 AREA 15-16 FY 18-19 RTYPE 21 00004600 10 CSTSEG \$ 23 YRMILE 25-38 BOX 40-44 COST 46-56 FUEL 58-68 00004/500 HDWAGE 70-80 CPICOST 82-92 CONTYPE 94 VEHGRP 96-97 NUMTRK 99-101 11 00004700 TRCUBE 103-107 SUMLNGTH 109-122 NUMTRP 124-126 RL 128-138; 12 00004700 13 00004100 NOTE: The infile TRA is: Dsname=H20558.HCSS.HGWYDAT1.DATA, Unit=3390, Volume=TOAA01, Disp=SHR, Blksize=480, Lrecl=160,Recfm=FB NOTE: 8010 records were read from the infile TRA. NOTE: The data set WORK.TRAN1 has 8010 observations and 20 variables. NOTE: The DATA statement used 0.49 CPU seconds and 2568K. 14 DATA TRAN2; INFILE TRB; 00004-500 INPUT HERID \$ 1-5 REN \$ 7 ACCOUNT 9-13 AREA 15-16 FY 18-19 RTYPE 21 15 00004600 CSTSEG \$ 23 YRMILE 25-38 BOX 40-44 COST 46-56 FUEL 58-68 00004600 16 17 HDWAGE 70-80 CPICOST 82-92 CONTYPE 94 VEHGRP 96-97 NUMTRK 99-101 00004700 TRCUBE 103-107 SUNLNGTH 109-122 NUNTRP 124-126 RL 128-138: 00004700 18 NOTE: The infile TRB is: Dsname=H20558.HCSS.HGWYDAT2.DATA, Unit=3390,Volume=TOAA36,Disp=SHR,Blksize=480, 1recl=160.Recfm=FB NOTE: 7704 records were read from the infile TRB. 12 The SAS System NOTE: The data set WORK.TRAN2 has 7704 observations and 20 variables. NOTE: The DATA statement used 0.45 CPU seconds and 2568K. DATA TRANA; SET TRANT TRAN2; 19 20 21 \* READING IN THE LIST OF UNUSUAL OBSERVATIONS, MERGING THE LIST \*; 22 \* WITH THE TRANSPORTATION DATA AND DROPPING THE UNUSUAL OBS 23 24 NOTE: The data set WORK TRANA has 15714 observations and 20 variables. NOTE: The DATA statement used 0.13 CPU seconds and 2652K. DATA HARI; INFILE SELDON; 25 26 INPUT HERID SESTSEG SCAT; NOTE: The infile SELDON is: Dsname=H20558.08SLIST.DATA, Unit=3390, Volume=TOAA41, Disp=SHR, Blksize=6233, Lrecl=256,Recfm=VB NOTE: 193 records were read from the infile SELDON. The minimum record length was 17. The maximum record length was 17. NOTE: The data set WORK.HARI has 193 observations and 3 variables. NOTE: The DATA statement used 0.02 CPU seconds and 2684K. PROC SORT DATA=TRANA; BY HCRID CSTSEG; 27 NOTE: The data set WORK.TRANA has 15714 observations and 20 variables. NOTE: The PROCEDURE SDRT used 0.22 CPU seconds and 5360K.

28 PROC SORT DATA=HARI; BY HCRID CSTSEG;

NOTE: The data set WORK.HARI has 193 observations and 3 variables. NOTE: The PROCEDURE SORT used 0.01 CPU seconds and 5360K.

29 DATA TRANTOR; MERGE TRANA HARI; BY HCRID CSTSEG;

NOTE: The data set WORK.TRANTOR has 15714 observations and 21 variables. NOTE: The DATA statement used 0.34 CPU seconds and 5368K.

30 DATA TRAN; SET TRANTOR; 31 IF CAT GT 0 THEN DELETE;

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NDTE: The data set WORK.TRAN has 15516 observations and 21 variables. NDTE: The DATA statement used 0.14 CPU seconds and 5368K.

| 3Z | DATA INTRABAC; SET IRAN;                             |
|----|------------------------------------------------------|
| 33 | ***************************************              |
| 34 | * IDENTIFYING THE INTRABHC CONTRACT COST SEGMENTS *; |
| 35 | * BY THEIR ACCOUNT NUMBERS                           |
| 36 | ***************************************              |
| 37 | IF ACCOUNT = 53127 OR ACCOUNT = 53129 ;              |
| 38 | ***************************************              |
| 39 | * IDENTIFYING AND REMOVING BOX ROUTE CONTRACTS       |
| 40 | * FROM THE INTRA-BMC DATA SET                        |
| 41 | ***************************************              |
|    | •                                                    |

13 The SAS System

| 42 | BOXRT=0;                                |
|----|-----------------------------------------|
| 43 | IF RTYPE=4 THEN BOXRT=1;                |
| 44 | IF RTYPE=5 AND                          |
| 45 | BOX > 0 AND TRCUBE LE 300 THEN BOXRT=1; |
| 46 | IF RTYPE = 6 AND                        |
| 47 | BOX > 0 AND TROUBE LE 300 THEN BOXRT=1; |
| •• |                                         |

NDTE: The data set WORK.INTRABMC has 348 observations and 22 variables. NDTE: The DATA statement used 0.09 CPU seconds and 5368K.

48 DATA INTRABMC BOX; SET INTRABMC; 49 - IF BOXRT=0 THEN OUTPUT INTRABMC; 50 IF BOXRT=1 THEN OUTPUT BOX;

NDTE: The data set WORK.INTRABMC has 347 observations and 22 variables. NDTE: The data set WORK.BOX has 1 observations and 22 variables. NDTE: The DATA statement used 0.02 CPU seconds and 5368K.

51 PROC MEANS DATA=BOX;

NOTE: The PROCEDURE MEANS printed page 1. NOTE: The PROCEDURE MEANS used 0.01 CPU seconds and 5516K.

52 PROC MEANS DATA=INTRABMC;

NDTE: The PROCEDURE MEANS printed page 2. NDTE: The PROCEDURE MEANS used 0.02 CPU seconds and 5516K.

| 53 | PROC FREQ DATA*INTRABHC;                          |       |
|----|---------------------------------------------------|-------|
| 54 | TABLE VENGRP*AREA;                                |       |
| 55 | ***************************************           | ****; |
| 56 | CREATING VEHICLE CAPACITY FOR ANY POWER ONLY      | *;    |
| 57 | * CONTRACTS IN THE INTER-BMC ACCOUNT              | *:    |
| 58 | * CALCULATING THE TOTAL CUBE FOR EACH OBSERVATION | •;    |
| 59 | ***************************************           | ***;  |

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NDTE: The PROCEDURE FRED printed page 3. NDTE: The PROCEDURE FRED used 0.02 CPU seconds and 5743K.

| 60 | DATA INTRABMC; S | ET.  | INTRABMC;                   |
|----|------------------|------|-----------------------------|
| 61 | IF VEHGRP = $12$ | UND. | AREA = 1 THEN TRCUBE= 2649; |
| 62 | IF VEHGRP = 12   | ND   | AREA = 2 THEN TROUBE= 2817; |
| 63 | IF VEHGRP = 12 / | IND  | AREA = 4 THEN TRCUBE= 2918; |
| 64 | IF VEHGRP = 12 J | IND  | AREA = 5 THEN TRCUBE=2433;  |
| 65 | IF VEHGRP = 12 / | ND   | AREA = 7 THEN TROUBE 2700;  |

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66 IF VEHGRP = 12 AND AREA = 8 THEN TROUBE= 2854; IF VEHGRP = 12 AND AREA = 12 THEN TRCUBE=2320; 67 CUBE=TRCUBE\*NUMTRK: 68 69 NOTE: The data set WORK.INTRABMC has 347 observations and 23 variables. NOTE: The DATA statement used 0.02 CPU seconds and 5743K. PROC MEANS; 69 70 \*\*\*\*\*\*\*\*\* \* CONSTRUCTING THE DATA SET ON THE BASIS OF THE 71 \* HCRID & THE CONTRACT COST SEGMENT 72 73 14 The SAS System NOTE: The PROCEDURE MEANS printed page 4. NOTE: The PROCEDURE MEANS used 0.02 CPU seconds and 5743K. PROC SORT; BY HCRID CSTSEG; 74 NOTE: The data set WORK.INTRABMC has 347 observations and 23 variables. NOTE: The PROCEDURE SORT used 0.01 CPU seconds and 5743K. PROC MEANS NOPRINT; BY HCRID CSTSEG; ID RTYPE AREA ACCOUNT VEHGRP; 75 VAR YRMILE COST CUBE NUMTRK RL SUMLNGTH MUMTRP; 76 OUTPUT OUT=TRABNC2 MEAN=YRHILE COST HOUBE HNUNTRK RL SUMLINGTH 77 NUMTRP SUN =SYRMILE SCOST CUBE NUMTRK SRL SLENGTH STRIP N=NOBS; 78 ------79 \* ELIMINATING OBSERVATIONS WINT MISSING ROUTE LENGTH,\*; 80 \* CUBE, ANNUAL MILES OR TRUCKS 81 82 83 NOTE: The data set WORK.TRABMC2 has 340 observations and 23 variables. NOTE: The PROCEDURE MEANS used 0.03 CPU seconds and 5755K. DATA MISS TRABMC2; SET TRABMC2; 83 IF RL = . THEN RL=0; 84 IF CUBE = . THEN CUBE = 0; 85 IF YRMILE = . THEN YRMILE = O; IF NUMTRK = . THEN NUMTRK = O; 86 87 IF YRMILE LE O 88 OR RE LE O OR CUBE LE O OR COST LE O OR NUNTRE LE O THEN OUTPUT MISS; 89 90 ELSE OUTPUT TRABMC2; \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* 91 \* CREATING CUBIC FOOT MILES 92 93 20 NOTE: The data set WORK.MISS has 12 observations and 23 variables. NOTE: The data set WORK.TRABMC2 has 328 observations and 23 variables. NOTE: The DATA statement used 0.02 CPU seconds and 5755K. DATA TRABHC2; SET TRABHC2; 94 AVECUBE=CUBE/NUNTRK; 95 CFM-AVECUBE\*YRMILE; 96 CSTCFH=COST/CFN; 97 98 \* MEAN CENTERING THE RIGHT-HAND SIDE VARIABLES AND 99 100 \* CREATING THE AREA DUNNIES 101 102 NOTE: The data set WORK.TRABHC2 has 328 observations and 26 variables. NOTE: The DATA statement used 0.01 CPU seconds and 5755K. 102 PROC MEANS; VAR COST CFM RL: 103 OUTPUT OUT=HTRABHC HEAN=HNCOST HNCFH HNRL:

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NOTE: The data set WORK.MTRABHC has 1 observations and 5 variables. 15 The SAS System NOTE: The PROCEDURE MEANS printed page 5. NOTE: The PROCEDURE MEANS used 0.01 CPU seconds and 5755K. 105 DATA TRABNC3: IF \_N = 1 THEN SET MTRABMC; SET TRABMC2; 106 107 CFN=CFH/MNCFM; 108 RL=RL/MNRL; 109 IF COST > 0 THEN COST=LOG(COST); ELSE COST=0; 110 111 IF CFM > 0 THEN CFM=LOG(CFM); ELSE CFM=0; RL=LOG(RL); 112 CFM2=CFM\*\*2; 113 114 RL2=RL\*\*2: CFMRL=CFM\*RL; 115 A1 = 0; IF AREA=1 THEN A1 =1; 116 A2 = 0; IF AREA=2 THEN A2 =1; 117 A3 = 0; IF AREA=3 THEN A3 =1; A4 = 0; IF AREA=4 THEN A4 =1; 118 119 A5 = 0; IF AREA=5 THEN A5 =1; 120 A6 = 0; IF AREA=6 THEN A6 =1; A7 = 0; IF AREA=7 THEN A7 =1; 121 122 AB = 0; IF AREA=8 THEN A8 =1; 123 A9 = 0; IF AREA=9 THEN A9 =1; 124 A10 = 0; IF AREA=10 THEN A10 =1; A11 = 0; IF AREA=11 THEN A11 =1; 125 126 A12 = 0; IF AREA=12 THEN A12 =1; 127 128 NOTE: The data set WORK.TRABMC3 has 328 observations and 44 variables. NOTE: The DATA statement used 0.04 CPU seconds and 5770K. DATA NODAT BMCREG; SET TRABMC3; 128 IF CFM=0 OR COST = 0 OR RL=0 THEN OUTPUT NODAT; 129 130 ELSE OUTPUT BMCREG; 131 NOTE: The data set WORK.NODAT has 0 observations and 44 variables. NOTE: The data set WORK.BMCREG has 328 observations and 44 variables. NOTE: The DATA statement used 0.02 CPU seconds and 5770K. DATA BMCREG; SET BMCREG; 131 LVLCOST=EXP(COST); 132 133 CFM1=EXP(CFM); LVLCFM=CFM1\*MNCFM; RL1=EXP(RL); LVLRL=RL1\*MNRL; 134 -----135 \* CREATING THE MEANS FOR THE ANALYSIS DATA SET 136 137 138 NOTE: The data set WORK.BMCREG has 328 observations and 49 variables. NOTE: The DATA statement used 0.02 CPU seconds and 5770K. DATA BMCREG; SET BMCREG; IF VEHGRP=12 THEN DELETE; 138 139 NOTE: The data set WORK.BHCREG has 180 observations and 49 variables. NOTE: The DATA statement used 0.01 CPU seconds and 5770K. 16 The SAS System 139 PROC MEANS; VAR COST CFN RL LVLCOST LVLCFM LVLRL; 140 141 ÷. \* ESTIMATING THE PRC'S R87-1 SPECFICATION 142 \* ADDING DUMMY VARIABLES FOR EACH AREA 143 144 145 TITLE1 'ESTIMATING INTRA-BMC VARIABILITY'; 146

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147 TITLE2 'USING TRANSLOG EQUATION/DATA ARE MEAN CENTERED'; TITLES 'INCLUDING HETEROSCEDASTICITY CORRECTION'; 148 149 NOTE: The PROCEDURE MEANS printed page 6. NOTE: The PROCEDURE MEANS used 0.01 CPU seconds and 5784K. PROC REG; 149 HODEL COST = A5 A12 150 CFM CFM2 RL RL2 CFMRL/ACOV; T1: TEST A5, A12; 151 152 ENDSAS; 153 NOTE: 180 observations read.

NOTE: 180 observations used in computations. NOTE: The PROCEDURE REG printed pages 7-9. NOTE: The PROCEDURE REG used 0.05 CPU seconds and 6217K.

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NOTE: The SAS session used 2.40 CPU seconds and 6217K. NOTE: SAS Institute Inc., SAS Campus Drive, Cary, NC USA 27513-2414

# The SAS System

| Variable        | z      | Mean          | Std Dev     | Hinimun                                 | mumi xeM           |
|-----------------|--------|---------------|-------------|-----------------------------------------|--------------------|
|                 |        |               |             |                                         | 00 21113           |
| ACCOUNT         | -      | 53127.00      | •           | 00.75FCC                                | DU, 121CC          |
| ARFA            |        | 11.000000     | •           | 11.000000                               | 0000000.11         |
| E V             | -      | o5 .0000000   |             | 95.000000                               | 95.000000          |
|                 | • •    |               |             | 5,000000                                | 5.0000000          |
| KUTE            |        |               | •           | 01557 40                                | 00557_40           |
| YRMILE          | -      |               | •           |                                         |                    |
| BOX             |        | 5.000000      | •           |                                         |                    |
| COST            | منيو ' | 50569.63      | •           | 20, 20, 20, 20, 20, 20, 20, 20, 20, 20, |                    |
| FLIFL           | -      | 44543.23      | •           | 44543.23                                | 44245.23           |
| WINDLE          | ·      | 0             | •           | 0                                       | 0                  |
| TD LOST         | -      | 6026.40       | •           | 6026.40                                 | 6026.40            |
|                 |        | 1 000000      | •           | 1.000000                                | 1.000000           |
| VENCEO .        | • •    | 2_000000      | •           | 2.000000                                | 2.000000           |
|                 |        | 1 00000       | -           | 1.000000                                | 1.000000           |
|                 |        | 000000000000  | •           | 240.000000                              | 240.000000         |
|                 |        | 200 000000    | • •         | 298.800000                              | 298,800000         |
| SUMLNUS         |        |               | •           | 2.000000                                | 2,000000           |
| NUMIKI          |        |               | •           | 149_400000                              | 149.400000         |
| RL              | - •    |               | •           |                                         |                    |
| CAT             | Þ      | •             | •           |                                         | • •••••••          |
| BOKRT           |        | 1.000000      | •           | 1.000000                                |                    |
| 1The SAS S      | yste   |               |             |                                         |                    |
| Variable        | *      | Mean          | Std Dev     | Ninimum                                 | Max i mun          |
|                 |        | 20 YC413      | 7152812 U   | 00 22125                                | 53129.00           |
| ACCOUNT         | ,      |               |             |                                         | 12 000000          |
| AREA            | ž      | 6.1006282     |             |                                         | 0000000            |
| FY              | 3      | 000000 · · ·  |             |                                         | 1 000000           |
| RTYPE           | ž      | 500/150.1     | 44/CA12-0   |                                         | LINE ADD 1 TO 2000 |
| YRMILE          | 35     | 422468.24     | UL.CC087.4  | 0000000.4C                              |                    |
| BOX             | 347    |               |             | 20                                      |                    |
| COST            | 347    | 500172.91     | 533711.96   | 5 0                                     |                    |
| FUEL            | ž      | 93012.44      | 138714.38   | ⇒ •                                     | 0.20101            |
| HDUAGE          | 347    | 251207.94     | 252632.96   |                                         | C7.1011212         |
| CP1COST         | 35     | 62608.96      | 88616.35    |                                         | 128989.38          |
| <b>L'NUTYPE</b> | 2      | 1.0547550     | 0.3482394   | 1.000000                                | 4.000000           |
| VENGRP          | ž      | 10.8731988    | 1.2658484   | 3.000000                                | 12.000000          |
| NUMTRK          | 34     | 5.6080692     | 6.3906311   | 0                                       | 48.000000          |
| TPCIBE          | 2      | 1431.41       | 1344 . 60   | 0                                       | 3000.00            |
| STIML NGTH      | 34     | 1343.05       | 1286.26     | 0                                       | 10489.40           |
| NIMTED          | 2      | 9 9971182     | 8.0254287   | •                                       | 40.0000000         |
|                 | ž      | 7 162,5521037 | 123.5103661 | 0                                       | 767.5000000        |
| CAT             | 0      | •             | •           | • •                                     | • 1                |
| POYPY           | 3.     | •             | 0           | 0                                       | D                  |
|                 | :      |               |             |                                         |                    |

TABLE OF VEHGRP BY AREA Ithe SAS System

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Attachment to UPS/USPS-T13-10 Page 6 of 20

