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POSTAL RATE AND FEE CHANGES PURSUANT TO PUBLIC LAW 108-18	Docket No. R2005-1

TESTIMONY OF
DENNIS P. STEVENS
ON BEHALF OF THE
UNITED STATES POSTAL SERVICE

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AUTOBIOGRAPHICAL SKETCH

My name is Dennis P. Stevens and I am a principal economist with the Postal Service. I joined the Postal Service in 1983. Prior to my present position in the Postal Service, I worked in mail processing operations as a supervisor. My non-postal experience ranges from management in the retail and finance industries to a stint as an Army pilot. I have been in postal costing since 1989 and have been a contributor in the development of postal costs, as presented in testimony and supporting documentation, starting in Docket No. R90-1 and subsequent rate cases. In Docket No. R2000-1, I provided both direct (USPS-T-20) and rebuttal (USPS-RT-14) testimonies.

I am thoroughly versed in all aspects of postal costing, concentrating in the last several years on the delivery function. In Docket No. R97-1, I assisted in the new methodologies presented for Cost Segment (CS) 8, CS 9, and CS 3. In Docket No. R90-1, I assisted in the development of library references and testimonies relating to CS 15 and CS 16. My extensive range of experience, especially in operations has allowed me to view postal economics with a broader perspective.

Currently I am enrolled in the PhD Program in the Center for Public Administration and Policy at Virginia Tech University, majoring in methods and policy. I did my undergraduate studies at Harvard University and graduate work at Virginia Commonwealth University. I have a BS in Economics (minor Mathematics) and a MS in Business with concentrations in Economics and Finance. I am a former winner of the National Achievement Scholarship, the Angier B. Duke Scholarship and Harvard Scholarship. I was awarded membership in the Phi Kappa Phi Honors Society for academic achievement and was a member of the Dean's List.

PURPOSE AND SCOPE OF TESTIMONY

My testimony discusses the training, data collection, and the data aggregation phases of the FY 2002 City Carrier Street Time Survey which was an extensive study of city carrier delivery operations. The data obtained in the study are used in the proposed Postal Service's new methodology for developing volume variable city carrier street time costs, which are contained in CS 7 .

The testimony also presents the calculation of time pools that are used in the CRA to develop cost pools. The data from the survey are used to produce carrier street activity time pools, as detailed in USPS-LR-K-79, and workload volume datasets, as presented in USPS- LR-K-80. Witness Bradley, USPS-T-14, uses both time pool data and volume data in developing the volume variabilities for the new time pools. Finally, the new methodology for finding volume variable costs still relies on the distribution keys for the street time costs pools, and thus uses CCS data as testified to by Witness Harahush, USPS-T-5.

My testimony is supported by three library references: USPS-LR-K-78, City Carrier Street Time Survey – Data Collection; USPS-LR-K-79, City Carrier Street Time Survey – Time Pools Datasets; and USPS-LR-K-80, City Carrier Street Time Survey – Volume Datasets. The results of the data collection, time pools and volume dataset formulations are cited as well in the base-year workpapers of Witness Meehan (USPS-T-9), and in the testimony of witnesses Alenier (USPS-T-34), Lewis (USPS-T-30), and Bradley (USPS-T-14).

I. INTRODUCTION

A. Overall Results

As mentioned above, the City Carrier Street Time Survey produced both time pool and volume data, which are presented in USPS-LR-K-79 and USPS- LR-K-80, respectively. The study sampled over 160 Zip Codes including over 3,500 city carriers. These carriers provided (through scans of their daily activities) a detailed listing of their street time activities for up to a two week period. The scan data is thus a huge depository of information regarding the delivery (street time) activities of city carriers. In Attachment 2 from USPS-LR-K-79, I provide the time pool inputs developed from CCSTS. The data capture using the bar code scanning technology was efficient and effective, in no small part because city carriers were already familiar with using the bar code scanners. As shown in Attachment 3, an excerpt from USPS-LK-R-79, the invalid or "error" scan pairs accounted for only a 9.7% loss of time from the total of all scan sequences.