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| uency<br>ent<br>Pct | Ŧ                              | 2                            | ž                             | 5                             | 5                             | 7                               | æ                      | <u>~</u>                | 10                   | E                              | 12                           | Totel        |
|---------------------|--------------------------------|------------------------------|-------------------------------|-------------------------------|-------------------------------|---------------------------------|------------------------|-------------------------|----------------------|--------------------------------|------------------------------|--------------|
|                     | 0.00                           | 0 8 8 0                      | 0 8 8 8<br>0 8 8 0            | 0.00<br>00.0                  | 0.00                          | 0.00                            | 0.00                   | 0.29<br>100.00<br>1.79  | 0.00                 | 0.00                           | 0.00                         | 0.29         |
|                     | 0.00                           | ° 8 8 8                      | 0 0 0 0                       | 100.00<br>1.52                | 0.00                          | 0.00                            | 0.00                   | 0.00                    | 0.00                 | 0.00                           | 0.00                         | 0.29         |
| ~                   | 0000                           | 0.00                         | 20.09<br>0.09<br>0.00<br>0.00 | 0.000                         | 0.00                          | 0.29<br>20.00<br>4.76           | 0.00                   | 20.29                   | 0.00                 | 0.000                          | 0.00                         | 2°-1         |
| 0                   | 2.28<br>26.32<br>26.32         | - 0.29<br>1.23<br>1.85       | 1.44<br>1.44<br>15.63         | 0.86<br>9.68<br>4.55          | 0.58<br>6.45<br>14.29         | 0.29<br>3.23<br>4.76            | 0.86<br>9.68<br>11.54  | - 22.0<br>R. 1          | 0000                 | 1.44<br>16.13<br>22.73         | 0 00 00                      | 31<br>8.93   |
| 0                   | 18<br>5.19<br>16.67<br>47.37   | 0.29<br>0.93<br>3.85         | 4.90<br>15.72<br>53.13        | 0.29                          | 0.00                          | 0.29<br>0.93<br>4.76            | 1.15<br>3.70<br>15.38  | 24.07<br>24.07<br>26.43 | 26, 30<br>26, 30     | 3.46<br>3.46<br>11.11<br>54.55 | 0.56<br>1.85<br>10.53        | 108<br>31.12 |
| =                   | 4.15<br>9.52<br>10.53          | 0 0 0 0<br>0 0 0<br>0 0 0    | 1.15<br>9.52<br>12.50         | 0.29                          | 0.0000                        | 0 0 0 0                         | 0.00                   | 7.49<br>61.90<br>61.90  | 00.00                | 1.45<br>11.90<br>22.73         | 0.58<br>6.76<br>10.53        | 42           |
| 2                   | • 77. 5<br>5. 7. 70<br>5. 7. 5 | 24<br>6.92<br>75.09<br>92.31 | 0.86<br>9.38<br>9.38          | 50<br>17.29<br>37.74<br>90.91 | 3.46<br>3.46<br>7.55<br>85.71 | 5 19<br>11 32<br>11 32<br>85 71 | 5.48<br>73.68<br>73.68 | - 22<br>23              | 0.29<br>9.63<br>3.70 | 0 0 0 0<br>0 0 0 0             | 15<br>4.32<br>78.95<br>78.95 | 159          |
|                     | 38<br>10.95                    | 26<br>7.49                   | +                             | 19.02                         | 4.03                          | 21<br>6.05                      | 26<br>7.49             | 56<br>16.14             | 27<br>7.78           | 22<br>6.34                     | 19<br>5.48                   | 347          |

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#### The SAS System

| Variable | N   | Hean        | Std Dev     | Minimum    | Maximum     |
|----------|-----|-------------|-------------|------------|-------------|
| ACCOUNT  | 347 | 53127.05    | 0.3183514   | 53127.00   | 53129.00    |
| AREA     | 347 | 6.1066282   | 3.4936171   | 1.0000000  | 12.0000000  |
| FY       | 347 | 95.0000000  | . 0         | 95,0000000 | 95,0000000  |
| RTYPE    | 347 | 1.0317003   | 0.2193744   | 1,0000000  | 3,0000000   |
| YRMILE   | 347 | 422468.24   | 478655.10   | 39,0000000 | 4051011.75  |
| BOX      | 347 | 0           | 0           | 0          | 0           |
| COST     | 347 | 500172.91   | 533711.96   | 0          | 4669948.50  |
| FUEL     | 347 | 93012.44    | 138714.38   | 0          | 1257752.25  |
| HDWAGE   | 347 | 251207.94   | 252632.96   | 0          | 2121161.25  |
| CPICOST  | 347 | 82608.96    | 66616.35    | 0          | 728989.38   |
| CONTYPE  | 347 | 1.0547550   | 0.3482394   | 1.0000000  | 4,0000000   |
| VEHGRP   | 347 | 10.8731988  | 1.2658484   | 3,000000   | 12,000000   |
| NUNTRK   | 347 | 5.6080692   | 6.3906311   | 0          | 48,000000   |
| TRCUBE   | 347 | 2657,36     | 441.2336750 | 0          | 3000.00     |
| SUMENCTH | 347 | 1343.05     | 1286.26     | 0          | 10489.40    |
| NUMTRP   | 347 | 9,9971182   | 8.0254287   | 0          | 40,0000000  |
| RL       | 347 | 162,5521037 | 123,5103661 | 0          | 767.5000000 |
| CAT      | 0   |             |             | •          |             |
| BOXRT    | 347 | 0           | 0           | 0          | 0           |
| CUBE     | 347 | 15163.71    | 17838.98    | 0          | 136800.00   |

#### 1The SAS System

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| Variable | N   | Mean        | Std Dev     | Minimum     | Maximum     |
|----------|-----|-------------|-------------|-------------|-------------|
| COST     | 328 | 508044 .42  | 540018.25   | 20827.68    | 4669948.50  |
| CFM      | 328 | 1182272546  | 1361931205  | 19688448.00 | 11135675325 |
| RL       | 328 | 167,1470427 | 124.2749061 | 10.2000000  | 767,5000000 |
|          |     |             |             |             |             |

#### 1ESTIMATING INTRA-BMC VARIABILITY USING TRANSLOG EQUATION/DATA ARE MEAN CENTERED INCLUDING HETEROSCEDASTICITY CORRECTION

| Variable | N   | Nean        | Std Dev     | Minimum     | Maximum     |
|----------|-----|-------------|-------------|-------------|-------------|
| COST     | 180 | 12,8655689  | 0.9871566   | 10.1614889  | 15.3566586  |
| CFM      | 180 | -0.3720576  | 1,1260398   | -3.5345145  | 2.2427155   |
| RL       | 180 | -0.1364027  | 0.7817323   | -2.1561815  | 1.5242646   |
| LVLCOST  | 180 | 607490.09   | 661467.97   | 25886.81    | 4669948,50  |
| LVLCFH   | 180 | 1416030846  | 1671170501  | 34490340,00 | 11135675325 |
| LVLRL    | 180 | 191,7253889 | 143.2925928 | 19.3500000  | 767.5000000 |
|          |     |             |             |             |             |

TESTIMATING INTRA-BMC VARIABILITY

USING TRANSLOG EQUATION/DATA ARE MEAN CENTERED INCLUDING HETEROSCEDASTICITY CORRECTION

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Model: MODEL1 Dependent Variable: COST

Analysis of Variance

| Source   | DF  | Sun<br>Squar | of<br>181 | Mean<br>Square | F Value | Prob>F |
|----------|-----|--------------|-----------|----------------|---------|--------|
| Model    | 7   | 167.101      | 27        | 23.87161       | 560,127 | 0.0001 |
| Error    | 172 | 7,330        | 33 .      | 0.04262        |         |        |
| C Total  | 179 | 174,431      | 60        |                |         |        |
| Root MSE | C   | .20644       | R-sq      | ыге            | 0.9580  |        |
| Dep Mean | 12  | .86557       | Adji      | t-sq           | 0.9563  |        |
| C.V.     | 1   | ,60461       |           | -              |         |        |

Parameter Estimates

|          |    | Parameter | Standard   | T for HO:   |           |
|----------|----|-----------|------------|-------------|-----------|
| Varisble | DF | Estimate  | Error      | Parameter=0 | Prob >  1 |
| INTERCEP | 1  | 13.140229 | 0.02303187 | 570.524     | 0,0001    |
| AS       | 1  | 0.202655  | 0,15253856 | 1.329       | 0,1858    |
| A12      | 1  | -0.126122 | 0,10679860 | -1.181      | 0.2393    |
| CFM      | 1  | 0.958063  | 0.01978443 | 48.425      | 0.0001    |
| CFH2     | 1  | 0.030653  | 0.01790589 | 1.712       | 0,0887    |
| RL       | 1  | -0.178253 | 0.02773535 | -6.427      | 0.0001    |
| RL2      | 1  | 0,069024  | 0.03200890 | 2.156       | 0.0324    |
| CFMRL    | 1  | -0,047228 | 0.04121307 | -1.146      | 0.2534    |

1ESTINATING INTRA-BMC VARIABILITY USING TRANSLOG EQUATION/DATA ARE MEAN CENTERED INCLUDING HETEROSCEDASTICITY CORRECTION

Dependent Variable: COST

Consistent Covariance of Estimates

| ACOV     | INTERCEP     | A5           | A12          | CFN          | CFM2         | RL           | RL2          | CFMRL        |
|----------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| INTERCEP | 0.0004983422 | 0.0003867224 | -0.000033942 | -0.000047628 | -0.000350371 | -0.000088936 | -0.000461306 | 0.0007070008 |
| A5       | 0.0003867224 | Q.01477775   | 0.0006315584 | 0.0008019897 | -0.001493395 | -0.000238308 | -0.000522964 | 0.0028080995 |
| A12      | ~0.000033942 | 0.0006315584 | 0.005157453  | 0.0001503781 | -0.000157262 | -0.00010715  | -0.000479782 | 0.0005998659 |
| CFN      | -9.000047628 | 0.0008019897 | 0.0001503781 | 0.0002648905 | -0.000104297 | -0.000134659 | 0.0000280043 | 0.0002002334 |
| CFM2     | -0.000350371 | -0.001493395 | 0.000157262  | -0.000104297 | 0.0005963616 | 0.0000550174 | 0.0004122352 | -0.001179964 |
| RL       | -0.000088936 | -0.000238308 | -0.00010715  | -0.000134659 | 0.0000550174 | 0.000528618  | 0.0000567831 | -0.000025358 |
| RL2      | -0.000461306 | -0.000522964 | -0,000479782 | 0.0000280043 | 0.0004122352 | 0.0000567831 | 0.0010084438 | -0.001185493 |
| CFMRL    | 0.0007070008 | 0.0028080995 | 0.0005998659 | 0.0002002334 | -0.001179964 | -0.000025358 | -0,001185493 | 0.0026960473 |

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1ESTIMATING INTRA-BMC VARIABILITY USING TRANSLOG EQUATION/DATA ARE MEAN CENTERED INCLUDING HETEROSCEDASTICITY CORRECTION

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 Dependent Variable:
 COST

 Test:
 T1
 Numerator:
 D.0686
 DF:
 2
 F value:
 1.6107

 Denominator:
 Q.042618
 DF:
 172
 Prob>F:
 0.2027

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Dependent Variable: COST Test: T1 using ACOV estimates DF: 2 Chisq Value: 6.3199805381 Prob>Chisq: 0.0424

OPTIONS NODATE; 00004100 1 OPTIONS LINESIZE=131 NOCENTER: 00003700 2 00003000 3 \* ESTIMATING VARIABLITIES ON HCSS DATA; \* BY ACCOUNT CATEGORY; 00004000 4 . 00004200 5 \* READING IN THE HOSS DATA 00004300 6 7 DATA TRAN1; INFILE TRA; 00004500 8 INPUT HCRID \$ 1-5 REN \$ 7 ACCOUNT 9-13 AREA 15-16 FY 18-19 RTYPE 21 00004600 9 CSTSEG \$ 23 YRMILE 25-38 BOX 40-44 COST 46-56 FUEL 58-68 00004600 10 HOWAGE 70-80 CPICOST 82-92 CONTYPE 94 VENGRP 96-97 NUMTRK 99-101 00004700 11 TRCUBE 103-107 SUMLNGTH 109-122 NUMTRP 124-126 RL 128-138; 00004700 12 13 00004100 NOTE: The infile TRA is: Dsname=H20558.HCSS.HGWYDAT1.DATA, Unit=3390, Volume=TOAA01, Disp=SHR, Blksize=480, Lrecl=160,Recfm=FB NOTE: 8010 records were read from the infile TRA. NOTE: The data set WORK.TRAN1 has 8010 observations and 20 variables. NOTE: The DATA statement used 0.47 CPU seconds and 2568K. DATA TRANZ; INFILE TRB; INPUT HCRID \$ 1-5 REN \$ 7 ACCOUNT 9-13 AREA 15-16 FY 18-19 RTYPE 21 00004500 14 00004-600 15 CSTSEG \$ 23 YRMILE 25-38 BOX 40-44 COST 46-56 FUEL 58-68 00004600 16 HDWAGE 70-80 CPICOST 82-92 CONTYPE 94 VEHGRP 96-97 NUMTRK 99-101 00004700 17 TRCUBE 103-107 SUMLNGTH 109-122 NUMTRP 124-126 RL 128-138; 00004700 18 NOTE: The infile TRB is: Dsname=H20558.HCSS.HGWYDAT2.DATA, Unit=3390, Volume=TOAA36, Disp=SHR, Blksize=480, Lreci=160,Recfm=FB NOTE: 7704 records were read from the infile TRB. 12 The SAS System NOTE: The data set WORK.TRAN2 has 7704 observations and 20 variables. NOTE: The DATA statement used 0.43 CPU seconds and 2568K. DATA TRANA; SET TRAN1 TRAN2; 19 20 \*\*\*\*\*\* 21 \* READING IN THE LIST OF UNUSUAL OBSERVATIONS, MERGING THE LIST \*; 22 \* WITH THE TRANSPORTATION DATA AND DROPPING THE UNUSUAL OBS 23 24 NOTE: The data set WORK.TRANA has 15714 observations and 20 variables. NOTE: The DATA statement used 0.13 CPU seconds and 2652K. DATA HARI; INFILE SELDON: 25 INPUT HERID SESTSEG SEAT; 26 NOTE: The infile SELDON is: Dsname=H20558.08SLIST.DATA, Unit=3390, Volume=TOAA41, Disp=SHR, Blksize=6233, Lrecl=256,Recfm=VB NOTE: 193 records were read from the infile SELDON. The minimum record length was 17. The maximum record length was 17. NOTE: The data set WORK.HARI has 193 observations and 3 variables. NOTE: The DATA statement used 0.02 CPU seconds and 2684K. 27 PROC SORT DATA=TRANA; BY HCR1D CSTSEG; NOTE: The data set WORK.TRANA has 15714 observations and 20 variables. NOTE: The PROCEDURE SORT used 0.22 CPU seconds and 5360K. PROC SORT DATA=HARI; BY HCRID CSTSEG; 28

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NOTE: The data set WORK.HARI has 193 observations and 3 variables. NOTE: The PROCEDURE SORT used 0.01 CPU seconds and 5360K.

29 DATA TRANTOR; MERGE TRANA HARI; BY HCRID CSTSEG;

NOTE: The data set WORK.TRANTOR has 15714 observations and 21 variables. NOTE: The DATA statement used 0.33 CPU seconds and 5368K.

30 DATA TRAN; SET TRANTOR; 31 IF CAT GT O THEN DELETE;

NOTE: The data set WORK.TRAN has 15516 observations and 21 variables. NDTE: The DATA statement used 0.13 CPU seconds and 5368K.

| 32 | DATA INTRABMC; SET TRAN;                             |
|----|------------------------------------------------------|
| 33 | ***************************************              |
| 34 | * IDENTIFYING THE INTRABHC CONTRACT COST SEGMENTS *; |
| 35 | * BY THEIR ACCOUNT NUMBERS                           |
| 36 | ***************************************              |
| 37 | IF ACCOUNT = 53127 OR ACCOUNT = 53129 ;              |
| 38 | ***************************************              |
| 39 | IDENTIFYING AND REMOVING BOX ROUTE CONTRACTS         |
| 40 | * FROM THE INTRA-BHC DATA SET                        |
| 41 | ***************************************              |

13 The SAS System

| 42 | BOXRT=0;                                |
|----|-----------------------------------------|
| 43 | IF RTYPE=4 THEN BOXRT=1;                |
| 44 | IF RTYPE=5 AND                          |
| 45 | BOX > 0 AND TRCUBE LE 300 THEN BOXRT=1; |
| 46 | IF RTYPE = 6 AND                        |
| 47 | BOX > 0 AND TROUBE LE 300 THEN BOXRT=1; |

NOTE: The data set WORK.INTRABMC has 348 observations and 22 variables. NOTE: The DATA statement used 0.08 CPU seconds and 5368K.

48 DATA INTRABMC BOX; SET INTRABMC;
49 IF BOXRT=0 THEN OUTPUT INTRABMC;
50 IF BOXRT=1 THEN OUTPUT BOX;

NOTE: The data set WORK.INTRABHC has 347 observations and 22 variables. NOTE: The data set WORK.BOX has 1 observations and 22 variables. NOTE: The DATA statement used 0.01 CPU seconds and 5368K.

51 PROC MEANS DATA=BOX;

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NOTE: The PROCEDURE MEANS printed page 1. NOTE: The PROCEDURE MEANS used 0.01 CPU seconds and 5516K.

52 PROC MEANS DATA=INTRABMC;

NOTE: The PROCEDURE MEANS printed page 2. NOTE: The PROCEDURE MEANS used 0.02 CPU seconds and 5516K.

| 53 | PROC FREG DATA=INTRABMC;                          |     |
|----|---------------------------------------------------|-----|
| 54 | TABLE VEHGRP*AREA;                                |     |
| 55 | ***************************************           | *** |
| 56 | * CREATING VEHICLE CAPACITY FOR ANY POWER ONLY    | •;  |
| 57 | * CONTRACTS IN THE INTER-BNC ACCOUNT              | *:  |
| 58 | * CALCULATING THE TOTAL CUBE FOR EACH OBSERVATION | *;  |
| 59 | ***************************************           | **: |

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NOTE: The PROCEDURE FREG printed page 3. NOTE: The PROCEDURE FREG used 0.02 CPU seconds and 5743K.

| 60 | DATA INTRABHC; | SET | INTRABMC;             |       |
|----|----------------|-----|-----------------------|-------|
| 61 | 1F VEHGRP = 12 | AND | AREA = 1 THEN TRCUBE= | 2649; |
| 62 | IF VEHGRP = 12 | AND | AREA = 2 THEN TRCUBE= | 2817; |
| 63 | IF VEHGRP = 12 | AND | AREA = 4 THEN TRCUBE= | 2918; |
| 64 | IF VENGRP = 12 | AND | AREA # 5 THEN TRCUBE  | 2433; |
| 65 | IF VENGRP = 12 | AND | AREA = 7 THEN TROUBE  | 2700; |

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IF VEHGRP = 12 AND AREA = 8 THEN TROUBE= 2854; 67 IF VEHGRP = 12 AND AREA = 12 THEN TRCUBE=2320; 65 CUBE=TRCUBE=NUMTRK: 69 NOTE: The data set WORK.INTRABME has 347 observations and 23 variables. NOTE: The DATA statement used 0.02 CPU seconds and 5743K. 69 PROC MEANS: 70 71 \* CONSTRUCTING THE DATA SET ON THE BASIS OF THE \* HCRID & THE CONTRACT COST SEGMENT 72 73 14 The SAS System NOTE: The PROCEDURE MEANS printed page 4. NOTE: The PROCEDURE MEANS used 0.02 CPU seconds and 5743K. 74 PROC SORT; BY HCRID CSTSEG; NOTE: The data set WORK.INTRABHC has 347 observations and 23 variables. NOTE: The PROCEDURE SORT used 0.01 CPU seconds and 5743K. PROC MEANS NOPRINT; BY HCRID CSTSEG; ID RTYPE AREA ACCOUNT VEHGRP; 75 VAR YRMILE COST CUBE NUNTRE RL SUMLNGTH NUNTRP; 76 OUTPUT OUT=TRABHC2 MEAN=YRMILE COST HOUBE MNUMTRK RL SUMLINGTH 77 NUMTRP SUM #SYRMILE SCOST CUBE NUMTRK SRL SLENGTH STRIP N=NOBS; 78 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* 79 80 \* ELIMINATING OBSERVATIONS WINT MISSING ROUTE LENGTH, \*; \* CUBE, ANNUAL MILES OR TRUCKS 81 82 83 NOTE: The data set WORK.TRABMCZ has 340 observations and 23 variables. NOTE: The PROCEDURE MEANS used 0.03 CPU seconds and 5755K. DATA MISS TRABMC2; SET TRABMC2; 83 IF RL = . THEN RL=0; 84

66

```
IF CUBE = . THEN CUBE = 0;
85
          IF YRMILE = . THEN YRMILE = 0;
IF NUMTRK = . THEN NUMTRK = 0;
86
87
          IF YRMILE LE O
88
89
          OR RE LE O OR CUBE LE O OR COST LE O OR NUMTRE LE O THEN OUTPUT MISS;
90
          ELSE OUTPUT TRABMCZ;
         91
         * CREATING CUBIC FOOT MILES
92
93
         94
```

NOTE: The data set WORK.MISS has 12 observations and 23 variables. NOTE: The data set WORK.TRABHC2 has 328 observations and 23 variables. NOTE: The DATA statement used 0.02 CPU seconds and 5755K.

| 94  | DATA TRABACZ; SET TRABACZ;                            |
|-----|-------------------------------------------------------|
| 95  | AVECUBE=CUBE/NUNTRK;                                  |
| 96  | CFM-AVECUBE*YRMILE;                                   |
| 97  | CSTCFM=COST/CFM;                                      |
| 98  | ***************************************               |
| 99  | * MEAN CENTERING THE RIGHT-HAND SIDE VARIABLES AND *; |
| 100 | * CREATING THE AREA DUMMIES *;                        |
| 101 | ***************************************               |
| 102 |                                                       |