Simultaneously with their scan activities, carriers recorded workload measures reflecting delivered and collected mail on each day of the survey. Study Coordinators, in conjunction with delivery supervisors, provided operationally mandated daily mail counts, from USPS mainframe databases and from local counts at the delivery units. Volume data for 3,668 routes from 161 of the sampled ZIPs were included in the final dataset. These data represented 40,668 Zip-date-route records. [1] Of the 161 recorded Zip Codes, 137 recorded the volumes on "DOIS" and "DSIS" reports, while 24 reported volumes on non-DOIS/DSIS forms. An explanation of DOIS and DSIS site differences is detailed later in my testimony, and in USPS-T-30.

1 USPS-LR-K-79, page 1.

Another volume database was created from the mail counts provided by carriers and their supervisors. This database consists primarily of study defined Parcels and Accountables and collected mail – mail volumes not recorded regularly in DOIS. Additional detail is presented below in Section IV and in USPS-LR-K-80.

B. <u>The FY 2002 City Carrier Street Time Survey</u>

There are three main features of the data collection phase of the CCSTS that cause it to be an improvement over the previous street time studies. These features are as follows:

1. CCSTS *is a unified model.* The established methodology uses three major studies STS, LTV, and CAT/FAT, which have to be merged to form the overall methodology. By comparison, the City Carrier Street Time Survey is a single, unified data collection effort. This is a major improvement. For example, the CCSTS measures activities and the mail volumes for the same group of carriers at the same points in time. This coordination improves the data used in any volume variability analysis for the recorded time pools.

The CCSTS also reduces ambiguity in cost pool formation by grouping ambiguously defined activities, like load and access, into a single activity called “regular delivery”. This streamlining helps reduce measurement errors. The data collection phase of the study simplifies when complexity has no value, combines concepts if there is little distinction or if the distinction is hard to quantify, and relies on operational rationales if interpretation of carrier actions is ambiguous.

2. CCSTS *Utilizes Existing Resources.* The efficiency of the new study stems from the use of proven techniques and existing skills and resources to collect the data and perform the analyses. Cost is always a factor in determining the type of study that

is done. The City Carrier Street Time Survey relies on proven procedures and systems in Operations: delivery scanners, DOIS and DSIS data systems, and delivery managers as data collectors and trainers.

In one sense, the CCSTS is similar to the 1986 STS (see ATTACHMENT 1) in that it relies on carriers to self-report. However, the CCSTS is a major step forward in two ways: it uses a recording technology that carriers use every day and it defines activities in a manner consistent with delivery operations definitions of street activities. This makes it particularly easy for carriers to accurately record their activities. In contrast, carriers in the 1986 STS had to map their activities into street costing components.[2]

3. *The delivery scanners provide a major technological advance for the FY 2002 study.* All the carriers have access to them, and all the carriers have been trained in their use. The scanners allow the survey to track delivery tasks as they occur with minimum intrusion or lost time for the entirety of the carrier's workday. This is crucial, because it provides a total picture of the carrier's tasks and does not permit an undefined sequence of scans to invalidate the valid time pools represented by valid sequences of scans. In addition, it minimizes any carrier opportunity or possibility to 'fix' the data (regardless of motive), because the scans follow the carrier for the whole day.[3]

II. THE DATA COLLECTION EFFORT (USPS-LR-K-78)

A. <u>Study Preparation</u>

The Zip Codes to be studied were selected according to a sophisticated sampling plan. (See Witness Kelley, USPS-T-16, for sample selection). However, before the main study was launched, a "beta test" was performed. The use of a preliminary test of

2 See Docket No. R87-1, USPS-7B, page 2 for a complete description.
3 The scans are in the order of the route. The carrier must be at particular points along the route around specific times based on the route inspection.

the new study allowed the Postal Service to refine the study approach and is an important quality control step ensuring accurate data. Approximately 1 site per Area was chosen to participate in the beta test. The beta test would check the validity of all aspects of the study, the training, the training materials, the instructions and procedures, the data collection, and the retrieval and analysis of the data. The only criterion for the selection as a beta test site was that the site had to be large enough to test whether the proposed training methods could work in large complex delivery units. I personally visited all of these sites, as I did the majority of the 167 sites in the survey. The purpose of my visits was two-fold. The first goal of the visits was to ensure enthusiastic participation by the postal managers and the carrier work force, by conveying directly to them the purpose of the survey, its relevance to their operation, and their role in the process. The second goal was to evaluate the study's progress as well as to provide through the visits visible proof to the sampled facilities HQ's commitment and determination that CCSTS be a success. The documents that support this process are shown in my library reference, USPS-LR-K-78.

B. <u>Beta Test Training</u>

The beta test was held in October 2001. Prior to the test being performed a complete training of Study Coordinators was provided. Because the training was repeated for the full study and because of the similarity between the beta training and the full study training, a presentation of the training is postponed until discussion of the full study in Section D, and, more comprehensively, in USPS-LR-K-78. Importantly, the beta test was conducted in 11 sites with about 300 routes. Initially, we attempted to encompass all city carrier activities in the survey. The activities included letter route activities, but it also included special purpose route activities (parcel delivery, collections, relay, etc.). The initial goal was to include all of the activities in one study.

Note, however, that only a subset of the selected ZIP Codes had special purpose routes, and the workdays of carriers on these routes were drastically different from those of letter route carriers. Rules had to be written specifically for them. Please see the beta test training manual provided in USPS-LR-K-78. In the next section, I list the lessons learned from the beta test that were incorporated in the full study.

C. Lessons Learned

The experience with the beta test yielded the following lessons:

1. Reduce Ambiguity in the Language of the Study – A more coherent set of instructions that gets to the same issues, but is more easily understood by the carriers and those who would evaluate the process.
2. Reduce the Number of Scans - Simplify the training by grouping activities and tasks if, in the final analysis, differentiation is not required.
3. Visit as many sites as possible - HQ visits improve visibility of the study, reinforce the importance of the study to the local participants, and enhance the training.
4. For simplicity, limit the study to letter route activities only - Study city carrier special purpose routes at a later date.

Most importantly, the procedures, technology, and use of local personnel for Study Coordinators worked; large offices, by splitting into smaller units for training, were able to effectively train the carriers. The data analyses showed broad success of the study.

D. Full Study Training and Data Collection

Extensive training took place prior to launching the FY 2002 City Carrier Street Time Survey. The training was designed to ensure that the data collection methods

were consistent with Postal Rate Commission requirements and that the collected data would be of sufficient quality and quantity to support accurately determining city carrier street time costs. The training took place during the period of April 21 through April 26, 2002. The training was held at the Bolger Academy in Potomac, Maryland. Approximately 167 individuals were scheduled to take the training either in person or via teleconference. The actual distribution of training was as follows:

128 took the training in person

19 took the training through teleconference

19 did not attend the training.

The 19 individuals who did not attend the training received on-site training from one of 18 HQ Study Coordinators who were specifically trained for this role. Many of the HQ Study Coordinators had the additional benefit of having participated in the beta test. In addition, any individuals who took the teleconference training and required additional training were visited by one of the HQ Study Coordinators either before or during the actual data collection period. For details on the training, please refer to USPS-LR-K-78.

E. **Data Retrieval, Data Verification, and Data Aggregation**

Information used to construct time pool data were collected electronically through the scanning of bar codes, by carriers, throughout the day. The scanners were placed into their cradles at the end of each day where they were automatically linked directly to the Postal Service mainframe computer. The scan data were uploaded and saved daily. The scan or barcode data presented in the study were then retrieved from the mainframe computer.

Volume data were sent in from the sampled Zip Codes to headquarters on a weekly basis. The data could be sent electronically or on disc, but always with a hard

copy. Headquarters personnel reviewed each submission and, if necessary, would follow up with each site to assure that volume data were sent. Some of the sites entered the data into the electronic data entry form for the survey; however the vast majority sent in hard copies only. The hard copies were verified for completeness and legibility prior to being converted to electronic form. All data were double-entered, including data that had been entered the first time by field Study Coordinators.

The scan data were downloaded, and the volume data collated as outlined in USPS-LR-K-79 and USPS-LR-K-80, respectively.