NOTE: The data set WORK.TRABMC2 has 328 observations and 26 variables. NOTE: The DATA statement used 0.01 CPU seconds and 5755K.

| 102 | PROC HEANS;                                |
|-----|--------------------------------------------|
| 103 | VAR COST CFM RL;                           |
| 104 | OUTPUT OUT=NTRABHC MEAN=NNCOST MNCFN MNRL; |
| 105 |                                            |

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NDTE: The data set WORK.MTRABHC has 1 observations and 5 variables. 15 The SAS System NOTE: The PROCEDURE MEANS printed page 5. NOTE: The PROCEDURE MEANS used 0.01 CPU seconds and 5755K. 105 DATA TRABNCS; IF \_N\_ = 1 THEN SET HTRABHC; SET TRABHC2; 106 107 CFN=CFN/MNCFN; RL=RL/MNRL; 108 109 IF COST > D THEN 110 COST=LOG(COST); ELSE COST=0; IF CFM > 0 THEN CFM=LOG(CFM); ELSE CFM=0; 111 RL=LOG(RL); 112 113 CFH2=CFH\*\*2; RL2=RL\*\*2: 114 CFMRL=CFM\*RL: 115 A1 = 0; 1F AREA=1 THEN A1 =1; 116 A2 = 0; IF AREA=2 THEN A2 =1; 117 A3 = 0; IF AREA=3 THEN A3 =1; 118 A4 = 0; IF AREA=4 THEN A4 =1; 119 A5 = 0; IF AREA=5 THEN A5 =1; 120 A6 = 0; IF AREA=6 THEN A6 =1; A7 = 0; IF AREA=7 THEN A7 =1; A8 = 0; IF AREA=8 THEN A8 =1; 121 122 123 A9 = 0; IF AREA=9 THEN A9 =1; 124 A10 = 0; IF AREA=10 THEN A10 =1; A11 = 0; IF AREA=11 THEN A11 =1; 125 126 127 A12 = 0; IF AREA=12 THEN A12 =1; 128 NOTE: The data set WORK.TRABHC3 has 328 observations and 44 variables. NOTE: The DATA statement used 0.04 CPU seconds and 5770K. DATA NODAT BHCREG; SET TRABMC3; 128 IF CFM=0 OR COST = 0 OR RL=0 THEN OUTPUT NODAT; 129 130 ELSE OUTPUT BHCREG; 131 NOTE: The data set WORK.NODAT has 0 observations and 44 variables. NOTE: The data set WORK.BHCREG has 328 observations and 44 variables. NOTE: The DATA statement used 0.02 CPU seconds and 5770K. DATA BMCREG; SET BMCREG; 131 132 LVLCOST=EXP(COST); CFM1=EXP(CFN); LVLCFH=CFM1\*MNCFH; 133 RL1=EXP(RL); LVLRL=RL1\*MNRL; 134 135 \* CREATING THE MEANS FOR THE ANALYSIS DATA SET •: 136 137 138 NOTE: The data set WORK.BMCREG has 328 observations and 49 variables. NOTE: The DATA statement used 0.02 CPU seconds and 5770K. DATA BNCREG; SET BNCREG; IF VEHGRP=12 ; 138 130 NOTE: The data set WORK.BNCREG has 148 observations and 49 variables. NOTE: The DATA statement used 0.01 CPU seconds and 5770K. 16 The SAS System 139 PROC MEANS; VAR COST CFH RL LVLCOST LVLCFM LVLRL; 140 141 ÷; \* ESTIMATING THE PRC'S R87-1 SPECFICATION 142 + ADDING DUMMY VARIABLES FOR EACH AREA 143 ------\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* 144 145 TITLES 'ESTIMATING INTRA-BMC VARIABILITY'; 146

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TITLEZ 'USING TRANSLOG EQUATION/DATA ARE MEAN CENTERED'; 147 TITLES 'INCLUDING HETEROSCEDASTICITY CORRECTION'; 148 149 NOTE: The PROCEDURE NEANS printed page 6. NOTE: The PROCEDURE NEANS used 0.01 CPU seconds and 5784K.

| 149 | PROC REG;                   |
|-----|-----------------------------|
| 150 | HODEL COST = A5 A12         |
| 151 | CFM CFM2 RL RL2 CFMRL/ACOV; |
| 152 | T1: TEST A5, A12;           |
| 153 | ENDSAS;                     |

NOTE: 148 observations read. NOTE: 148 observations used in computations. NOTE: The PROCEDURE REG printed pages 7-9. NOTE: The PROCEDURE REG used 0.04 CPU seconds and 6217K.

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NOTE: The SAS session used 2.31 CPU seconds and 6217K. NOTE: SAS Institute Inc., SAS Campus Drive, Cary, NC USA 27513-2414

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TABLE OF VEHGRP BY AREA

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| enun i xaM            | municiti    | vàd biş                | NeaN        | ĸ   | • }da í 1eV       |
|-----------------------|-------------|------------------------|-------------|-----|-------------------|
| 23129.00              | 23152.00    | 7152912.0              | 50.72122    | 27E | ACCOUNT           |
| 12.000000             | 00000001    | 1219267-2              | 6, 1066282  | ረንጀ | AREA              |
| 00000001.20           | 0000000156  | 0                      | 0000000 \$6 | ፈንዩ | 73                |
| 000000.Σ              | 0000000.1   | <b>&gt;&gt;22615.0</b> | 2007120.1   | ፈንደ | . Эчтія           |
| 52 1101507            | 39,000000   | 01 \$59827             | 72,86254    | ፈንዩ | <b>ABMILE</b>     |
| 0                     | 0           | 0                      | 0           | ፈንዩ | XOS               |
| 05`8766997            | <b>D</b> ·· | 961112885              | 19.551002   | ፈንዩ | 1800              |
| 25,5277521            | 0           | 82"712851              | 77°21026    | ፈንዩ | 1303              |
| 2121101.25            | 0           | 525935169              | 76°202152   | ፈንዩ | HOWAGE            |
| 82.989857             | 0           | 52.87888               | 96.80358    | ፈንዩ | CP1COST           |
| <del>ל</del> `0000000 | 00000001    | 762287210              | 0552750"1   | ፈንዩ | CONTYPE           |
| 12.000000             | 3,0000000   | 1~5928484              | 8861278.01  | ረንዩ | AE RCBP           |
| 46,000000             | 0           | 112906219              | 2,608069.2  | ረንና | NUMTRIC           |
| 3000.00               | 0           | 09 ንንዩ                 | 17 1571     | ፈንድ | 1 KCUBE           |
| 07-68701              | 0           | 1586.26                | 50.2251     | 175 | NTONJHUR          |
| 000000107             | 0           | 18222520-8             | 5811799.9   | 275 | ARTHUN<br>Munitrp |
| 00000051292           | 0           | 123.5103661            | 762.5521037 | ፈንዩ | צר                |
| •                     | •           |                        | •           | 0   | 143               |
| U                     | Û           | 0                      | 0           | ፈንዩ | BOXRT             |

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| 000000°\$6  | 0000001.26   | •       | 0000000.29        | L            | λ.           |
| 000000°S    | 00000015     | •       | 0000000.≷         | L            | 39Y13        |
| 07 25506    | 07.72200     | •       | 07.72200          | l            | BHILE        |
| 2*000000    | 5.000000     | •       | <u>0000000.</u> 2 | L            | XO           |
| £9°69505    | 20266-63     | •       | £9°69\$0\$        | ŀ            | 150          |
| £2°£ን5ንን    | 22,24244     | •       | \$2*\$7577        | ۱.           | 130          |
| 0           | 0            | •       | 0                 | L            | DUACE        |
| 07.9209     | 0719209      | •       | 07.8508           | L            | 120219       |
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| 2,000000    | 2,0000000    | •       | 2 000000          | L            | engro        |
| 00000001    | 00000001     | •       | 000000.1          | L            | UNTRK        |
| 240°000000  | 240-0000000  | •       | 240.000000        | F            | 30003        |
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| 2.000000    | 000000°Z     | •       | 2.000000          | L            | <b>ARTRP</b> |
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| •           | •            | •       | •                 | 0            | 14           |
| 000000.1    | 0000000°L    | •       | 00000001          | L            | TAXO         |

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Attachment to UPS/USPS-T13-10 Page 16 of 20 3751 VENGRP AREA

Frequency Percent Row Pct 3 4 5 7 8 9 10 11] 12 1 2 Total Col Pct --------Û Û 0 -- 0 0 0 1 0 0 0 3 0 1 0.00 0.00 0,00 0.29 0.00 0.00 0.00 0.29 0.00 0.00 0.00 0,00 0.00 0.00 0.00 0.00 0.00 100.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 1.79 0.00 0.00 0.00 0,00 0.00 ----0 0 0 0 0 0 0 1 0 0 1 6 0 0.00 0.00 0.00 0.00 0.00 0.00 0.29 0.00 0.00 0.00 0.29 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 100.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 1.52 0.00 0.00 0.00 0.00 ...... 0 0 7 | 0 0 3 0 0 1 0 1 0 -5 0.29 0.00 0.29 0.00 0.00 0.00 1.44 0.86 0.00 0.00 0.00 0.00 0.00 60.00 0,00 0.00 20.00 0.00 20.00 0.00 0.00 0.00 0.00 4.76 0.00 1.79 0.00 0.00 0.00 0.00 0.00 9.38 0.00 0.00 ----. . . . . .... ----.... . . . . . . . . . ----3 2 1 3 1 0 5 0 31 9 10 1 5 1.44 8.93 0.29 1.44 0.86 0.58 0.29 0.86 0.29 0.00 0.00 2.88 3.23 0.00 16.13 0.00 32.26 3.23 16.13 9.68 6.45 3.23 9,68 4.76 4.55 14.29 11.54 1.79 0.00 22.73 0.00 26.32 3.85 15.63 - - - - - • 12 2 108 0 4 26 26 10 18 1 17 1 1 1.15 3.46 31.12 0.29 0.00 0.29 7.49 7.49 0.58 5.19 0.29 4,90 0.93 0.00 0.93 3.70 24.07 24.07 11.11 1.85 0,93 15.74 16.67 10.53 96.30 54.55 47.37 3.85 53.13 1.52 0.00 4.76 15.38 46.43 \_\_\_\_\_ ..... . . . . . . ----. . . . . . . . . . . . . . . . . . . . . . . . . . . . . 5 2 0 42 0 0 0 **Z6** 11 0 4 1 4 1.44 1,15 0.00 1.15 0.29 0.00 0.00 0.00 7.49 0.00 0.58 12.10 11.90 4.76 2.38 0.00 61.90 0.00 9.52 0.00 9.52 0.00 0.00 10.53 0.00 0.00 0.00 46.43 0.00 22.73 10.53 0.00 12.50 1.52 . . . . . . . 15 C 159 60 12 18 19 1 1 12 6 24 - 3 0.86 17.29 3.46 5.19 5.48 0.29 0.29 0.00 4,32 45.82 1.73 6,92 0.00 9.43 7.55 0.63 0.63 1,89 37.74 11.32 11.95 3.77 15.09 90.91 85.71 85.71 73.08 1.79 3.70 0.00 78.95 15.79 92.31 9,38 . . . . . . ..... ----. . . . . . . . . - - - - -19 · 347 14 21 26 56 27 22 38 26 32 66 Total 4.03 7.78 6.34 5.48 100,00 16.14 10.95 7.49 9.22 19.02 6.05 7.49

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#### 1The SAS System

| Variable  | N   | Nean        | Std Dev     | Minimum    | Haximum     |
|-----------|-----|-------------|-------------|------------|-------------|
| ACCOUNT   | 347 | 53127.05    | 0,3183514   | 53127,00   | 53129.00    |
| AREA      | 347 | 6,1066282   | 3.4936171   | 1.0000000  | 12.0000000  |
| FY        | 347 | 95,0000000  | 0           | 95.0000000 | 95,0000000  |
| RTYPE     | 347 | 1.0317003   | 0.2193744   | 1.0000000  | 3.0000000   |
| YRMILE    | 347 | 422468.24   | 478655.10   | 39,0000000 | 4051011.75  |
| BOX       | 347 | Ū           | 0           | 0          | 0           |
| COST      | 347 | 500172.91   | 533711.96   | 0          | 4669948.50  |
| FUEL      | 347 | 93012.44    | 138714.38   | 0          | 1257752.25  |
| HDWAGE    | 347 | 251207.94   | 252632.96   | 0          | 2121161.25  |
| CPICOST   | 347 | 82608.96    | 88616.35    | 0          | 728989.38   |
| CONTYPE   | 347 | 1.0547550   | 0,3482394   | 1.0000000  | 4.0000000   |
| VEHGRP    | 347 | 10.8731988  | 1,2658484   | 3.0000000  | 12,0000000  |
| NUNTRK    | 347 | 5,6080692   | 6.3906311   | 0          | 48,0000000  |
| TRCUBE    | 347 | 2657.36     | 441.2336750 | 0          | 3000.00     |
| SUMLINGTH | 347 | 1343.05     | 1286.26     | · O        | 10489.40    |
| NUNTRP    | 347 | 9,9971182   | 8.0254287   | 0          | 40,0000000  |
| RL        | 347 | 162.5521037 | 123.5103661 | 0          | 767.5000000 |
| CAT       | 0   | •           | •           | •          | •           |
| BOXRT     | 347 | 0           | 0           | 0          | 0           |
| CUBE      | 347 | 15163.71    | 17838.98    | 0          | 136800.00   |

#### 1The SAS System

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| Variable | N   | Nean        | Std Dev     | Ninimum     | Haximm      |
|----------|-----|-------------|-------------|-------------|-------------|
|          |     |             |             | •••••       | ••••••      |
| COST     | 328 | 508044.42   | 540018.25   | 20827.68    | 4669948.50  |
| CFM      | 328 | 1182272546  | 1361931205  | 19688448.00 | 11135675325 |
| RL       | 328 | 167,1470427 | 124.2749061 | 10.2000000  | 767.5000000 |
|          |     |             |             |             |             |

#### 1ESTIMATING INTRA-BHC VARIABILITY USING TRANSLOG EQUATION/DATA ARE MEAN CENTERED INCLUDING HETEROSCEDASTICITY CORRECTION

| Variable                         | N                        | Hean                                                | Std Dev                                           | Hinimum                                             | Maximum                                          |
|----------------------------------|--------------------------|-----------------------------------------------------|---------------------------------------------------|-----------------------------------------------------|--------------------------------------------------|
| COST                             | 148                      | 12.5653745                                          | 0.8258929                                         | 9.9440382                                           | 14.4070409                                       |
| CFN                              | 148                      | -0.6320949                                          | 0.9262406                                         | -4.0951617                                          | 1.3475984                                        |
| RL                               | 148                      | -0.4581034                                          | 0.8111056                                         | -2.7964862                                          | 0.9362694                                        |
| LVLCOST                          | 148                      | 387096.98                                           | 298464.57                                         | 20827.68                                            | 1806751.25                                       |
| LVLCFM                           | 148                      | 897971911                                           | 759640383                                         | 19688448.00                                         | 4549588776                                       |
| LVLRL                            | 148                      | 137.2544595                                         | 87.8279165                                        | 10.200000                                           | 426.300000                                       |
| RL<br>LVLCOST<br>LVLCFM<br>LVLRL | 148<br>148<br>148<br>148 | -0.4581034<br>387096.98<br>897971911<br>137.2544595 | 0.8111056<br>298464.57<br>759640383<br>87.8279165 | -2.7964862<br>20827.68<br>19688448.00<br>10.2000000 | 0.936269<br>1806751.2<br>454958877<br>426.300000 |

1ESTIMATING INTRA-BMC VARIABILITY USING TRANSLOG EQUATION/DATA ARE MEAN CENTERED INCLUDING HETEROSCEDASTICITY CORRECTION

Attachment to UPS/USPS-T13-10

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Model: MODEL1 Dependent Variable: COST

Analysis of Variance

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i.

| Source   | DF  | Sun<br>Sque | of<br>1 <b>46</b> | Mean<br>Square | f Value | Prob>F |
|----------|-----|-------------|-------------------|----------------|---------|--------|
| Hodel    | 7   | 96.32       | 792               | 13.76113       | 488.893 | 0.0001 |
| Error    | 140 | 3.94        | D65 .             | 0.02815        |         |        |
| C Total  | 147 | 100,26      | 657               | •              |         |        |
| Root MSE | C   | . 16777     | R-1               | quare          | 0.9607  |        |
| Dep Mean | 12  | .56537      | Adj               | R-sq           | 0.9587  |        |
| c.v.     | 1   | .33519      | -                 | -              |         |        |

Parameter Estimates

|          |    | Parameter | Standard   | T for HO:   |            |
|----------|----|-----------|------------|-------------|------------|
| Variable | DF | Estimate  | Error      | Parameter=0 | Prob > [T] |
| INTERCEP | 1  | 13.044281 | 0.02118230 | 615.811     | 0,0001     |
| A5       | 1  | 0.433354  | 0.05643044 | 7,679       | 0.0001     |
| A12      | 1  | 0,168569  | 0.05551128 | 3.037       | 0.0029     |
| CFM      | 1  | 0.992905  | 0.02560167 | 38.783      | 0,0001     |
| CFM2     | 1  | 0.010717  | 0.02254110 | . 0.475     | 0.6352     |
| RL       | 1  | -0.094660 | 0.03633749 | -2.605      | 0.0102     |
| RLZ      | 1  | 0.043637  | 0.02686796 | 1.624       | 0.1066     |
| CFMRL    | 1  | 0.012309  | 0.04116881 | 0.299       | 0.7654     |

#### 1ESTIMATING INTRA-BMC VARIABILITY USING TRANSLOG EQUATION/DATA ARE MEAN CENTERED INCLUDING HETEROSCEDASTICITY CORRECTION

Dependent Variable: COST

**Consistent Covariance of Estimates** 

| ACOV     | INTERCEP     | A5           | A12          | CFM          | CFM2         | RL           | RL2          | CFMRL        |
|----------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| INTERCEP | 0.0003467822 | -0.000176097 | -0.000032533 | -0.000133873 | -0.000277819 | 0.0000385996 | -0.000249913 | 0.0004836427 |
| A5       | -0.000176097 | 0.0030414515 | -0.000011613 | 0.0001581365 | 0.0002130725 | 0.0001881183 | 0.0001101661 | -0.00038937  |
| A12      | -0.000032533 | -0,000011613 | 0.0018686579 | -0.000036192 | -0.000460346 | -0,000696578 | -0.000619972 | 0.0008322603 |
| CFN      | -0.000133873 | 0,0001581365 | -0,000036192 | 0.0007103975 | 0,0004758375 | -0.000225865 | 0.0002338093 | -0.000596759 |
| CFM2     | -0.000277819 | 0.0002130725 | -0,000460346 | 0.0004758375 | 0.0007452154 | -0.000076003 | 0.0004895088 | -0.001180396 |
| RL       | 0.0000385996 | 0,0001881183 | -0.000696578 | -0.000225865 | -0.000076003 | 0.0011902109 | 0.0004832301 | 0.0000307664 |
| RLZ      | -0.000249913 | 0.0001101661 | -0.000619972 | 0.0002338093 | 0.0004895088 | 0.0004832301 | 0.0007681973 | -0.000970446 |
| CFMRL    | 0.0004836427 | -0.00038937  | 0.0008322603 | -0.000596759 | -0.001180396 | 0.0000307664 | -0.000970446 | 0.0021076032 |

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1ESTIMATING INTRA-BHC VARIABILITY USING TRANSLOG EQUATION/DATA ARE MEAN CENTERED INCLUDING HETEROSCEDASTICITY CORRECTION

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 Dependent Variable: COST

 Test: T1
 Numerator:
 0.9230
 DF:
 2
 F value:
 32.7924

 Denominator:
 0.028148
 DF:
 140
 Prob>F:
 0.0001

Dependent Variable: COST Test: T1 Using ACOV estimates DF: 2 Ching Value: 77.251990825 Prob>Chisg: 0.0000

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#### Response of United States Postal Service Witness Bradley to Interrogatories of United Parcel Service

#### UPS/USPS-T13-11.

- (a) You state on page 27, lines 15-17, of your testimony that you can account "for the possibility of non-volume related regional variation in cost by including dummy variables for each region in the econometric specification." Does this technique also allow you to account for volume-related regional variations in cost?
- (b) If there are volume-related regional variations in cost, is your model specified in such a way as to allow you to take them correctly into account? Please describe the basis for your answer.

#### UPS/USPS-T13-11 Response:

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- (a) Volume-related variation in cost is captured through investigating the variation in both costs and volume (cubic foot-miles) across contracts. The cross-sectional data base includes the variation in costs and volume (cubic foot-miles) across regions. If contract cost segments in any particular region happen to have higher cubic foot-miles than other regions, then that fact would be captured by the recorded cubic foot-miles on those contract cost segments. In addition, each observation includes the cost for the contract cost segments, so the volume-related variation in cost is captured through estimation of the cost/volume (cubic foot-mile) relationship across all of the contract cost segments.
- (b) Yes. Volume-related variations in cost across regions would be captured in a cross-

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### Response of United States Postal Service Witness Bradley to Interrogatories of United Parcel Service

sectional database by a regression of cost on volume (cubic foot-miles). In fact, the cross-sectional regression analysis accounts for both within-region variation in volumes and cost, as well as across-region variations in volume and cost.

# Response of United States Postal Service Witness Bradley to Interrogatories of United Parcel Service

UPS/USPS-T13-12. Would you expect contractor fuel costs to be less volume-related, as volume-related, or more volume-related than total contractor costs? Please describe the basis for your answer.

UPS/USPS-T13-12 Response.

I don't have an expectation either way. On one hand, I would expect fuel consumption to be fairly closely related to the mileage component of cubic foot-miles. On the other hand, regional variations in fuel prices could bear no relationship to cubic foot-miles. Because fuel cost is a combination of price and fuel usage, these two factors work in opposite direction and are potentially offsetting.

Please note that the variable that represents fuel cost in the HCSS extract should not be used to investigate this hypothesis. As explained in my response to OCA/USPS T13-7, the Postal Service pays the total cost specified in the contract, but it is up to the contractor to decide how to allocate the total cost across the various types of costs that comprise the cost statement. This allocation has no bearing on the amount of payment. Thus, the allocation of costs to various fields like fuel cost or hired driver wages is arbitrary and cannot be used in an analysis of purchased highway contract costs.

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#### Response of United States Postal Service Witness Bradley to Interrogatories of United Parcel Service

UPS/USPS-T13-13. The econometric results presented in Table 7 allow the constant terms of the translog costs models to take different values in the different regions of the country. Did you estimate, test, or examine any models based upon specifications that allow other translog cost model coefficients to take different values in the different regions of the country? If so, please provide copies of all computer programs, outputs, and other results produced in the course of these investigations.

UPS/USPS-T13-13 Response:

I did not perform any of the alternative analyses that you describe for two reasons. First except for the intra-SCF and box route categories there are not enough data in each of the regions to permit accurate estimation of separate coefficients. As shown in the table below, even in the case of inter-SCF, where there are many observations, the distribution of data across regions is uneven. Some regions are more populous and require more transportation and there are several regions for which there are not sufficient observations to accurately estimate separate coefficients.

Second, because I have a cross sectional data base, I wanted to allow for not only the variance in areas but also across areas. This approach permits more efficient estimation and generates the single, national number required for the volume variability calculation

# Response of United States Postal Service Witness Bradley to Interrogatories of United Parcel Service

| Distribution of Inter-SCF Observations Across Regions |               |                              |  |  |  |
|-------------------------------------------------------|---------------|------------------------------|--|--|--|
|                                                       | VAN CONTRACTS | TRACTOR TRAILER<br>CONTRACTS |  |  |  |
| AREA                                                  | FREQUENCY     | FREQUENCY                    |  |  |  |
| 1                                                     | 170 118       |                              |  |  |  |
| 2                                                     | 67 90         |                              |  |  |  |
| 3                                                     | 102 83        |                              |  |  |  |
| 4                                                     | 226           | 49                           |  |  |  |
| 5                                                     | 30            | 27                           |  |  |  |
| 7                                                     | 74            | 70                           |  |  |  |
| 8                                                     | 40            | 64                           |  |  |  |
| 9                                                     | 92            | 83                           |  |  |  |
| 10                                                    | 59 27         |                              |  |  |  |
| 11                                                    | 83 27         |                              |  |  |  |
| 12                                                    | 39 31         |                              |  |  |  |
| All                                                   | 982           | 669                          |  |  |  |

#### Response of United States Postal Service Witness Bradley to Interrogatories of United Parcel Service

UPS/USPS-T13-14. Consider as an example an Intra-City contract whose volume, route length, etc., were equal to the mean values of the contracts used in the econometric analysis whose results are reported in Table 15. Based upon the results of your econometric analysis, what percentage change in costs would you expect to see in response to a 1% change in the volume associated with this contract, holding all else equal? Please explain the basis for your answer.

UPS/USPS-T13-14 Response:

My analysis is not designed to forecast the change in cost associated with a change in cubic foot-miles on any one contract. Instead, it is designed to measure the overall response in cost to a sustained increase in cubic foot-miles. With that caveat in place, the econometric equation would predict that a 1 percent increase in volume would lead to 0.65 percent increase in the cost of that contract.

#### Response of United States Postal Service Witness Bradley to Interrogatories of United Parcel Service

UPS/USPS-T13-15. Consider as an example all of the Intra-City contracts for purchased transportation entered into by the Postal Service. Based upon the results of your econometric analysis, what percentage change in total costs would you expect to see in response to a 1% change in the volumes associated with all of these contracts, holding all else equal? Please explain the basis for your answer.

UPS/USPS-T13-15 Response:

I interpret your question to imply a 1 percent increase in volume (cubic foot-miles) on Intra-

City contracts nationwide. The econometric equation would predict that 1 percent increase

in cubic foot-miles would lead to an increase in cost of about 0.65 percent.

#### Response of United States Postal Service Witness Bradley to Interrogatories of United Parcel Service

UPS/USPS-T13-16. Consider as an example all of the Intra-City contracts for purchased transportation entered into by the Postal Service. How much of an increase in total costs would you expect to see if, for each contract in the category, the Postal Service entered into a second identical contract? Please explain the basis for your answer.

UPS/USPS-T13-16 Response:

I presume that when you use the term identical in your hypothetical, that it implies identical cost on each of the new contracts. If so, the only possible outcome is a doubling of total cost for the category. Of course, this is not how actual costs would react to a doubling of cubic foot-miles. Because the variability of Intra-City contracts is less than one, a doubling of cubic foot-miles would lead to a less-than-doubling of costs.

#### Response of United States Postal Service Witness Bradley to Interrogatories of United Parcel Service

UPS/USPS-T13-17. Consider as an example all of the Intra-City contracts for purchased transportation entered into by the Postal Service. How much of an increase in total costs would you expect to see if, for every tenth contract in the category, the Postal Service entered into a second identical contract? Please explain the basis for your answer.

UPS/USPS-T13-17 Response:

To answer this question, let us describe the set of all Intra-City contracts as C. Let each contract in the set be represented by its annual cost, C<sub>i</sub>, where the subscript indexes across the contracts. We then can define a subset of contracts C\* where C\* is made up of the contracts that were selected by an every-tenth-contract selection rule. In other words,

$$C^* = \{C_i \mid j = 10, 20, 30, \ldots\}$$

Using this definition, we can define the total cost associated with this subset of contracts as  $c_i$ , where:

$$\hat{C}_j = \sum_{j=1}^N C_j$$

I would expect total cost in your hypothetical to increase by the amount  $c_j$ . Of course, this is not how total costs actually react to the implied increase in cubic foot-miles. Because the

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# Response of United States Postal Service Witness Bradley to Interrogatories of United Parcel Service

variability of Intra-City contracts is less than one, the increase in cost would be proportionately smaller than the increase in cubic foot-miles.

#### Response of United States Postal Service Witness Bradley to Interrogatories of United Parcel Service

UPS/USPS-T13-18. Consider as an example all of the Intra-City contracts for purchased transportation entered into by the Postal Service. How much of an increase in total costs would you expect to see if, for every hundreth contract in the category, the Postal Service entered into a second identical contract? Please explain the basis for your answer.

UPS/USPS-T13-18 Response:

To answer this question, let us describe the set of all Intra-City contracts as C. Let each contract in the set be represented by its annual cost,  $C_i$ , where the subscript indexes across the contracts. We then can define a subset of contracts C<sup>\*</sup> where C<sup>\*</sup> is made up of the contracts that were selected by an every-one hundredth-contract selection rule. In other words,

$$C^* = \{C_k \mid k = 100, 200, 300, \ldots\}$$

Using this definition, we can define the total cost associated with this subset of contracts  $asc_{k}$ , where:

$$\hat{C}_{k} = \sum_{k=1}^{N} C_{k}$$

I would expect total cost in your hypothetical to increase by the amount  $c_j$ . Of course, this is not how total costs actually react to the implied increase in volume. Because the

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# Response of United States Postal Service Witness Bradley to Interrogatories of United Parcel Service

variability of Intra-City contracts is less than one, the increase in cost would be proportionately smaller than the increase in cubic foot-miles.

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## Response of United States Postal Service Witness Bradley to Interrogatories of United Parcel Service

UPS/USPS-T13-19.

- (a) In your opinion, do the characteristics (<u>i.e.</u>, volume, route length, number of routes, number of trucks, etc.) of the Postal Service's contracts for purchased transportation reflect efforts on the part of the Postal Service to obtain these services at the lowest possible cost?
- (b) In attempting to obtain purchased transportation at the lowest possible cost, is the Postal Service free to select whatever contract characteristics it believes are optimal from its point of view, or are there constraints on the ability of the Postal Service to alter contract characteristics? What are the nature of any such constraints?

#### UPS/USPS-T13-19 Response:

- (a) No. It is my understanding that the Postal Service, through the contracting process, attempts to get reliable transportation service at the lowest possible cost. It does not simply minimize cost because it requires reliable transportation service.
- (b) It is my understanding that the Postal Service is free to pick whatever characteristics they require as constrained by applicable federal and state laws.
UPS/USPS-T13-20. In reference to Table 15 of your testimony and the HCSS database (WP-1), please identify the HCRID observation number corresponding to each of the eliminated observations in Table 15 by category.

UPS/USPS-T13-20 Response:

A complete listing of the eliminated observations and their account numbers is presented on pages 131 through 134 of my [Docket No. MC97-2] Workpaper WP-7. However, for convenience, I reproduce the relevant HCRIDs here and arrange them by the regression categories listed in Table 15. Also, please note that the duplication of certain HCRIDs is not an error. This duplication occurs because there is more than one contract cost segment for those HCRIDs.

# Attachment to UPS/USPS-T13-20 Page 1 of 2

A Listing of the HCRIDs for Omitted Observations Arranged by Regression Categories

| GROUP+ BOX ROUTE | GROUP= INTRA-CITY | GROUP=INTRA-SCF VAN |
|------------------|-------------------|---------------------|
| 93641            | 3158A             | 38041               |
| 92376            | 397AD             |                     |
| 12878            | 326AB             | 18/21               |
| 12863            | 523AD             | 80504               |
| 82481            | 3184D             | 18410               |
| 84362            | 39740             | 10039               |
| 16664            | - 57360           | 37444               |
| 99163            | 699AD             | 16337               |
| 5776B            | 9698D             | 16332               |
| 95278            | 323AD             | 99730               |
| 05760            | 61850             | 67306               |
| 80660            | 755AD             | 02563               |
| 84762            | 158AG             | 04330               |
| 88467            | 836AA             | 2584.0              |
| 85933            | 61880             | 49234               |
| 82662            | 30484             | 12910               |
| 82672            | 870AA             | 83647               |
| 89363            | 044BD             | 5204.1              |
| 89867            | 054CD             | 38865               |
| 82671            | 54944             | 17784               |
| 59361            | 4978A             | 30161               |
| 18480 .          | <b>9</b> 69he     | 17784               |
| 00998            | 54 1AD            | 17784               |
| 59066            | <b>8</b> 8244     | 95941               |
| 26274            | 7558A             | 54865               |
| 82368            | 847AD             | 29902               |
| 12902            | 218AB             | 164.FU              |
| 32057            | 99600             | 324AV               |
| 14401            | 99980             | 30200               |
|                  | 96713             | 30100               |
|                  | 969HB             | •••••               |
|                  | 96908             |                     |
|                  | DOBAS             |                     |
|                  | 82080             |                     |
|                  | 544DD             |                     |
|                  | 32144             |                     |
|                  |                   |                     |

| GROUP#INTRA-SCF TRAILER | GROUP=INTER-SCF VAN | GROUP=INTER-SCF TRAILER |
|-------------------------|---------------------|-------------------------|
| 92640                   | 16430               | 36116                   |
| 12801                   | 12514               | 07013                   |
| 72020                   | 030AB               | 38120                   |
| 38127                   | 92610               | 17511                   |
| 72023                   | 545AD               | 17511                   |
| 37006                   | 54611               | 370HR                   |
| 45143                   | 70011               | 90244                   |
| 10/19                   | 99502               | 90218                   |
|                         | 78475               | 90242                   |
| 1708/1                  | 94019               | 11329                   |
| nnot v                  | 9950¥               | 254BU                   |
| WVYE V                  | 411AD               | 254NU                   |
|                         | 323811              | 448mU                   |
|                         | 14411               | 19184                   |
|                         | 43/80               |                         |

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## Attachment to UPS/USPS-T13-20 Page 2 of 2

| GROUP=INTRA-BHC | GROUP=INTER-BMC | GROUP=PLANT LOAD |
|-----------------|-----------------|------------------|
| 98098           | 90190           | OZOAR            |
| 25013           | 27610           | 37032            |
| 80223           | 19492           | 675AR            |
| 80395           | 51010           | 541KR            |
| 16392           | 19240           | 380PX            |
| 452BR           |                 | 380M             |
| 3784k           |                 | 360NX            |
| 21785           |                 | 380MX            |
| 71332           |                 | 38004            |
| 38261           |                 | 021AR            |
| 74735           |                 | 615AR            |
| 322AR           |                 | 81DHR            |
| 151KU           |                 | 5310R            |
| 274AV           |                 | 335HV            |
| D618R           |                 | 453MW            |
| 577AD           |                 | 20249            |
| • •             |                 | 20249            |
|                 |                 | 20249            |
|                 |                 | 0608R            |
|                 |                 | 189CR            |
|                 | 902AK           |                  |
|                 | 20069           |                  |
|                 |                 | 20049            |
|                 |                 | 20019            |
|                 |                 | 200-0            |
|                 |                 | 200P9            |
|                 |                 | 20049            |
|                 |                 | 46607            |
|                 |                 | 173FR            |
|                 |                 | 6108R            |
|                 |                 | D27AR            |
|                 | . •             | 494MR            |
|                 |                 | 226KX            |
|                 |                 | 19531            |

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#### Response of United States Postal Service Witness Bradley to Interrogatories of United Parcel Service

UPS/USPS-T13-21. Your testimony in Docket No. R87-1 (USPS-T-9) included an analysis of time series data for selected inter-SCF and inter-BMC contracts (Tr. 12/8670). Please state whether you have subsequently conducted any variability-related analyses of USPS purchased transportation costs based on time series data. If so, please describe the particulars of all such analyses, including the mode of transportation, the time period covered, the econometric model or other estimation methodology applied, the data sources used, the results of the analyses performed, and any conclusions drawn from the analyses.

UPS/USPS-T13-21 Response:

I have not conducted any subsequent variability-related analyses of USPS purchased

transportation costs based on time series data.

## Response of United States Postal Service Witness Bradley to Interrogatories of United Parcel Service

UPS/USPS-T13-22. With reference to equation (1) at page 6 of your testimony, please confirm that the variability of a particular contract or route j might be different from the value of the  $B_1$  coefficient if that contract's CFMj and RLj characteristics differ from the mean values CFM and RL, respectively.

UPS/USPS-T13-22 Response:

I would caution against applying the equation to an individual contract for the purposes of

calculating a variability. The estimated variability measures the responsiveness of cost

across all contracts in the cost pool. As the Commission stated in Docket No. R87-1:1

We believe that, using the translog model with the extensive data set available, the variability levels estimated reflect the entire range of costaffecting changes.

Nevertheless, as a mechanical matter, I agree that if the equation is evaluated at values

for an individual contract whose CFM and RL characteristics differ from the mean values,

the calculated variability will not equal  $\beta_{1}$ 

<sup>1</sup>See, PRC Op., R87-1, at page 308.

## Response of United States Postal Service Witness Bradley to Interrogatories of United Parcel Service

UPS/USPS-T13-23. In reference to page 14 of your testimony, please confirm whether the HCSS data set represents substantially all of the purchased highway transportation contracts for which Cost Segment 14 – Highway costs were accrued during FY1995, and explain the source of any differences between the total dollar amounts recorded.

UPS/USPS-T13-23 Response:

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Confirmed. Differences will arise between the total dollar amounts recorded across all contracts in HCSS and the amounts recorded in the cost accounts because HCSS captures the annual rate at which contractors are paid and the cost accounts capture the actual payments. The actual payments will differ from plan because of factors like exceptional service and extra trips.

## Response of United States Postal Service Witness Bradley to Interrogatories of United Parcel Service

UPS/USPS-T13-24. Please confirm that purchased highway transportation contracts include costs associated with loading and unloading mail onto and from vehicles. Please explain your answer.

UPS/USPS-T13-24 Response:

Partially confirmed. The purchased highway transportation contracts specify that the contractor allow for sufficient time for loading and unloading. In many instances, the contractor will load and unload the vehicle. In these cases, the cost of loading and unloading are included in the contract cost. However, to the extent that trucks are loaded and unloaded by Postal Service mail handlers, the costs are not included in the contract.

#### Response of United States Postal Service Witness Bradley to Interrogatories of United Parcel Service

UPS/USPS-T13-25. In reference to your response to FGFSA/USPS-T13-25, please provide the HCRID number for each contract in your sample of highway contracts that does not specify round-trip transportation, where "round-trip" denotes a route that begins and ends at the same location. If this information is not available, please provide your best estimate of the proportion of contracts in each category (Box Route, Intra-City, etc.) that are not round-trip contracts.

UPS/USPS-T13-25 Response:

The requested information is not available. I am not able to provide a numerical estimate,

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but I would think that the frequency is small.

UPS/USPS-T13-26. In reference to your response to UPS/USPS-T13-10, please indicate what statistical test or tests are appropriate to apply in distinguishing the variabilities of different pools of contracts.

(a) Did you apply any of these tests in connection with your adjustments for within account heterogeneity, as described at pages 35 to 41 of your direct testimony? Please provide a complete description of all such tests, and your conclusions concerning the most appropriate segregation of contracts for each pool of contracts.

#### UPS/USPS-T13-26 Response:

In my response to UPS/USPS-T13-10, I compared the variability from my testimony for intra-BMC contracts of 97.4% with the variability calculated from your proposed splitting of the power only and regular intra-BMC contracts. That second variability is 96.9%. Because of the extremely small difference between these two numbers, I felt that there was no statistical test required. However, if one would like to perform a statistical test, one could calculate a t-test for the null hypothesis that the original variability of 97.4% is statistically different from the combined variability of 96.9%. Specifically, consider the following null hypothesis:

$$H_o: \beta_s = \beta_c,$$

where  $\beta_s$  is the variability calculated on the split sets of contracts and  $\beta_s$  is the variability calculated on the combined data set. To test this hypothesis, one can calculate a t-

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statistic:

$$t = \frac{\beta_s - \beta_c}{\sigma_{\beta_s}}.$$

In calculating the standard error of the split variability, one must recognize that the split variability is the weighted combination of the estimated variabilities from the individual equations:

 $\beta_s = \theta_{s1}\beta_{s1} + \theta_{s2}\beta_{s2}$ 

where the  $\theta_i$  are the cost weights. To find the standard error of  $\beta$  one first finds the variance. The variance can be calculated with the formula for the variance of a sum:

$$V(aX + bY) = a^2\sigma_X^2 + b^2\sigma_Y^2 + 2ab\sigma_{XY}$$

where a and b are parameters and X and Y are the random variables. In the current application, the two random variables, the  $\beta_{\mu}$  are independent; otherwise, they should not be estimated separately. Their covariance can be set to zero. Application of this formula thus yields the following expression for the standard error of the split variability:

$$\sigma_{\beta_s} = \sqrt{\theta_{s1}^2 \sigma_{\beta_{s1}}^2 + \theta_{s2}^2 \sigma_{\beta_{s2}}^2}$$

The information necessary to calculate this standard error is presented in my response to UPS/USPS-T13-10. The weights are the relative cost pools presented on page 2 of UPS/USPS-T13-10 and the variances can be extracted from the attachment to that interrogatory response. Substitution of the individual pieces into the t-statistic formula yields a calculated t-statistic of -0.2715 which is far below the critical value of 1.96. The null hypothesis of no difference in the variabilities cannot be rejected.