III. DEVELOPMENT OF CITY CARRIER TIME POOLS, BY 2004 (USPS-LR-K-79)

There are three main parts of developing the city carrier time pools: (1) using the scanner to record time, (2) defining carrier street time activities, and (3) building the time pools. Each of these parts is discussed in this section

A. The Scanner as a Time Clock

The scanners are used by the carriers for many functions, including Delivery Confirmation, Express Mail, and operational requirements, including indicating when collection boxes are pulled and indicating when they are at designated points along their delivery routes (Managed Service Points - MSP). [4] Each of these different functions produces a discreet set of scans that only can be accessed by the owners and users of the program that authorized the scans. This was the case with the scans used for the Carrier Street Time Survey as well. The study was provided a specific set of barcodes that identified scans that were to be assimilated into a grouping that was only available to the Study Team. This procedure enhanced data integrity.

4 MSP is a program where carriers are required by Operations to scan barcodes at various points along their routes, including their first and last delivery points and when they go to lunch.

When the scanner reads in a barcode, it assigns a time stamp to the barcode. Each barcode from the study indicates either a beginning or an ending of a task. The study uses the time stamp to mark when study tasks begin and end. Taking the beginning and ending barcode in tandem produces a contiguous loop wherein the difference of the time stamps provides the time for the task. The scanner also has programmed into it the route number, ZIP Code, and last 4 digits of the carrier's Social Security Number, along with many other factors. These items provide a means to group the data. Each day the scanners are placed in a cradle where all the barcodes and data information are uploaded to the postal mainframe and stored. The Study Team would then download the data into the datasets, as explained in USPS-LR-K-79. The data for each carrier is arrayed based on the time stamps. In that way we are able to see the entirety of the carrier's day and break down the carrier's day into our defined tasks and validate that our process for any particular carrier on any particular day or section of a day is accurate. Inherent to this process, and a strength of the scanning rules, is that any omitted scan, invalid scan, or scan out of sequence, invalidates only the data that is contiguous to it. *The remaining data for the carrier is still viable and used in the analysis.* The study recognizes that errors happen, but does not allow errors to contaminate other areas of the study. Characteristic of this approach is that if a carrier knowingly scanned a barcode in error, the fix was to immediately scan the correct barcode and continue with delivery. The lost time from the invalid sequence was not allowed to hamper the rest of the day.

B. <u>Disaggregating Carrier Street Time</u>

The scanning in the survey allows the disaggregation of street time into the following activities: street support (delivery prep); travel to and from the route; delivery time; travel time on the route; delivery of pieces that cannot fit in the mail receptacle

(*Parcels*); delivery of *Accountables*; travel time to unscheduled park points; and *Collections*. The training manual, as shown in USPS-LR-K-78, presented to the carriers the minimum number of scans (36) that allowed the apportionment of the carrier workday into those categories.

The aim of the scanning was to accurately capture carrier street time in operationally relevant activities in an accurate way.. For instance, if the carrier were to collect mail from several mail boxes at one location, the study collected the time for the total activity of collecting mail – not just how many mail boxes that were there. The collection activity includes <u>all</u> the time associated with collection, so only two scans would suffice - one when the carrier got to the bank of mailboxes to begin collection, and one when the carrier finished. The carrier does not need to scan each time a different box is reached.

The times recorded in like scan pairs were aggregated together to form time pools. Because of their sequential nature, the carrier's scans represent a roadmap of the activities completed each day and allow the analyst to use those scans to apportion the day into the defined time pools. Thus the study represents 3,500 carriers systematically reporting what they are doing and when they are doing it. In addition, because the study captures the entire day, the carrier has little motive or opportunity to allow any personal bias to enter into the process. The carrier has a predetermined route and the scans allow a tracking of the route, while, in addition, permitting a real time real allocation of the carrier time to the defined tasks.

C. <u>The Process – Building Time Pools</u>

The time pools are then formed in two steps. The first step is calculating the

elapsed times for each street activity embodied in the scanning data.[5] The calculated aggregate elapsed times are then used to produce the percentage of time carriers spend in the different street activities. These are the time pools. The time pools are then multiplied by the accrued costs for city carrier street time. This last step generates the cost associated with each street activity and coverts the time pools to cost pools

Development of the CS 7 costs pools for city carriers is an important part of the base year cost structure. Time pools were designed to be clearly identifiable, operationally meaningful, and measurable. The time pools follow a natural structure of carrier street actions: driving to and from the route, delivering the mail to addresses, deviating for parcel deliveries, collecting mail, and so forth.