(a) I did not have to calculate the t-statistics. Inspection of the relevant variabilities and standard errors reveals that the null hypothesis of equality of the variabilities would be rejected in both cases.

UPS/USPS-T13-27. Referring to pages 33 and 34 of your testimony, please provide responses to the following:

- a. Identify the HCRID number for each of the 77 annual contracts (as distinguished from the 611 per-trip contracts);
- b. Provide a complete summary of the terms and conditions under which the Postal Service contracts for plant-load transportation, including any differences in per-trip vs. annual contract specifications;
- c. Explain why per-trip plant-load contracts are not inherently 100% volume variable;
- d. Provide the results of any statistical tests you have run to determine the relative variability of per-trip vs. annual plant load contracts, including a description of all such tests, test results, and your conclusions.

UPS/USPS-T13-27 Response:

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- a. As shown in Table 2 on page 17 of my testimony, the account number for plant load annual contracts is 53134.
- b. This part of the interrogatory has been redirected.
- c. Just because a contract specifies payment on a per-trip basis does not mean that it cannot include the effect of economies of scale. Plant load contracts that anticipate a large number of trips per year can be bid at a rate associated with a large annual contract. To the extent that plant load transportation is subject to economies of scale, the cost per cubic foot-mile on these relatively large plant load

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contracts could be below the cost per cubic foot-mile on relatively small plant load contracts.

d. I have not performed the statistical tests referred to in the question for three reasons. First, the estimated plant load variability is 94.66%, which is consistent with other tractor trailer variabilities. Second, I have no reason to believe that a difference in method of payment would cause a difference in the variability. Third, there are only a small number of plant-load annual contracts. I am skeptical that an accurate variability can be estimated for this small set of contracts alone.

UPS/USPS-T13-29. Referring to Exhibit USPS-13B of your testimony, please explain whether it is more or less appropriate to use annual cubic foot miles instead of HCSS accrued costs in weighting the subaccount split variabilities.

UPS/USPS-T13-29 Response:

I would recommend using accrued costs as I have shown in Exhibit USPS-13B. The accrued cost for the entire account is the sum of the accrued cost for the subaccount cost pools:

$$C = C_1 + C_2$$

The volume variable cost for the cost pool is also just the sum of the volume variable costs for the subaccount cost pools:

$$VVC = VVC_1 + VVC_2$$

The volume variable cost for the account is defined as the accrued cost multiplied by the (unknown) elasticity  $\epsilon$ .

Similarly, for each of the subaccount cost pools, the volume variable costs are the product of the subaccount cost pool accrued cost timed the subaccount estimated variability:

$$VVC_i = C_i e_i$$
,  $i = 1, 2$ 

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## Response of United States Postal Service Witness Bradley to Interrogatories of United Parcel Service

Substituting these last two expressions into the definition of the volume variable cost for the entire account yields:

$$VVC = C\varepsilon = C_1\varepsilon_1 + C_2\varepsilon_2$$

or,

$$\epsilon = \frac{C_1 \epsilon_1 + C_2 \epsilon_2}{C}$$

This is exactly the formula that appears in Exhibit USPS-13B.

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UPS/USPS-T13-30. Referring to pages 5 and 6 of your testimony, and Exhibit USPS-13B, please explain why it would not be preferable to evaluate overall Inter-SCF variability at the overall, mean values of the data for both vans and trailers together instead of using separate mean values for evaluating variability for each of the two regression equations.

#### UPS/USPS-T13-30 Response:

Calculation of the variability requires evaluation of the *equation* at its sample mean. If there were a single equation for the inter-SCF account, then that equation should be evaluated at the sample mean for all of the data for the account. Because there are now two equations for the account, each with their own supporting data set, each equation should be evaluated at its own sample mean.

UPS/USPS-T13-31. Please confirm that the objective of your econometric analysis is to determine the volume variability relationship between the total cost of each identified component of purchased highway transportation accrued cost (e.g., Intra-City contracts), and the indicated cost driver (e.g., cubic foot miles). Please explain any nonconfirmation, including any additional assumptions required for the results indicated.

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UPS/USPS-T13-31 Response:

Confirmed.

## Response of United States Postal Service Witness Bradley to Interrogatories of United Parcel Service

UPS/USPS-T13-32. Please confirm that your volume variability analysis seeks to determine the volume variable costs of a fixed bundle of services whose proportions stay the same as total volume increases. Please explain any nonconfirmation, including any additional assumptions required for the results indicated.

UPS/USPS-T13-32 Response:

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Not confirmed. There is no requirement in my volume variability analysis that specific mail

classes on the trucks stay in fixed proportions as volume grows.

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## Response of United States Postal Service Witness Bradley to Interrogatories of United Parcel Service

UPS/USPS-T13-33. Please confirm that it is appropriate to use cubic foot miles as the distribution key for specific categories of purchased highway transportation costs provided that cubic foot miles vary in proportion to mail volume for each class of service. Please explain any nonconfirmation, including any additional assumptions required for the results indicated.

UPS/USPS-T13-33 Response:

Not confirmed. It is appropriate to use the product-specific proportions of cubic foot-miles when it is not possible or practical to econometrically estimate the elasticity of cubic footmiles with respect to volume and when the product-specific proportions are thought to be good estimates of those elasticities. Moreover, please recognize that the proportionality assumption applies to small changes in volume, it does not apply to changes in volume through time. That is, the use of the product specific proportions of cubic foot-miles requires that those proportions represent the true proportions of the cost driver caused by each class at a single point in time.

## Response of United States Postal Service Witness Bradley to Interrogatories of United Parcel Service

UPS/USPS-T13-34. Please confirm that if cubic foot miles do not vary in proportion to mail volume for a given class of service, it is appropriate to multiply the cubic foot mile cost elasticity from your analysis by the elasticity of cubic foot miles with respect to mail volume in determining volume variable costs for that class of service. Please explain any nonconfirmation, including any additional assumptions required for the results indicated.

UPS/USPS-T13-34 Response:

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Not confirmed. It is always appropriate to multiply the cost driver elasticity by the elasticity of cubic foot-miles with respect to volume, whether cubic foot-miles vary in proportion to mail volume or not. In cases in which that elasticity cannot be accurately estimated or when the elasticity is thought to be proportional, the use of the product-specific proportions of the cost driver (cubic foot-mile) is appropriate.

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#### Response of United States Postal Service Witness Bradley to Interrogatories of United Parcel Service

UPS/USPS-T13-35. Please refer to page 12 of your testimony, and to the HCSS database.

- (a) In addition to the seven "key variables" you list on page 12 of your testimony, please identify and describe the specific information that is available in HCSS for each contract.
- (b) Provide a record layout and definitions of the HCSS database.

UPS/USPS-T13-35 Response:

- a. An objection to this part of the interrogatory has been filed.
- b. The record layout for my HCSS database is provided in [Docket No. MC97-2] Workpaper WP-1. I am not familiar with and have not seen the record layout and definitions for the entire HCSS. To acquire the data necessary for updating and refining the Commission Docket No. R87-1 analysis, I simply requested those data from HCSS experts. A complete listing of the variables that I requested and how they are constructed is presented in Workpaper WP-1.

CHAIRMAN GLEIMAN: Does any participant have 1 additional written cross-examination for Witness Bradley? 2 3 [No response.] CHAIRMAN GLEIMAN: Mr. Wells, any additional 4 written cross? 5 Then we will move on with oral cross-examination. 6 American Business Press, Florida Gift Fruit 7 Shippers Association and McGraw-Hill, Inc., have requested 8 cross-examination of the witness. Does anyone else care to 9 cross-examine this witness? 10 11 [No response.] CHAIRMAN GLEIMAN: There doesn't appear to be 12 13 anyone else. Mr. Feldman on behalf of American Business Press. 14 MR. FELDMAN: Thank you, Mr. Chairman. 15 CROSS EXAMINATION 16 17 BY MR. FELDMAN: Dr. Bradley, the purpose of USPS-T-13 in general 18 Q is to measure the variability of purchase highway 19 transportation costs, is it not? 20 Yes, sir. 21 А But that is the basic purpose of it? 22 Q Yes, sir. Α 23 In your discussion of the various transportation 24 Q accounts, you found that there were differences in the 25

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volume variabilities, did you not?

A Yes, sir.

Q Thank you. Would you say that the greatest differences in volume variability are present in the highway accounts, namely the Inter-SCF accounts where the difference between the variability found and 100 percent tends to be the greatest?

8

A I'm not sure I understand the question.

9 Q I will rephrase it.

10 A Thank you.

11 Q Several of the accounts show variabilities of 90 12 percent plus, do they not?

13 A Yes, they do.

14 Q And Inter-SCF Highway, using that as an example, 15 is one of the accounts that consistently shows a variation, 16 variability under 90 percent, does it not?

17 A That's correct.

Q In your own words, what would be your explanation of that, aside from obviously your equations produced that result, but as an observer of this in several cases, do you have an opinion on that?

22 A Yes, I do.

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It is my belief that the variability for Inter-SCF and for that matter for Intra-SCF are lower because they reflect the nature of that transportation as cpposed to --

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1 2 think you mentioned it -- if not, the BMC transportation.

In the Inter-SCF and the Intra-SCF account categories, the transportation is in smaller trucks over shorter distances, and therefore the Postal Service has a variety of ways, a lot of flexibility in the way that it could respond to volume changes.

As we move to something like BMC transportation, where it is long distance, and you have less substitutability in terms of the types of trucks, there the costs tend to rise more proportionately with volume.

Q Would it be fair to say that where you have an account, where there is a relatively low volume variability, using the two accounts that you just mentioned as examples, that there is a correlation between volume variability and what we have heard today described as unused capacity?

16 A I have not reviewed the capacity utilization by 17 mode of transportation, that being account, so I really 18 couldn't comment on whether it is a positive or a negative 19 correlation.

20 Well 20 There could <del>well l</del> be one, but I have not seen 21 evidence of it.

Q I'm going to ask you just to clarify a response you made to American Business Press, T-13-5, directed to you and responded to by you, if you can find that and indicate that, we'll ask a question about that.

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1 A I have it.

2 Q Thank you.

Could you try to just make a bit more clear what you meant by saying that a particular route trip could be included in different accounts, depending on the account classification and the nature of the transportation of the contract that pays for the route trip?

8 That was your response and you did refer to a 9 Florida Gift Fruit Shippeers' discussion as well, but I 10 think it might be helpful if you don't mind, in llight of 11 again some of the discussion today if you would clarify how 12 a highway trip, for example, that is, say, from a BMC to a 13 BMC or a BMC to an ADC, how do some of these trips get 14 categorized into the now-famous four highway accounts?

15 A Let me specifically address the language of the 16 interrogatory and attempt to clarify that, and then I will 17 give you a more general answer.

18

Q Thank you.

19 A In particular, I was trying to make the point here 20 that a particular route trip, which as Witness Nieto . 21 described, is perhaps one or more segments between 22 facilities, could end up being part of two different 23 accounts, and I think the best way to explain it perhaps is 24 by example.

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Let's suppose we have two SCFs that are side by

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1 side, not too far from a BMC.

2 Well, to the extent that a route trip for example, 3 a simple one, was the transportation between those two SCFs, 4 that could be part of an inter-SCF contract if it was only 5 associated with that.

6 However, it is possible that the BMC for that area 7 could also serve those SCFs, so a route trip could 8 include -- a routing could include BMC, SCF-A, SCF-B, and so 9 that individual route trip, if it is on a different contract 10 and a different type of transportation, could end up 11 intra-BMC.

Q Just again more for clarity than anything else, when you talk about different trips, different segments, are we talking about one contract where the local transportation office is making decisions at the local level as to the best and most efficient way to route the mail?

17 A Most likely, the scenario I described would be one 18 local transportation decision-making unit, but would end up 19 being two contracts.

It wouldn't have to be but most likely it would be because one would be a BMC contract and one would be an SCF contract.

It doesn't have to be so, but my experience wouldsuggest it probably would it.

25 Q But again, the decision to route mail originating

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in a particular facility and destinating in another facility ultimately is -- is it the nature of the contract, if you know, that governs that route or is it sort of a decision flow model where managers are making adjustments as volume bbs and flows through the system?

I would characterize the transportation contract 6 А 7 as a mechanism to solve the flow model problem. That is to say, transportation experts would work with mail processing 8 experts to figure out what transportation they needed to get 9 the mail where it had to be at the time they needed it and 10 based upon those determinations then they would let the 11 contracts. 12

Q And are contracts per se, as you have seen them, classified as Inter-BMC, Inter-SCF? These account numbers that you use of course for your work but are these the categorizations of the contracts themselves?

A I am not sure. Let me try.

18 Q Again, if you don't know, that's perfectly all 19 right.

A Certainly my experience in talking to postal transportation experts that they think of contracts in this way. You know, in a discussion about Inter-BMC or Intra-SCF it is it not as if this is some accounting definition they are not familiar with.

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Q Is the -- perhaps to phrase it another way -- is

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the contract designed to move mail? We'll just again use
 surface, stick to surface, and we'll even just stick to
 highway from Point A to Point B and Point A may or may not
 be a BMC, Point B may or may not be an SCF.

5 Is that perhaps a better way to phrase it than to 6 categorize a contract, a route contract, as an Inter-BMC 7 contract or and Inter-SCF contract?

8 A Sorry, as I understand your question, the contract 9 designation --

10 Q Yes.

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A -- is more than a simple accounting designation.

12 It is a meaningful term in terms of the nature of 13 the transportation as well as you pointed out the facilities 14 served, and so if you would talk to a postal transportation 15 expert about an Inter-BMC contract, that would mean 16 something in terms of not just the fact that it goes to BMCs 17 but it is also likely to be long distance. It's going to be 18 tractor trailers and so on and so forth.

19 Q And it would also relate, would it not, to the 20 facilities within the BMC area that destinating mail going 21 to the BMC ultimately has to be transported to?

22 A It would relate to the facilities to which the 23 mail ultimately destinates?

Q Yes. In other words, there are, and excuse me if I am wrong, I think there are something like 21 BMCs --

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1 A Right.

Q -- and a number of larger facilities associated with them, so choices are made, are they not, when these contracts are let, not simply to choose a BMC or even an ADC as such but rather the need to get mail to a particular geographic area and use the facilities available to do that in the most efficient way possible?

8 A Subject to the nature of the mail, I think that's 9 true.

My understanding is that the BMC transportation network is designed to transport primarily, not exclusively, but primarily the mail that is handled within BMCs, which would be perhaps a bit different than it is in SCFs.

Q And the SCF contracts, if we'll use that phrase, would also be used to transport mail not just of one class but of various classes from Point a to Point B, again depending on the discretion of transportation management? A Yes.

Q Okay. There was, subject to correction on counsel's part, I believe we asked Witness Moden about the Area Distribution Centers, the ADCs, just to give us a little historical background on how they came to be, and he indicat4ed that all ADCs were SCFs.

Has there been since -- in your experience in the last -- in the recent past, since this ADC concept came

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about, has that caused you to reflect upon the continuing usefulness of the account -- the accounting divisions of Inter-SCF, Intra-SCF, Inter-BMC, Intra-BMC when there is this network of facilities, all of which according to Witness Moden will say are SCFS, yet nevertheless serve a larger geographic area than what has historically been considered to be an SCF area?

A It's my understanding that there always were certain facilities which from the transportation perspective would be defined as SCF for Inter-SCF transportation that were large facilities and would provide distribution to an area.

I am not an expert on SDCs and ADCs but from the transportation perspective it is my understanding there always were such facilities where the mail would be transported to that facilities for further dispersal over what might be more than the traditional SCF area.

18 Q But in terms of the computation of your 19 variabilities, the Area Distribution Center, ADC, that did 20 not become a category in and of itself that you weighted 21 your equations or in any way affected your equations? 22 A That's correct.

MR. FELDMAN: That's all I have for now.
I'll reserve follow-up if necessary. Thank you
very much.

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1 COMMISSIONER HALEY: Very good. Thank you, Mr. Mr. Wells, Florida Gift Fruit? 2 Feldman. 3 MR. WELLS: Thank you, Mr. Chairman. CROSS EXAMINATION 4 BY MR. WELLS: 5 Good afternoon, Mr. Bradley, I'm Maxwell Wells in 6 0 7 the Florida Gift Fruit Shippers Association. Α Good afternoon, sir. 8 Just so that we can communicate, my interest and 9 Q my client's interest in your testimony has to do with 10 11 intra-BMC and inter-BMC transportation, and my questions unless otherwise specified would be limited to those two 12 types and would not relate to intra-SCF, inter-SCF, or plant 13 load transportation. 14 Am I correct that your testimony is that purchased 15 capacity is equal to the cubic-foot mile capacity contracted 16 17 for? Α Yes, sir. 18 And so that we can make sure that we're 19 0 communicating together, as you use the term, route means 20 what? 21 A fair question. As I use the term "route," I'm 22 Α thinking of what more traditionally might be called the 23 routing, the actual steps by which the truck would move from 24 Facility A through Facility B, C, D, to its final 25

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destination. So I'm thinking of the route as the path by
 which the truck would move.

Q On an intra-BMC transportation route, does that include -- begins with a BMC and goes out to various postal facilities and returns to the BMC by maybe one, some, or all of the intermediate -- same intermediate SCF? Is the entire trip the route?

In common sense it is. I think in postal 8 А 9 transportation terminology, as I can get a handle on it, they sometimes call that one route, and they sometimes will 10 call it two routes, depending upon the frequency by which 11 the trucks go over that distance, to the extent that it's 12 always going to be the same frequency, 305 days a year, you 13 14 go out, you come back, that could be characterized as a 15 route.

16 However, there may be times --

17 Q The entire trip was a route.

A Out and back, the entire trip. There may be other times, however, where certain portions of what I just called the route are traveled more heavily or more often than others, in which case Witness Nieto's definition of a route trip would essentially be the same as the route.

Q And you use the term "route trip" -- and how do
you use that term?

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I hope in the same way that she did, and that is a

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route trip would reflect the schedule of transportation on the contract and typically starts with the time of day and an origin facility, subsequent times and subsequent facilities a final time and a final facility. That may -the final facility could be the original facility or it could be a different one. And it's different based again upon frequency.

8 So in sum, a route trip would reflect the movement 9 of a truck over a routing at a certain frequency.

10 Q Well, it has to do more with the scheduling of the 11 transportation rather than the distance of the

12 transportation then?

13

A Yes. They are related, but yes.

14 Q All right. Didn't you use the term "segments of a 15 route trip"? Is a segment the portion of the route between 16 two postal facilities that are served by that route?

17 A A segment of a route trip is also sometimes called 18 a leg of a route trip, and it's also sometimes called a link 19 of a route trip, and what that is, it's just one individual 20 piece of the entire route trip.

Q Well, that was my next question, what is a link of a route trip, and if that's synonymous with a segment of --A Yes, sir.

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24 Q All right. Then you refer to a contract cost 25 segment.

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A Yes, I do.

Q And what is that?

A Unfortunately it's not at all the same thing. I apologize for the terminology, although I'm not sure it's mine.

A contract cost segment refers to the type of transportation that is -- wait a minute, maybe I'm misspeaking. A contract cost segment? A contract cost segment.

10 Q Contract cost segment.

A Contract cost segment. I believe you might -- do
you have a reference, sir? I believe you may have me there.
Q I do not have one noted.

A Contract cost segment. My sense is that when I talk about contract cost segments usually I'm referring to something I also call count categories. That's my sense right now.

18 Q All right.

MS. DUCHEK: If I could be of some assistance here, page 19 of Witness Bradley's testimony, Table 3 talks about frequency of contract cost segments with multiple vehicle capacities.

23THE WITNESS: Oh. Oh, yes. Thank you. Thank24you.

25 Yes, sir, I'm ready now.

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BY MR. WELLS:

2 Q All right. Are you going to give us the 3 definition?

A Yes, sir, I've refreshed my recollection. As it turns out, when the Postal Service lets a contract, the contract may be paid in a variety of ways. That is to say the contract may specify annual payments, or it may specify per-trip payments. And as long as they do it one way, we're okay, because all we have to do is talk about the contract.

However, there are instances in which the Postal Service pays in different mechanisms on the same contract. So we need a word for identifying if you will the subsections of the contract paid in each way, per year, per month, and the term "contract cost segment" refers to the cost segment of the entire contract associated with one or the other types of payment.