The use of this natural structure in forming city carrier street time pools made it easier to communicate the goals of the study to delivery operations personnel and could be easily identified by carriers. This is especially important because the study relies on carriers setting the demarcation points that determine the boundaries of the time pools. The finalized time pools reflect the street time portion of the carrier's day and cover all time from when the carrier clocks to the street through when the carrier clocks off the street.

The carrier's day is broken into the five categories mentioned briefly above: time spent on route sections, time spent in route activities, travel time, delivery prep, and off clock and non-delivery activities. Below is a listing of five categories and the activities included within each category:

5 Approximately 1.4 million scans were recorded.

Route Sections:

Loop/Foot, Central/Apartment, VIM, Mounted-Curbline, Mounted-Dismount, NDCBU

Route Activities:

Parcel Delivery, Accountable Delivery, General Collection, Express Mail Collection, Relay.

Travel:

Travel to and From the Route, Network Travel, Travel to and from Deviation Deliveries.

Delivery Prep:

Prep Time

Off Clock

Lunch, Emergency

Non-Delivery Activities

Break, Other

A carrier has to be engaged in one of the above categories. *Off clock* includes time not captured in this survey, including office time. A valid closed loop of scans define time that can be assigned to one of the broad categories above from the more specific scanned pairs identified in the previous section. There are three ways to look at the data. Consistent with the description above, one way to group the data from the scans is in the broad picture as outlined in the 5 categories above. In the following section, I provide a discussion of the components of each of the categories. A second way to look at the data is through the individual activities defined by scan pairs. USPS-LR-K-78 provides a detailed listing of the pairs and their groupings. Lastly, a third way to look at the

data is to examine the time pools which may not make use of all of the scans of the individual activities (like lunch) and sometimes combine them (different types of regular delivery, including deviation travel time in P/A delivery). The description of this process is provided in USPS-LR-K-79.

The five broad categories are constructed from their associated time pools based on the scan aggregations that follow. A more thorough discussion is outlined in USPS-LR-K-79:

Travel To And From the Route Time: This time pool contains the time the carrier takes in going from the delivery unit to the first street action of the day plus the time from the last street action to the carrier's return to the delivery unit.

Associated Scan Sequences: One set of Travel To and From the Route Time scan sequences is initiated by the "Leave Office Scan." Travel to and from time would be recorded as the time from the Leave Office Scan until the "arrive" or "start" scan at the first street action. The actions include delivery sections (e.g. Loop/Foot section, NDCBU section, or curbline section), street activities (e.g. parcel delivery, collections, or relay).

The other set of travel to and from time sequences is completed by the "Arrive Office" scan. The sequence is initiated by the completion of the last street action. These include finishing a delivery section or ending a street activity. Finally, travel to and from the route time might be interrupted by an admin action.

Regular Delivery Time: This time pool contains the time that carriers spend within delivery sections undertaking regular delivery of mail. A

delivery section is a section of the route that contains a homogeneous delivery method and allows the carrier to deliver mail more or less continuously without the need for material amounts of network travel time. The delivery sections are: mounted-curbline, loop/foot section, mounted-dismount, central/apartment section, NDCBU, and VIM. The general actions included in delivery time include traversing the delivery section, accessing addresses and putting the mail into receptacles.

Associated Scan Sequences: Regular delivery time starts with one of the begin section scans like “Begin Mounted-Curbline Section” or “Begin Loop/Foot Section.” Regular delivery time is completed when the section is completed. This completion is indicated by the associated finish scans: “Finish Mounted-Curbline Section” or “Finish Loop/Foot Section.” Note that delivery time need not be continuous. A delivery section can be interrupted for a street time activity like parcel delivery or collection. The interruption would be measured by the time between the start activity scan and the end activity scan. For example if there was a parcel delivery in the route section, the “Start Parcel Delivery” and “End Parcel Delivery” scans would bracket the time that was not part of general delivery time. Regular delivery time may also be interrupted by admin activities like break or lunch. One delivery section is completed before another section is started.

Parcel/Accountable Delivery Time: This time pool contains the time it takes for carriers to deliver “parcels” and accountables. For the purposes of measuring cost, a “parcel” is defined as any mail piece that will not fit in

the receptacle and thus requires additional time. This matches the definition of parcels in the volume data. A parcel (non letter/flat piece of mail) that does fit into the receptacle is called an "SPR." The cost of delivering SPRs is included in regular delivery time.