17 Q Is a contract cost segment the periodical nature 18 of payments?

19 A A contract cost segment represents the entire 20 portion of the contract that is associated with a particular 21 payment type. Let me give you an example, I think might 22 help, I hope.

You can have a contract cost segment if a contract
primarily is an annual contract but yet specifies the
ability for the Postal Service to pay on a per trip basis

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for other transportation. The transportation contracting
 system would say that two parts of that contract are segment
 A, which is the per annum part, and segment B, which is the
 per trip part. That is actually fairly rare.

More interesting is the fact that the Postal 5 Service has two different payment and other contract 6 7 specifications for contracts that have both tractor trailer transportation and straight body. So more widely used 8 segmentation of a contract would be to say, I have a pay 9 rate and a set of specifications for the tractor trailer 10 11 part and I've got a pay rate and a set of specifications for 12 the straight body part.

Q Dr. Bradley, was one of the objectives of your analysis to determine the extent to which the cost of purchased highway transportation is attributable?

16 A Well, I think the current term of art for what you 17 just described is to determine the degree to which it is 18 volume variable.

19 Q Well, I mean, is that the objective --

20 A Yes.

21 Q -- of your testimony?

22 A Yes.

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Q In your testimony at page 9, you state that the Commission's analysis was designed to measure the impact of volume on cost. Was your analysis as presented by you in

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1 your testimony similarly designed to measure the impact of 2 volume on cost?

A The two analyses are designed to undertake the same measurement. And as you mentioned in your previous question, that measurement is part of finding the volume variability of cost and volume variability is defined as the percentage response in cost to a percentage increase in volume.

9 Now, my analysis as the Commission's Docket R87-1
10 analysis, is only part of that process. It is not the
11 entire process. It is part of it.

Q You have just confirmed that a part of the characterization of being attributable is to determine if it varies with small changes in mail volume; is that right?

A That's correct, from my analysis.

16 Q And -- but you do not take into account in your 17 analysis any mail volume?

A That's correct, sir.

19QHave you made any determination if there were any20changes in mail volumes using purchased highway

21 transportation?

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A I have not studied that question.

Q If you have not studied mail volumes or changes in mail volumes, how is it that you come up with a percent that you say is attributable?

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1 А Let me try to make clear what that percent is and 2 perhaps that will answer your question. The percentage that I calculate is known as the volume variability. And, in 3 fact, in my answer to your question I said what I measure is 4 volume variability. And in the Postal transportation 5 network, as I understand it, it's impossible to measure 6 ongoing volumes on trucks and, as a result, like many other 7 places, the analysis of volume variability follows what's 8 known as the volume variability distribution key method. 9

10 The first part of that method is to find the 11 relationship between costs and the changes in an 12 intermediate variable, a cost driver -- no pun 13 intended -- in transportation. The cost driver here would 14 be the cubic foot miles of transportation. That's what I 15 do. My study looks at how costs respond to changes in cubic 16 foot miles.

The second part of the analysis, the TRACS portion 17 18 of it, relates volume by class of mail to cubic foot miles. And as I understand it, comes up with proportions of 19 transportation cubic foot miles by class of mail. When you 20 take those two pieces and put them together, the first piece 21 is an estimate of how volume by class of mail relates to 22 cubic foot miles and my piece relates how cubic foot miles 23 relate to cost. So by putting the two pieces together, you 24 25 link volumes ultimately to costs.

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Q Would it surprise you to know that the result of your analysis is the factor determinative that is then applied to determine the portion of transportation costs that is to be attributed?

A Well, sir, I think that until this case, it would have been accurate to say that the variability I calculate is used in part of the calculation of attributable costs. It is my understanding, however, that that is no longer true because the product of my percentage times accrued costs is currently called volume variable costs.

Now, I want to be clear here that this is not an 11 allocation like an accounting allocation. Transportation is 12 13 characterized by common costs. And so traditional notions 14 of average costs, where you could just take a pie and split 15 it up, have to be carefully examined. And so volume variable cost is really the first step at getting at the 16 ultimate unit volume variable cost and ultimately that's how 17 18 the work is used, to calculate unit volume variable cost which is a measure of marginal cost. 19

20 Q But you do not determine volume, mail volume 21 variability; is that correct?

A I would be -- I would say it would be fair to suggest that what I measure explicitly is the variability of cost with respect to cubic foot miles. I do not measure the elasticity or response of cubic foot miles with respect to

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volume. So therefore, I would agree with your
 characterization.

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Q Would it be correct then to conclude that your percentage of intra and inter-BMC transportation has not been developed in order to show the variability according to mail volume variability?

A No, sir, I wouldn't think that was fair.

8 Q But you haven't taken into account mail volume at 9 all?

10 A I think it is a bit misleading to talk about my 11 analysis in isolation from the rest of the analysis. It's 12 indeed true that I use cubic foot miles as a proxy for mail 13 volume. As I did in 1987 and as the Commission did in 14 Docket R87-1. But to say that it does not relate to mail 15 volume, I would not agree with.

16 Q Has the purchase capacity for inter-BMC 17 transportation increased or decreased over the past three 18 years?

A I haven't studied that question.

20 Q Well, if the purchase capacity has -- you don't 21 know if it's increased or decreased, how can you determine 22 that it is variable?

23 A Ah, that's because my analysis is what is <del>caused</del> a 24 cross-sectional analysis. I take a slice of all the 25 inter-BMC contracts at a point in time. And therefore I can

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look at large contracts and small contracts. And one of the advantages of a cross-sectional analysis is it allows me to estimate how quickly cost rises or falls with increases or decreases in volume without the necessity of tracing the size of total accrued cost through time.

6 Q So your analysis does not reflect whether there 7 has been an increase or a decrease in purchased capacity of 8 inter-BMC transportation?

9

10

A No, I didn't say that.

Q A

11 A In the year in which I take my sample, the amount 12 of capacity has either increased or decreased from previous 13 years. I use that capacity in my analysis. So by updating 14 the data from the last time I have done it, I now have 15 the -- within a year or so, the recent capacities.

How does it reflect the amount of capacity change?

So to the extent inter-BMC capacity has grown and to the extent that capacity growth has had an impact on the volume variability, that would be in my data.

Q Well, if the inter-BMC transportation mail volume has decreased, how is that volume variable -- how is the cost attributable? Costs have gone up. We don't know whether the purchase capacity has gone up or not.

23 A I'm not sure I got it. Could you give it to me 24 one more time, please?

25

Q Yeah. If the volume of inter-BMC mail, the mail

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volume, has gone down, how is your determined variability 1 2 applied to it? The -- I think I understand now. А 3 The variability that I estimate would be applied 4 to the accrued cost and to the extent that the accrued costs 5 have gone down, then the variability would be applied to a 6 7 smaller number. To the extent that they've gone up, it would be applied to a larger number. 8 Remember, my analysis is relating -- is cost, 9 trying to relate cost back to classes of mail. And so the 10 11 variation that I have to worry about are variations in 12 accrued cost. You make an analysis of contracts as of a point in 13 0 time; is that right? 14 15 Α I make an analysis of many contracts at a point in time. 16 As of the same point in time? 17 Q Α Yes, sir. 18 All right. And what do you compare that analysis 19 0 20 to? I compare the contracts within that analysis with 21 Α I would note for your information that in 1987 22 each other. I did collect a time series of contracts and did a similar 23 24 analysis that traced the history of --0 There are --25

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A May I finish, please?

2 Q Just a minute. No. Your 1987 study is not 3 reflected in your testimony today, is it?

MS. DUCHEK: Mr. Chairman, I would ask that Mr. Wells allow the witness to finish answering the question before he -- he can certainly move to strike the response if he thinks that's appropriate or whatever.

8 CHAIRMAN GLEIMAN: Well, actually, I think, since Mr. Wells is cross examining, he has the right to say that, 9 you know, was what I was looking for, and I think he has 10 11 asked -- not cut the witness off at the knees, if you will, but he's asked the witness before the witness may go on 12 about the status of his 1987 study. So I think it's wholly 13 appropriate for Mr. Wells to proceed in the manner in which 14 15 he's been proceeding.

16 MR. WELLS: Thank you, Mr. Chairman.

17 BY MR. WELLS:

18 Q Is your '87 study reflected in your testimony 19 here?

20 A Indirectly.

Q Is any other data from your '87 study included in your work papers or in the testimony?

- 23 A Yes, sir.
- 24 Q Where?

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If you would turn to Work Paper No. 2, please.

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1 If you would turn to page WP 2-4 of Work Paper No. 2 2, you can see at that point that I estimated the 3 Commission's Docket R87-1 result based upon the 1987 data. as well as estimating that on the same data with a different 4 method of calculation of cubic-foot miles. 5 6 That merely incorporates the conclusion from your 0 7 '87 study, but it doesn't include the study itself; is that 8 right? 9 I believe the question, sir, was did I use the А data at all in my analysis, and I was referring you to where 10 I did. 11 12 0 Very well. Do you want to go ahead and complete 13 your response that I interrupted? 14 А My response was only that my experience in the 15 1987 case indicated that the time series analysis generated 16 results similar to the cross-sectional analysis. So I don't 17 believe the variabilities are a characteristic of the nature of the data that was collected. 18 19 Q Is your testimony to determine the extent to which 20 the per foot mile cost of transportation varies with per 21 foot mile capacity? 22 Α No, sir. Well, you tell me again what the purpose of your 23 Q 24 testimony is then. 25 The purpose of my testimony is to estimate the Α ANN RILEY & ASSOCIATES, LTD.

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relationship between costs and cubic-foot miles. I'm trying
 to estimate by account category the percentage response in
 cost to say a percentage increase in cubic-foot miles.

Q And my initial question to you was -- or earlier
question to you is how much have the cubic-foot miles
changed in any of the last three years?

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I have not studied that issue.

8 Q Well, if your purpose is to reflect the 9 variability of costs to variability in cubic-foot mile and 10 you don't know the total cubic-foot mile, how can you 11 establish any variability?

12 A Variabilities can be estimated by a variety of 13 ways, and one of the well known ways of doing so is through 14 collecting what's called cross-sectional data. This is not characteristic just to the Postal Service, this is true for 15 16 many industries. And when one's trying to find the relationship between costs and say cubic-foot miles, one way 17 18 to do it would be to take an aggregate analysis wherein each 19 every quarter or every year one collected the cubic-foot miles and collected the costs and then did an econometric 20 21 analysis of that aggregate relationship. There's a number of issues associated with that type of approach. 22

However, another approach which is widely used, perhaps even more so for the type of analysis I'm doing, is to for a cross-section of facilities or in this case

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1 contracts collect the information on costs and cubic-foot 2 miles, and use the variation between the small contracts, 3 that is small cubic-foot miles, and the large cubic-foot 4 miles, to measure how it is costs vary with cubic-foot 5 miles.

6 Now it would be tempting with a cross-section to 7 think that that would not reflect the nature of adjustments. You know, there's a tendency sometimes to say well, it's 8 9 just a snapshot, so how could that possibly capture 10 adjustments in cost in cubic-foot miles. But we must recall that each and every one of the contracts that are in the 11 12 data base have gone through adjustments to get where they 13 are today. And so I believe it's an entirely valid methodology to collect a cross-sectional cross-section of 14 15 data and to analyze for the individual contracts as a unit 16 of observation through econometric study, regression analysis, how it is costs increase with cubic-foot miles. 17

18 Q But you do not know if cubic foot miles have19 increased or decreased in your analysis, right?

A I know across contracts from which one they increase or decrease. I have not studied what has happened to total cubic foot miles in transportation for the Postal Service, that's correct.

Q Do you know whether the cubic foot miles for inter-BMC transportation has increased or decreased?

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ANN RILEY & ASSOCIATES, LTD. Court Reporters 1250 I Street, N.W., Suite 300 Washington, D.C. 20005 (202) 842-0034 1 A Not in the last three years.

2 Q And is your answer the same for intra-BMC cubic 3 foot miles?

4 A Yes, sir.

5 Q And you do not know, nor have you looked at or 6 taken into account, any changes in the volume of mail 7 handled on intra-BMC transportation or on inter-BMC 8 transportation; is that right?

9

A That's correct.

10 Q It has been established here from Witness Nieto 11 that the inter-BMC has unutilized capacity and has had for 12 the last -- since 1990, unused capacity or excess capacity.

As contracts have been negotiated and renewed, how has the cubic foot capacity changed to reflect the excess of existing capacity?

A Let me first suggest that the existence of empty space is not necessarily consonant with excess capacity in the sense of capacity that is not needed at some point in the year or needed on certain legs of the transportation.

There has been empty capacity on trucks in Postal transportation far before R1990. It certainly was there in 1987, 1984, 1980. So the existence of empty space is not a new phenomenon. In general, previous analyses, my understanding of previous analyses of transportation, in particular the Commission's analysis, have argued that empty

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space tends to vary with volume to the same degree that utilized space varies with volume. So if there was an instance in which the mail volume transported between facilities declined and less transportation was required, I would anticipate both empty space and utilized space to decline in response to that change.

7 Q Your ultimate conclusion is that inter-BMC is a8 variable or attributable to what extent?

9 A In my final analysis, the variability for 10 inter-BMC transportation was 94.88 percent.

11 Q And intra?

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12 A 97.43 percent.

Q Now, you have come up with these attributable percentages, 95 percent more or less, in the face of the fact that there is consistent excess capacity on these vehicles. How can that be?

A If it's the case that the nature of transportation is such that the Postal Service can't wait to fill up its trucks or it needs space on different parts of the lengths or legs of a particular route trip, then it is quite possible that when volume increases, not only does utilized capacity rise but so does empty space.

Now, at first blush, that may seem
counterintuitive because you can say, if you have empty
space, you could just put the mail on that empty space and

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you wouldn't need any capacity. But please keep in mind that what we are talking about is not a temporary increase in volume but a sustained increase in volume, an increase in volume which lasts year in and year out, at least quarter in and quarter out.

6 Therefore, whatever the characteristics are of 7 Postal transportation that generates the empty space at 8 volume X, those characteristics are likely also to be in 9 existence when we add a little bit, volume X plus a little. 10 If so, the cost of transporting mail will go up as the cost 11 of both utilized space and empty space rises.

12 Q Are you suggesting that on inter-BMC, where there 13 is excess capacity in excess of 30 percent for 1996, that if 14 the volume went up 10 percent, that the required cubic foot 15 mile capacity would change?

16 A Yes, sir.

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17 Q You got excess capacity that is not being used 18 now, why would you need to have more?

A For example, the volume may rise between
 Philadelphia and Chicago, where there is no empty space.
 The volume may rise as certain places or times of day where
 you can't make use of the empty space.

In addition, we must not focus solely on inter-BMC but remember it's part of the Postal transportation network. Empty space on a BMC truck may be there for tailgating, for

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example, or for other reasons. So I would not jump to the
 short run conclusion that the existence of empty space today
 means excess capacity. Empty space may reflect the nature
 of the transportation system.

5 Q You say that the transportation network would 6 adjust. How has the transportation network adjusted over 7 the last three years?

8 A The transportation network will have -- has 9 adjusted through variations in the number of trucks, the 10 routings of those trucks and those factors.

11 Q Have you made a determination of how many 12 contracts there were a year ago?

13 A No, sir.

14 Q So you don't know how many -- how that's changed, 15 correct?

16 A I do not know how the number of contracts has 17 changed since last year; that's correct.

18 Q And you do not know how the quantity of contracted 19 for cubic foot mile capacity has changed?

20 A That's correct.

21 Q You know that the number of contracts has 22 essentially been unchanged for over 10 years?

A Slight increase but I would agree with your
 characterization.

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Q And we don't know whether the cubic foot mile

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capacity has remained the same over that same 10-year
 period?
 A I have not studied that.

4 Q But nonetheless, you come up and say that 94.88 5 percent of the costs are attributable to changes in the 6 volume of mail?

7 MS. DUCHEK: Mr. Chairman, I don't want to cut off 8 Mr. Wells' cross-examination. He can ask this question as 9 many times as he wants but I think he is going to get the 10 same answer repeatedly from Witness Bradley.

11 CHAIRMAN GLEIMAN: Well, I'm going to let 12 Mr. Wells ask the question as many times as he wants because 13 maybe one of these times, you know, the answer will ring 14 true to my intuitive sense of how things should work or not 15 work.

16 THE WITNESS: Again, sir, please?
17 BY MR. WELLS:

18 Q We'll move along.

19 In your response to number 7, you say that in 20 rebidding a contract the historical experience with the 21 contract is used. Tell me what that historical experience 22 consists of.

23 A The historical experience would be the routings of 24 the contract, the capacity utilization of the contract --25 Q You mean the mail volume actually carried?

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1 A The capacity utilization of the contract in terms 2 of the utilization of the truck. The timeliness of the 3 transportation between facilities and factors like that.

Q When you say "capacity utilization," are you talking about the volume of mail transported cn -- under the contract?

7 A By "capacity utilization," I would refer to the 8 proportion of the space on the truck that was used.

9 Q Well, we know that in inter-BMC, that 30 percent 10 of it was not used. How does that affect the rebidding 11 process?

I am not testifying as an expert on the Postal 12 А contracting process. My understanding of that process is 13 that the Postal managers, the Postal transportation managers 14 work with Postal mail processing managers to determine the 15 adequate transportation they need to move the mail between 16 facilities to make the time windows associated with mail 17 processing. It is my understanding that to the extent that 18 19 over the course of the year that goal of moving the mail between facilities could be accomplished with smaller trucks 20 or fewer trips or any other cost reducing characteristic, 21 22 that they would attempt to do so.

Q But you say they have not done so because the number of contracts and everything has remained the same, right?

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1 A I think I did agree that the number of contracts 2 remained the same. I did not agree to that part where you 3 said "everything."

4 Q Oh, the capacity you don't know about?
5 A Yes, sir.

Q And you don't know whether in the historical
experience considerations they're looking at the average
daily volume, the peak daily volume, or anything else, do
you?

10 A It's my understanding that these decisions are 11 made at the local level between local transportation people 12 and local mail processing people, and that there is no 13 single rule or formula which determines the choice of 14 capacity. So a variety of factors can go into that 15 decision.

16 Q But you don't know what they are or how they're 17 applied?

18 A Well, I think I indicated what some of them are,
19 yes. I don't know in any particular instance.

20 Q But you don't know whether they use average daily 21 volume or peak daily volume or --

22 A I think it varies.

23 Q Average?

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- 24 A I think it varies.
- 25 Q Varies. All right.

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You distinguish between rebidding existing
 contract and a new service, and you have a forecast.
 Forecast of what?

A The forecast I was referring to there was a
forecast of the transportation needs between the facilities.
Q This is a forecast of mail volume required to be
transported?

A No, sir, I think it's a -- what I was referring to 9 there was a forecast of what size trucks would be 10 sufficient, what the timing of those trucks would be 11 appropriate for the service windows and that sort of thing.

12 Q How can you determine the size of a truck if you 13 don't know the mail volume?

14 Well, I think what you would do would -- well, you Α have to keep in mind that these are flexible contracts. And 15 16 so I think what they would do and what I would do would be 17 to make an assessment based upon historical experience at 18 that facility or other facilities that are similar of what 19 type of transportation had been -- had been large enough to 20 meet the needs of the facility from one to the other, and 21 based upon that certainly mail volume -- anticipated mail volume to be moved would be part of that -- would be part of 22 that calculation. 23

Q But you do not know the extent to which the Postal Service people who make the determination take into account

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1 the anticipated mail volume?

2 A Again, in my inquiries, my understanding is that 3 it really varies from site to site.

4 Q But you don't know as to any particular place how 5 the mail volume is taken into account.

A That's correct.

6

Q If you did no study or no inquiry as to mail volume, how can you say that cubic-foot miles in your analysis are directly related to mail volume, as you say in your answer to my 46?

11 A That answer is based upon my experience and 12 understanding of how the postal transportation network 13 works. It's my understanding that when volume rises, 14 additional cubic capacity is needed to transport those 15 volumes, and therefore there would be a direct relationship 16 between changes in volume and changes in cubic-foot miles of 17 capacity.

18 Q And if the volume goes down, would there be a 19 commensurate reduction in cubic-foot mile capacity?

20 A Yes, sir.

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21 Q But you didn't measure any change of cubic-foot 22 capacity, did you?

A My analysis is an analysis of the relationship between cost and cubic-foot miles. I did not -- as you suggest, I did not study the relationship between cubic-foot

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miles and volume. And certainly I think to the extent that that second analysis had a lower variability then my capacity variabilities would be too high.

Q What factor other than anticipated mail volume influences the determination of needed capacity for a particular truck route which operates once a day for six days a week?

8 A I think several things can influence it. When you 9 say volume, do you mean volume at the originating facility, 10 or any volumes?

11 Q Volume of mail to be carried on that route.

A Okay. Obviously volume of mail is an important one, very important one, but in addition I think that the number -- the distance between the facilities may determine the number of trips. The location of nearby facilities may determine the routing and the actual cubic-foot miles on that route or route trip. Those are some examples of other factors.

19 Q In my question I restricted this to a truck route20 that operates once a day six days per week.

21 A Oh, I'm sorry.

22 Q Now what factor other than mail volume would 23 influence the determination of the capacity to be contracted 24 for?

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A If this for example was inter-BMC contract, which

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was only running once a day, then I think the only other factors that would determine it would be the time windows of when the truck has to leave and come back. That may determine the capacity required for anticipated volume. And minor things perhaps like dock size. But I would consider them to be small.

Q So mail volume is the most important factor indetermining cubic foot capacity, is that right?

A I would think so, yes.

9

Q For Intra-BMC transportation, would you agree with me that generally this is transportation that goes out from a BMC to one or more postal facilities and returns to the same BMC with stops at one or more of those same postal facilities?

15 A I think that's a good generalization.

Q And the contract for that transportation would specify the frequency of the trip, the points to stop for loading and unloading, and the time for departure at each place, is that correct?

20 A Among other things.

21 Q Now this transportation that we have just 22 described, do you consider that this is a round-trip?

23 A In the postal transportation network in fact the 24 transportation you just described is often broken into two 25 individual route trips, so in fact technically speaking it

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really is two individual pieces of one-way transportation. 1 2 I think sort of common sense suggests that if a 3 truck is leaving a facility, going to two or three, ending at a facility, staying there for just a short period of 4 time, and then following the same routing back again, common 5 6 sense to me would argue that is a round trip. 7 0 But you say this is two separate contracts? Α No, sir. Two separate route trips. 8 Two route trips? 9 Ö 10 Α Yes, sir. 11 One route from the BMC out and another route from Q 12 the postal facility to the BMC? 13 А Yes, sir. On a contract those individual route trips would have different numbers and they would be 14 15 identified separately. If there is a significant imbalance in the mail 16 0 17 volume on the outbound route trip between the mail volume on 18 the return route trip, is the return trip what is commonly referred to as a backhaul? 19 20 Α It's a difficult question to answer because of the 21 notion of what a severe imbalance constitutes. 22 Generally speaking, I think of a backhaul as 23 solely trying to get the transportation back at the originating facility so it can be run back out again. 24 25 It is not really my understanding that the postal

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1 network works that way. In other words, I often think of Intra-BMC contracts as sort of going out and going around a 2 circle and coming back to the BMC. 3 So I wouldn't necessarily characterize it as a 4 5 backhaul. No, sir. 6 0 You have referred to some emergency contracts. 7 There you say that that is where the Postal Service has added trucks, numbers of trips or changed the frequency. 8 9 Do you recall that? 10 Α Would you give me a reference, please, sir? 26, or perhaps 48. 11 0 See the reference to emergency contracts in that 12 one? 13 I'm sorry, sir. I see no reference To emergency contracter. 14 Α It does not appear there or in either one of them. 15 0 16 I don't have a reference for you, but did you refer to emergency contracts? 17 Α Sure. 18 Are those emergency contracts where the Postal 19 0 Service adds trucks, number of trucks, or changes the 20 21 frequency? 22 Α That is one way in which they could do it, but not 23 the only place. They could also do it in regular contracts. 24 Q But emergency contracts would cover those events? 25 А Emergency contracts --

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2 A Could, yes, sir. Yes.

3 Q Would emergency contracts be used for any other 4 purpose?

5 A Yes. Emergency contracts would be used, for 6 example, if unfortunately the contractor had died or was 7 unable to provide the service.

8 The Postal Service might issue an emergency 9 contract to replace the service of the original 10 contractor -- that is an example -- or if the Postal Service 11 decided that for whatever reasons it needed additional 12 service between facilities, an emergency contract could be 13 used if that service was expected to be sustained through 14 time.

Q Emergency contracts occurred only three times in If Intra-BMC and 13 times in Inter-BMC, according to Table 2 on page 17.

18 A I believe you are referring to percent, sir.
19 Q I don't know whether it is percentage or numbers.
20 A Would you give me the reference then, please, sir?
21 Q Table 2 on page 17.

22 A Thank you -- and would you give me the numbers 23 again, please, sir?

24 Q 13.

25 A Yes, sir. I confirm.

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1 0 Those are numbers? They are not percentages? 2 Yes, sir, they are numbers. You were correct. Α 3 From your analysis of the contracts, are there any 0 4 contracts for one way trips, or, as you had described it, route trips without a return route trip? 5 6 А Yes, sir. I think there might be. I can't say 7 that I could specify any to you right now. It is my belief that it would be an unusual 8 circumstance when it occurred, but it could occur. I really 9 haven't reviewed them all enough to say it doesn't occur. 10 You say there might be but you don't know what 11 Q 12 they are? Is that right? I think they exist but I don't know how many. 13 Α In your response to Question 30, Interrogatory 30, 14 0 you refer to an example of inflexibility of purchased 15 highway transportation. 16 You cite there that the location of postal 17 facilities is one of those inflexibilities? 18 19 А Yes, sir. 20 Is another example a scheduled departure time to 0 meet service standards? 21 22 Α Yes, sir. And what other inflexibilities can you identify? 23 0 Another inflexibility might be the fact that --24 Α did I say this one? -- well, another inflexibility might be 25

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1 the distance between facilities.

In essence, I think that's what I was getting to in my written response. That is to say if the distance between facilities is such that it precludes adding trips, that might be an example.

Another example might be the physical construction of the docks at a facility. That would preclude using certain capacities of trucks.

9 But what I have in mind here is anything that 10 limits the choices of postal transportation managers in 11 responding to increases in volume.

12 Q Okay. Do you agree that in providing 13 transportation service that the input is the labor, fuel, 14 operating costs, and capital costs of the operating vehicle?

15 A No, sir. As an economist, we are always taught to 16 talk about the inputs as the physical quantities, not the 17 costs, so if I could say the inputs are the truck, the labor 18 and the fuel, then I would agree.2

Q Well, that is what I asked you, I thought, was the inputs would be the driver, the labor, the fuel, the other operating facilities necessary to maintain a truck over the road -- replacing tires and things of that nature -- and the cost, the capital cost of the equipment.

Are those the inputs in providing transportation service?

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1 А Almost -- I am with you until you say cost, and I 2 don't usually think of cost as an input. Inputs are 3 physical things. Well, the truck itself. 0 4 Yes, sir. Α 5 6 0 Okay, and the truck itself represents the cost of the truck, doesn't it? 7 Oh, I wouldn't necessarily agree with that. 8 А 9 My children have costs but I don't think of them as being the costs. 10 Well, do you have an automobile? 11 0 12 A Yes, sir, I do. And that automobile has a cost, doesn't it? 13 0 It certainly does. 14 Α Okay, and for transportation service the output is 15 Q providing cubic foot miles of capacity with the driver, 16 fuel, operational facilities, and the truck itself? 17 Yes, sir. 18 Α 19 MR. WELLS: Mr. Chairman, I have no further 20 questions. 21 CHAIRMAN GLEIMAN: Dr. Bradley, obviously your 22 children are young. When they get older, you will find out that the children are the cost. 23 [Laughter.] 24 25 CHAIRMAN GLEIMAN: McGraw-Hill.

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| 1  | CROSS EXAMINATION                                           |
|----|-------------------------------------------------------------|
| 2  | BY MR. BERGIN:                                              |
| 3  | Q Good afternoon, Dr. Bradley. My name is Tim               |
| 4  | Bergin. I represent the McGraw Hill Companies and I have a  |
| 5  | few additional questions for you.                           |
| 6  | As I understand it, the focus of your testimony             |
| 7  | with respect to transportation is to determine the          |
| 8  | percentage change in costs caused by the percentage change  |
| 9  | in cubic foot miles; is that correct?                       |
| 10 | A Yes, sir.                                                 |
| 11 | Q And when we talk about cubic foot miles in this           |
| 12 | context, we are talking about capacity, transportation      |
| 13 | capacity?                                                   |
| 14 | A Yes, sir.                                                 |
| 15 | Q As opposed to volumes, actual volumes?                    |
| 16 | A Yes, sir.                                                 |
| 17 | Q And if I understand correctly, it was not the             |
| 18 | focus of your testimony to determine whether a sustained    |
| 19 | increase in volume would likely cause an increase in unused |
| 20 | capacity, transportation capacity?                          |
| 21 | A That's correct.                                           |
| 22 | Q Now, you did answer Florida Gift Fruit Shippers           |
| 23 | Association number 14.                                      |
| 24 | A I have it.                                                |
| 25 | Q The second sentence states, a sustained increase          |
|    |                                                             |

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1 in volume would be likely to cause a sustained increase in 2 unused capacity. And, again, that wasn't something you 3 studied, that wasn't the focus of your testimony? 4 Α Yes, sir, that statement was really, as the next 5 sentence shows, that statement was based upon previous analyses of the Commission and others. 6 7 You don't state that a sustained increase in 0 8 volume would necessarily increase unused capacity? No, sir, I believe that's the working assumption 9 А 10 of the Commission's analysis and of my analysis in part. 11 Q That there would likely be an increase in unused capacity with a sustained increase in volume? 12 13 А That is volume rises -- empty space, I would 14 prefer, but unused capacity, empty space, both, as I say, 15 would rise or fall. Did I answer your question, sir? 16 17 I think so. Q 18 А Okay. 19 And if I understand your testimony correctly, the 0 reason for this would be that the Postal Service is 20 providing a transportation network and there needs to be a 21 22 certain amount of what might appear to be excess capacity in order to cover peak periods, certain reserve capacity? Is 23 this correct? 24 My recollection of this issue is that at one point 25 А

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1 the Postal Service had argued that unused capacity was 2 fixed, that it was latent capacity, had to have it there for factors I think you mentioned like service standards or the 3 need to get it there at a particular time. However, through 4 the variety of operational testimonies by Postal Service 5 witnesses and others, it was determined that this capacity 6 is not fixed. That this unused capacity is not fixed and 7 that in fact it is sort of part and parcel of -- I think you 8 said the nature of the transportation network. 9

10 That is to say, there are going to be periods of 11 time when the trucks are empty. There may be some sort of a 12 peaking issue or whatever. So that's my understanding of 13 why unused capacity rises as volume rises.

14 Q Are you suggesting that there would always be a 15 need for a percentage of underutilization in the 16 transportation network for these reasons, a certain 17 percentage?

18 A That's right. That's what it would imply. If the 19 assumption of proportionality between volume and capacity is 20 correct, then that would seem to suggest to me at least that 21 you would always have unused capacity in a network.

Q So in a sense the percentage wouldn't be variable,
although the actual capacity might increase with volume?

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That's right.

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I have to check the algebra as to how the

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percentage would change but, subject to that, yes. In
 principle, I agree.

3 Q Can I refer you, please, to MPA interrogatory 1-E 4 to yourself?

5 A 1-B, sir?

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6 Q 1-E, as in --

A Oh, Edward. I've got it.

8 Q The second sentence of your response states if 9 cubic foot miles of mail transported per year on each 10 contract were available, then no assumption about unused 11 capacity would be required?

12 A Yes, sir, it does.

13 Q First, can you explain what assumption you are 14 referring to?

In fact, that is what we were just discussing, 15 Α that assumption. That when volume rises, capacity rises in 16 proportion so therefore you have an increase in used and 17 unused capacity because there is no ability to sort of use 18 up the unused capacity before you add more. So that's what 19 20 I meant by the current assumption in the framework. If one had the mail volumes, you would need to make that 21 22 assumption.

Q In other words, if it were possible to estimate precisely what and how much mail is being carried over the transportation network, then you would not make the same

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1 assumption as to the need for unused capacity? Or you could 2 confirm that assumption? Or --

3 Α What you would be able to do would be to gain 4 insight into how accurate that assumption is because, in my ideal world, where I had plenty of volume, actual volumes, 5 6 say on the contracts and the costs, then I could directly 7 estimate the volume variability and perhaps avoid some of 8 the types of questions we have today because what I do is estimate the relationship between cost and capacity not 9 10 capacity and volume. So it would preclude the need for that intermediary. 11

12 Q So if I understand, you are saying the assumption 13 under those circumstances could be tested and might or might 14 not bear out more or less?

A I think that's fair.

15

16 Q Do I understand your direct testimony correctly 17 that unused capacity is in part caused by drop shipping, 18 which constitutes a bypass of the network?

A No, sir, I don't think that I made that -- the statement that unused capacity is a function of drop shipping?

Q Not a function but one of the causes for unusedcapacity would be bypass of the transportation network.

A The only thing I looked into insofar as drop
shipping goes is its impact on the sizes of accounts and the

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structure of the network. I really didn't study how drop
 shipping has an impact on particular types of transportation
 and I don't think I would be prepared to answer that
 question.

5 Q Would you agree that to the extent drop shipping 6 occurs and volumes are diverted from the Postal Service 7 transportation network, then it would follow that 8 utilization of the network would decline?

9 A Only to the extent there were no changes in 10 capacity to the network. If the effect of drop shipping was 11 to lead to a reduction in capacity, then it is not 12 necessarily true that utilization would decline.

13 Q But a reduction in capacity would not necessarily14 follow. I believe that's your testimony?

A Okay, I'm not making any judgments as to whether or not -- as to what extent -- I'm not making any statements as to what extent drop shipping has or has not caused capacity to decline. I am simply responding I think to your question is it determinative that drop shipping causes an increase in underutilized capacity. It's a possibility but it is not necessarily the case.

Q Now, you have testified, I believe, that drop shipping does not necessarily drive substantial transportation costs out of the Postal Service system, transportation system?

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That's correct.

2 Q And this would be true even in a circumstance in 3 which at the time of drop shipping there was no net volume 4 increase in the utilization of the transportation system?

5 A As a hypothetical situation? As I understand the 6 hypothetical, volumes are not otherwise increasing but yet 7 there is more of drop shipping.

8 Q The net volume effect might be no change, increase 9 in volume offset by increase in drop shipping. Would your 10 answer hold that drop shipping would not necessarily drive 11 substantial costs out?

12 A It would not necessarily do so. I think that's13 true, yes.

Q And in fact wouldn't your answer be the same even if there was a net volume decrease in the circumstance where drop shipping is increasing?

The logic is reasonably clear to me when volume's 17 Α not increasing -or decreasing. I really -- and that was the 18 basis for my answer. I really don't -- I really don't think 19 I've thought about it enough to envision a scenario of. 20 declining volume and drop shipping with no change in costs. 21 22 0 We have a situation given the excess capacity in the transportation system whereby the slack could be taken 23 up with existing capacity in the event of increased drop 24

25 shipping even if volume declined. Isn't that plausible?

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A Give me that one more time, please?

2 Q I'm referring again to the excess capacity in the 3 system.

4 A Right.

5 Q And so if you have an increase in drop shipping, 6 even if it results in an absolute volume decline, then the 7 costs could remain the same given the rigidities in the 8 contracted-for transportation?

9 A Yes. It would seem to me that if capacity stayed 10 the same, costs would stay the same. So hypothetically 11 speaking if drop shipping did not cause a decline in 12 capacity but simply a reduction in capacity utilization, 13 then that would not have a negative impact on the costs.

14 Q And in point of fact most of the Postal Service 15 transportation contracts are of a four-year duration?

16

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A Yes, sir.

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17 Q And in the event that those contracts were to be 18 terminated before four years, there would be penalty 19 payments that the Postal Service would be required to make 20 under the contracts?

A To terminate the contract they would incur an indemnity, and it's my recollection of a sliding scale over the amount of time to the end of the contract. However, it doesn't mean that they -- they do have statement of service changes in the contract which would allow them to change the

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capacity on the contract.

2 Q But those are limited, are they not, to relatively 3 minor changes?

4 A Historically they have been. I --

5 Q Go ahead.

A You know, I think it would be at some point obviously it would become an issue between the contractor and the Postal Service to what extent there's a de facto cancellation of the contract because the reduction in service is so large to merit it. It's sort of at that flash point I would anticipate indemnities starting to come into play.

13 Q Let me get a quick look here.

I believe you referred in your interrogatory responses to the OCA to responses you made in MC 97-2 in which I think in response to OCA No. 9 you attached a compendium of the basic terms of Postal Service

- 18 transportation contracts.
- 19 A That's correct.

20 Q And do you -- I don't know if you have that answer 21 in front of you.

22 A I do.

Q Do you have OCA number 9 and the attachmentthereto?

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25 A Yes, sir.

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And I am referring to the basic service 1 0 2 transportation services contract, general provisions. 3 А Okay. 4 0 Paragraph 12, I believe it is. 5 Heading, Changes? Α 6 Yes. 0 I got it. 7 А 8 0 When you refer to the flexibility of the 9 contracts, is that what you had in mind? 10 Α Well, I must admit I didn't specifically have 11 these clauses in mind because I haven't really studied the 12 basic service transportation contract. 13 0 Fair enough. 14 Ά But my understanding of the process was that the 15 Postal Service does have the ability to negotiate with 16 contractors to make variations in capacity within the life 17 of the contract, subject to the indemnity clause being activated or raised. 18 19 0 But you would agree that there are certain 20 rigidities here that have to be dealt with in terms of the 21 Postal Service altering its capacity? 22 Α Yes, sir. Which I take it is one of the causes of the extent 23 0 of unused capacity in the Postal Service network? 24 25 That would be pure speculation on my part and I Α

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1 don't really feel qualified to answer that.

2 Q Even to say whether in your view it is one of 3 several factors?

A I would just be uncomfortable because I really haven't studied the effect of this contract language on flexibility.

Q In your study of the contracts, did you encounter so-called most favored nations clauses which would entitle the Postal Service to terms as good as those provided to other customers of the transportation provider?

11 A That's sort of beyond my use of the contracts so I 12 am not familiar with that one way or the other.

MR. BERGIN: Thank you, Dr. Bradley. I havenothing further.

15 CHAIRMAN GLEIMAN: Is there any followup 16 cross-examination?

17 Mr. McKeever.

18 CROSS EXAMINATION

19 BY MR. McKEEVER:

Q Professor Bradley, in the case of a round trip contract, the Postal Service must purchase enough capacity to handle the mail on that part of the trip which carries the most volume; is that correct?

- 24 A Yes, sir.
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Q And that fact results in the associated fact that

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1 on other parts of that trip there will be some empty space;
2 is that correct?

3

A Yes, sir.

Q Because there's less -- and if the volume on the part of the trip that carries the most volume increases to the point where the Postal Service must purchase some additional capacity for that part of the trip, then the empty space on the other parts of the trip will increase; is that correct?

10 A In part.

It hink it is a bit misleading to look at only one route on a contract in terms of response to volume changes. If it were the case that the Postal Service response was such that it made the truck bigger on one part, they obviously made the truck bigger on all parts.

16 However, it is my understanding that the 17 determination of how to size a truck on one particular route 18 depends upon not only what's going on on that route but 19 what's also going on on other routes or other abilities to 20 adjust the network, reconfigure the network. So in the sort 21 of simple scenario, we could see a direct relationship 22 between the increased physical capacity of the truck on that 23 leg and empty space throughout the rest of the trip.

It's my understanding it is a little more complexthan that because of the Postal Service's ability to say,

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well, let's split this outbound trip into two parts, let's
 let another contract or reorganize, add another trip, that
 type of thing.

Q But in that case, they still would be adding capacity for at least the one part of the trip but not necessarily carrying -- but -- forget the necessarily -- not carrying more mail on other parts of the trip, whether it's the same vehicle or different vehicles; is that correct?

9 A That's correct.

10 Q Okay.

11 Am I also correct that most of the Postal 12 Service's purchased transportation contracts are round trip 13 contracts? I think you testified to that earlier?

A Subject to those technical qualifications, yes,
sir.

16 MR. McKEEVER: Thank you, that's all I have.
17 CHAIRMAN GLEIMAN: Is there any further followup?
18 I believe there are some questions from the Bench.

19 I have a couple of quickies for you.

20 Regarding OCA interrogatory T-13-20?

21 THE WITNESS: Um-hum.

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CHAIRMAN GLEIMAN: It dealt with contracts in one of the systems. Does your response mean that there was duplication of contracts in the database?

25 THE WITNESS: Just one second, please.

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CHAIRMAN GLEIMAN: That's why I was going slowly, 1 to wait for you to get to it before I asked the question. 2 3 THE WITNESS: I should be quicker. 4 CHAIRMAN GLEIMAN: It's late in the day, 5 THE WITNESS: Okay. 13, my response to 13-20 6 indicated that in the raw database, there was an instance of 7 a duplicated or replicated contract. That is certainly not true in the database I used for my regression analysis. 8 9 CHAIRMAN GLEIMAN: Are there duplications 10 identified -- are the duplications identified in the OCA 11 interrogatory the only instances of duplications of 12 contracts? 13 THE WITNESS: Since I eliminate duplications 14 before I do my analysis, I did enumerate -- if this is the 15 sole one, I know it's a small number by looking at the 16 number eliminated but I am not sure it's the only one. 17 CHAIRMAN GLEIMAN: I think that Commissioner 18 LeBlanc and I have some similar questions to ask. I'm going 19 to --20 COMMISSIONER LeBLANC: No, I am going to defer to 21 you. You're the man. 22 CHAIRMAN GLEIMAN: I was hoping you wouldn't defer 23 to me because I'm liable to come away more confused than I 24 am. 25 Did you ever hear of a black hole?

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1 THE WITNESS: Have I heard of them? 2 CHAIRMAN GLEIMAN: Yes. 3 THE WITNESS: Yes, sir. CHAIRMAN GLEIMAN: Do you know -- have a sense of 4 what they are? 5 6 THE WITNESS: It is my understanding that a black 7 hole is a collapsed star which has a very intense 8 gravitational force and therefore attracts objects in space 9 and matter and all kinds of stuff from nearby. 10 CHAIRMAN GLEIMAN: Very dense and the denser it 11 gets the bigger the black hole gets? THE WITNESS: Yes, sir. 12 13 CHAIRMAN GLEIMAN: Kind of reminds me of Postal 14 Service highway transportation as you described it. 15 As I am sure you can appreciate, it is terribly 16 counterintuitive at least to someone with my level of 17 intelligence that empty space increases as utilization 18 increases. Now, I understood what you were saying. You 19 were saying the way the system is set up -- you did say 20 that? 21 THE WITNESS: I said empty space increases as 22 utilization increases. 23 CHAIRMAN GLEIMAN: I believe that's what you said. 24 THE WITNESS: Oh, I meant to say as volume 25 increases.

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1 CHAIRMAN GLEIMAN: As volume -- empty space 2 increases as -- that's almost as good. THE WITNESS: I have a hope on that one. 3 The previous one, I agree, is completely counterintuitive. 4 CHAIRMAN GLEIMAN: Well, you had volume and empty 5 6 space and utilization all tied together. 7 THE WITNESS: Right. 8 CHAIRMAN GLEIMAN: And depending on where 9 you -- which side of the equal sign you want to put which variable, in point of fact you had increasing volume causing 10 11 an increase in empty space and also causing -- resulting in 12 an increase in utilization. 13 If I understood you correctly, you said that this was because the system, the way it is configured on a 14 systemwide basis, provides that more volume means more 15 16 contracted for trucks with greater overall capacity to 17 carry. If I am misunderstanding, please disabuse me. THE WITNESS: I would just try to clarify that I 18 19 may have misspoken. I think what I was suggesting was that 20 an increase in volume could cause an increase in total 21 capacity and as a result it could increase both empty space 22 and the absolute amount of utilized capacity. Not -- and I 23 apologize for being unclear -- not the percent utilization. 24 Here is all I am thinking of. If it's the case 25 that the truck is 20 percent empty, under one scenario, you

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just fill up the 20 percent and then your utilization rate 1 2 goes up. On the other hand, if the reason that it's 20 percent empty is because say the time of day when the truck 3 goes and I add a bigger truck, the bigger truck may yet be 4 5 20 percent empty. So that's what I meant by saying we would have more utilized capacity and more empty space. 6 CHAIRMAN GLEIMAN: The bigger truck is possibly 7 8 going to be still only 20 percent empty because volume rose? 9 THE WITNESS: That's right. That's right. That's 10 right. 11 Now, it is sort of in my defense I would suggest that this is not my original idea. 12 13 [Laughter.] 14 THE WITNESS: This really came from the 15 Commission. 16 [Laughter.] THE WITNESS: And if you look at my interrogatory 17 18 responses, there is language that makes that I think, at least my reading of it, true or clear. 19 CHAIRMAN GLEIMAN: It came from the Commission of 20 21 1987-'88. 22 THE WITNESS: Yes, sir. 23 CHAIRMAN GLEIMAN: It didn't come from the Commission of 1994 and subsequently. 24 That's in my defense. 25

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1 THE WITNESS: Yes, sir, that's fair. That is 2 fair. 3 CHAIRMAN GLEIMAN: As long as we are all going to be defensive here. 4 I understand a little bit better but I am 5 not -- still not sure that I understand because then there 6 7 was a discussion about drop shipping. And you said that drop shipping does not necessarily drive costs out of the 8 9 system. 10 THE WITNESS: I did say that. 11 CHAIRMAN GLEIMAN: Can it drive costs out of the 12 system? 13 THE WITNESS: I would think so, yes, sir. 14 CHAIRMAN GLEIMAN: Do you know whether it does or 15 doesn't? 16 THE WITNESS: No, sir, I haven't studied drop shipping. 17 18 CHAIRMAN GLEIMAN: Okay. But you do know that if volume increases, the odds are that costs are going to 19 20 increase. 21 THE WITNESS: Yes, sir. CHAIRMAN GLEIMAN: Because you're going to need 22 23 more capacity. 24 THE WITNESS: That's right. 25 CHAIRMAN GLEIMAN: And we just won't fill up those

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empty spaces on the trucks, we'll rent more trucks. 1 2 THE WITNESS: Yes, sir. CHAIRMAN GLEIMAN: The way the system works. 3 4 THE WITNESS: That is the working assumption of 5 the current cost-allocation method; yes, sir. 6 You know, again, I would state that --7 CHAIRMAN GLEIMAN: I'm just fascinated, because 8 those things that I understand that the Commission either 9 pre- or post-1994 may have suggested frequently get lost in 10 the shuffle somewhere, and those things which I don't understand which either preceded my appearance on the scene 11 12 or came after my appearance on the scene seem to be readily 13 accepted by experts from the Postal Service. I don't have any further questions about this, but 14 15 I thank you for helping me along a little bit on this one. 16 Commissioner LeBlanc. 17 COMMISSIONER LeBLANC: Dr. Bradley, I guess let me 18 try to go back to -- I'm totally lost, like the Chairman, I 19 guess -- but anyway --20 CHAIRMAN GLEIMAN: Well, now, wait a minute. I'm 21 not totally lost anymore, I'm just sort of kinda' lost. 22 COMMISSIONER LeBLANC: Let's go back to pre-'94 -no, I'm just kidding. 23 24 CHAIRMAN GLEIMAN: I'm only lost to the extent 25 that this is a systemic problem or matter for the Postal

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Service. I don't understand how that needs to be. But, you
know --

COMMISSIONER LeBLANC: On page -- I quess the best 3 place to start is on page 9 of your testimony, line 19, and 4 5 in your colloguy with Mr. Wells and Mr. Bergin and everything else that we've talked about today, we talked 6 about -- it's talking about drop shipping here. The growth 7 8 in drop shipping thus holds the potential to reduce the size of certain parts of the purchased highway transportation 9 10 network.

And then how does that relate to what you talked about with the Chairman, because that affects overall volume? Now if it affects the volume, I'm going to hit you with another part here, so please try to follow me if you can, because I'm not so sure I can repeat it again -- but you talked about the timing needs, that the timing is based on needs, therefore volume. How do you correlate the two?

THE WITNESS: Okay. To the extent that -- drop 18 shipping happens. The Postal Service needs less 19 transportation. If the Postal Service is able to reduce its 20 capacity in response and does so, then drop shipping would 21 drive costs out of the system. If for whatever reason --22 23 and I'm not making up reasons -- but if, as I understood the question, for whatever reason the Postal Service does not 24 reduce its capacity, then it will not drive costs out of the 25

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system. It's at that very simple level that I was making my
 comment. Nothing more sophisticated.

3 COMMISSIONER LeBLANC: Then if that is the case, in your colloguy with Mr. Wells I understand you -- correct 4 me if I'm wrong here, and I'm not trying to put words in 5 6 your mouth, but I believe I wrote this down right -- that 7 the contracts have remained the same basically for x years, 8 a number of years down the road, basically 8, 10 years, a 9 long time. You've got a 30-percent unused capacity now that 10 has basically remained the same for that same number of 11 years. And yet the attribution level has skyrocketed. 12 THE WITNESS: The variability? 13 COMMISSIONER LeBLANC: Yes. 14 THE WITNESS: Um-hum. 15 COMMISSIONER LeBLANC: What we used to call 16 attribution --17 THE WITNESS: Right. 18 COMMISSIONER LeBLANC: Has all of a sudden become variability. I mean, I -- correlate that one. 19 20 THE WITNESS: Okay. The reason that the variability has increased is because --21 COMMISSIONER LeBLANC: I mean, I remember we were 22 talking about -- excuse me for interrupting you -- that 23 unused capacity level here too as well. 24 25 THE WITNESS: It's stayed constant.

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COMMISSIONER LeBLANC: That's correct.

2 THE WITNESS: Right. The reason that the variability level has increased is because in the past for 3 particularly inter-SCF and intra-SCF I and the Commission 4 lumped all those contracts together. It's the nature of 5 intra-SCF, local contracting, that has a pretty low 6 variability. They're doing the network, they have a lot of 7 8 flexibility to respond. It's generally the nature of 9 tractor-trailer transportation to have a high variability. 10 This has traditionally been the result.

When I took inter-SCF and intra-SCF and broke them 11 apart and looked separately at the van portion of it and the 12 13 tractor-trailer portion of it, I came up with a higher variability, because I now have isolated the higher 14 variability associated with the tractor-trailer portion of 15 16 it. And that's a reason why the variability has increased. It's not so much -- it's not so much that -- that the nature 17 of transportation has changed, but with the new data, my 18 ability to go in there and do a finer job of breaking it out 19 has improved. And that's what's led to the increased 20 variability. 21

22 COMMISSIONER LeBLANC: Just clarify something for 23 me then also. Thank you for that explanation.

24 THE WITNESS: Sure.

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25 COMMISSIONER LeBLANC: You made the comment, I

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believe I wrote this down right, that the Postal Service has
 no ability to use up unused capacity before buying extra
 capacity.

Did I get that right? And if I did, you've got to explain that one to me, because from my business days, when I was in business, you wanted to use every bit of an asset that you had to the nth degree before you went out and purchased something extra, so why is -- this seems very counter-intuitive.

10 THE WITNESS: I would agree that if I said it has 11 no ability to do so that that was strong. wrong.

12 I guess what I was trying to suggest is that my understanding of the second part of the analysis -- you 13 14 know, my analysis is cost to capacity -- my understanding of the second part of it is it sort of has a working 15 16 relationship of proportionality between volume and capacity, 17 and if that's true that is sort of a situation where, you know, you have a new household. A new household needs a 18 19 vehicle but there are still going to be two people in that vehicle. There are still going to be two people in the old 20 21 vehicle.

The idea that if I add -- depending upon the way the volume comes the way they have to add transportation, they have to do so in a way that doesn't allow for them to take advantage of the unused capacity as much as possible.

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I would agree that to the extent that they can,
 the variability numbers would be too high. I would agree
 with that point. It's a good point.

4 COMMISSIONER LeBLANC: Thank you. That's what I 5 wanted to hear.

Last question is in your colloquy again with Mr.
Wells, you talked about, if I heard this right, you talked
about inputs versus costs.

9 THE WITNESS: Yes, sir.

10 COMMISSIONER LEBLANC: And I agree with the 11 Chairman because I have got two in college, so they are 12 definitely costs, but given that scenario your attribution 13 level then might go up a little bit under your approach 14 there, the way you took it, but in a real world it is still 15 a driving -- it is still something that varies from your 16 cost versus input factor.

17 THE WITNESS: Yes. I actually -- with Mr.
18 Wells -- I was just trying to be precise to sort of my
19 profession, and we have some fairly bright dividing lines
20 among those terms.

But I would certainly agree with the notion that what I am looking at is how the need for those inputs goes up and how the cost of those inputs goes up as we get more output. Sure, sure.

25

COMMISSIONER LeBLANC: Okay. Thank you, Dr.

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1 Bradley. Thank you, Mr. Chairman.

2 CHAIRMAN GLEIMAN: I just want to make sure one more time that I understand this, because I am going to have 3 to ask somebody else some questions later on obviously. 4 When volume rises, the capacity of the system is 5 increased in response to the increase in volume. 6 THE WITNESS: Yes, sir. 7 CHAIRMAN GLEIMAN: And consequently the unused 8 capacity also rises. 9 10 THE WITNESS: That's right. 11 CHAIRMAN GLEIMAN: But you don't know that when the volume declines, capacity declines and the unused volume 12 also declines. It is not --13 THE WITNESS: No, it's symmetric. I didn't mean 14 15 to suggest it wasn't. I guess I was a little cautious on the drop 16 shipping stuff because I am not an expert on drop shipping 17 and I don't know how it works, but to the extent it causes 18 volume to decline, I would anticipate capacity would also 19 decline in a symmetric way. 20 CHAIRMAN GLEIMAN: I'm sure somewhere within the 21 next 10 days we will find a witness to ask that question of 22 and ask whether there are some real hard numbers about 23 24 whether it works that way. Did questions from the bench precipitate any 25

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1 follow-up?

Mr. Feldman had his hand up first, although Mr. 2 3 Wells gets it on seniority. Mr. Wells. FURTHER CROSS EXAMINATION 4 5 BY MR. WELLS: Dr. Bradley, you were asked about as volume 6 Q increases, the capacity increases -- from the bench. 7 Yes, sir. 8 Α 9 And you agree with that, but your analysis does Q not include any volume changes, does it? 10 Α No, sir, it doesn't. 11 12 This relationship between volume and capacity is 0 not reflected in your testimony? 13 14 А That's correct. And any relationship is your judgmental 15 Q relationship rather than what your testimony and analysis 16 17 shows? А Actually, I was just trying to explain the current 18 working assumption in both the Commission's and the Postal 19 Service's cost method. 20 It really was not -- I wasn't trying to make it a 21 22 reflection of my judgment. All right. Well, let me make sure I understand. 23 0 Your analysis here is between cost and cubic foot 24 capacity? 25

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1 Yes, sir. Α 2 And you are saying that as cubic foot capacity 0 increases, cost increases? 3 Α Yes, sir, I am. 4 But you are not saying that cubic foot capacity 5 Q increases has any relationship to volume at all? 6 My testimony does not address that issue. Yes, 7 Α sir. 8 9 MR. WELLS: Very good. Thank you. 10 CHAIRMAN GLEIMAN: Mr. Feldman. 11 MR. FELDMAN: Thank you, Mr. Chairman. FURTHER CROSS EXAMINATION 12 BY MR. FELDMAN: 13 Dr. Bradley, I hope this is -- I sincerely hope 14 Q this is not asking the same question that we've heard 15 16 another way, but you talked to Commissioner LeBlanc about the phenomenon of higher variabilities in transportation 17 costs since you reevaluated the situation in recent years. 18 Again, getting back to a couple of the highway 19 segments where again in relative terms there are lower 20 21 variabilities than in say the rail account or in the tractor-trailer portion of the highway accounts and so 22 23 forth, in those accounts where there are by definition let's 24 say nonvariable costs, if let us say 80 percent of the cost of a segment is variable, therefore 20 percent is 25

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nonvariable, on that assumption, if the volume or the cubic-foot capacity in your phrase goes up in that account, there would still be -- the 20 percent that's fixed would remain fixed, is that not true, just the amount of dollars would increase but it would be 20 percent of a higher pot of dollars.

A If we have a small increase in volume that's
contemplated in my analysis of 10 percent -- I missed the
number.

10 Q It could take any -- you could pick the number.11 Yes.

A Then the analysis would suggest that total cost would only go up by 8 percent. But I'd be a little cautious in necessarily talking about the nonvolume-variable portion as fixed, in the sense that if volume really went away --

16 Q Um-hum.

17 A You could get rid of all those costs.

18 Q Let's try it the other way. If there was an 19 erosion of volume as opposed to a disappearance of volume of 20 a product --

21 A Right.

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Q But a 5-percent decline in postal volume which translated to some amount x in cubic-foot capacity to transport mail volume for say 1998, let's just assume that happened --

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A Um-hum.

2 Q That would have an impact on the volume-variable 3 costs that you've measured, would it not?

A It would have an impact on total cost.

5 Q Would it have an impact on the nonvolume-variable 6 costs?

7 Α Well, again, to the extent that the 8 nonvolume-variable costs are simply a reflection of the 9 response of volume -- excuse me, response of costs to 10 changes in volume, and they're not fixed in the traditional sense of an absolute fixed cost there without zero volume. 11 12 they too could also decline when volume declines. What --13 I'm sorry. Go ahead, please. 0

14 A What I measure is the reduction in total cost 15 associated with reduction in volume.

Q Would it be fair to say -- and I hope this really will be the last question -- would it be fair to say then that for those costs which are nonvolume-variable within your analysis that the precise nature of the nonvariable costs perhaps are not known?

A No. In fact, I'd be willing to suggest that they are not fixed, and that if we had an erosion of volume, we would lose some volume-variable costs and some nonvolume-variable costs in -- if we're talking about a

25 material change in volume. At the margin, calculate calculating

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ing Tanàn 1 marginal costs, absolutely not. But I'm thinking of, you know, a situation in which you had a substantial reduction 2 in the volume of a class of mail, I think total costs would 3 go down by, you know, what the equation suggests. And some 4 5 of those costs could be what the Post Office would classify 6 as volume-variable, and some could be what would be 7 classified as not volume-variable at the current volume 8 level.

9 Q Could you give me one example only of a 10 nonvolume-variable cost in the purchased transportation 11 area?

12 A Of a nonvolume variable cost?

13 Q In the purchase transportation area.

A Here, the nonvolume variable costs arise solely from economies of scale. It is not a separation of fixed versus variable. And so the nonvolume variable costs arise because the cost of producing that last cubic foot mile is cheaper than the first.

And so when I lose volume and I am moving up that cost curve -- moving up my cost curve, the cost for each unit is going up and that's sort of how -- what I mean by the nonvolume variable cost.

Q So the nonvolume variable costs may move up and down but they may not move at the same rate as the volume variable?

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A That's correct.

2 MR. FELDMAN: Thank you very much. I appreciate 3 it.

4 That's all.

5 CHAIRMAN GLEIMAN: Is there any further followup? 6 [No response.]

7 CHAIRMAN GLEIMAN: If there is not, I have lots of 8 questions but, given the hour of the day and the fact that 9 you have three water pitchers in front of you, all nearly 10 empty, I think that if your counsel would like to take some 11 time with you for redirect, now would be a good time to do 12 that.

MS. DUCHEK: Yes, just five minutes, probably.
CHAIRMAN GLEIMAN: Okay, five minutes it is.
[Recess.]

16 CHAIRMAN GLEIMAN: Counselor, whenever you're 17 ready.

18 MS. DUCHEK: I have no redirect.

19 CHAIRMAN GLEIMAN: Well -- if there is no 20 redirect, as I have said a number of times, there can't be 21 any follow-up to redirect, which brings us to the end of the 22 day.

23 Dr. Bradley, I want to thank you.

We appreciate your appearance here today and yourcontributions to the record. Be assured that when you

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appear here again on the 20th I am going to remind you of 1 2 how much you like all those past Commission costing methodologies and studies. 3 If there is nothing further, again thank you and 4 you are excused. 5 6 THE WITNESS: Thank you. 7 [Witness excused.] CHAIRMAN GLEIMAN: That concludes today's hearing. 8 We will reconvene tomorrow morning at 9:30, 9 October the 15th, to receive testimony of Postal Service 10 11 Witnesses Hatfield, Mayes, and Adra. Thank you all and have a good evening. 12 [Whereupon, at 5:46 p.m., the hearing was 13 recessed, to reconvene at 9:30 a.m., Wednesday, October 15, 14 15 1997.] 16 17 18 19 20 21 22 23 24 25

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