Note that not all parcel/accountable deliveries require a deviation park point and additional travel time. For example, a parcel or accountable delivery on a mounted-curbline section will not require another part point but will require additional time as the carrier leaves the vehicle and takes the parcel to the customer's door. It is the delivery time that is included in this time pool.

Associated Scan Sequences: When a parcel or accountable causes an additional parking point, the delivery time for the parcel or accountable is captured by the time between the "Arrive Deviation Park Point" and the "Leave Deviation Park Point." When there is no additional parking point required, the time required to deliver a parcel or accountable is captured by the time between the Start Parcel (or Accountable) Delivery and the "End Parcel (or Accountable) Delivery."[6] Parcel/accountable delivery time can be interrupted by an admin action.

6 Parcel and accountable deliveries that require an additional park point also include the Start Parcel/Accountable Delivery and End Parcel/Accountable Delivery scan pair. However, these scans are included to identify the reason for the deviation parking point, not to specifically measure the delivery time. To be precise, the time between the "Arrive Deviation Park Point" scan and the "Start Parcel/Accountable Delivery" scan could be considered Parcel/Accountable Delivery Prep Time. Because this time is added solely to the Parcel/Accountable Delivery cost pool, there is no need to create a superfluous cost pool.

<u>Deviation Delivery Travel Time</u>: This time pool includes the time it takes to drive to a deviation park point and the time it takes to return from a deviation park point.

Associated Scan Sequence: The first part of the additional driving time for deviation deliveries is captured by the time between a "leave" scan or a "finish" scan and an "Arrive Deviation Park Point" scan. Because parcel/accountable deliveries could take place at any stage along the route, the leave scan could be a finish delivery section scan, or an end activity scan. The second part of the additional driving time is captured by the time between the "Leave Deviation Park Point" scan and the subsequent arrive scan. Deviation delivery travel time can be interrupted by an admin action.

<u>Network Travel Time</u>: This time pool contains the time required to traverse the network portion of the route. It is the time it takes to get from one route section to another or from one delivery activity to another. For example, on a motorized route, it would include the time it takes to drive from the end of a mounted-curbline section to a foot/loop section. Alternatively it could be the time it takes to drive from a collection box to the next mounted-curbline section. Network travel time can be walking or driving.

Associated Scan Sequences: Network travel time is initiated after the completion of the first route section or delivery activity. The first scan in a Network Travel Time sequence is thus a finish scan (e.g. "Finish Mounted-Dismount Section") or an end sequence (e.g. "End

Relay.") The time between this scan and the subsequent arrive scan (e.g. "Arrive Foot/Loop Section) or start scan (e.g. "Start General Collections") is network travel time. Network travel time can be interrupted by an admin action.

Collection Time: This time pool contains the time required to sweep general and Express Mail mailboxes. The time starts when the carrier arrives at the collection box and ends when the carrier leaves the collection box.

Associated Scan Sequences: Collection time begins with a "Start General Collections" or "Start Express Only Collections" scan. It ends with the corresponding "End General Collections" or "End Express Only Collections" scan. Note that the time between the immediately previous scan and the start collection scan is Network Travel Time. Similarly, the time between the end collections scan and the immediately subsequent scan is also Network Travel Time.[7] Collection time can be interrupted by an admin action.

Relay Time: This time pool captures the time that the carrier spends obtaining or dropping off relay mail at a relay point. The time starts when the carrier arrives at the relay point and ends when the carrier leaves the relay point.

Associated Scan Sequences: Relay time begins with a "Start Relay" scan. It ends with the corresponding "End Relay scan. The time between the immediately previous scan and the start relay

7 The exception to this rule is when the collection activity is the first or last street action. In those cases, the preceding and subsequent times are Travel to and From the Route times.

scan is Network Travel Time. Similarly, the time between the end relay scan and the immediately subsequent scan is also Network Travel Time. Relay time can be interrupted by an admin action. (The exception to this rule is when the relay activity is the first or last street action. In those cases, the preceding and subsequent times are Travel to and From the Route times.)

Delivery Prep Time: The time pool captures time associated with preparing to do street work that is done at the office, either just before street actions begin or just after street actions end. It is incurred while the carrier is clocked to street activities but hasn't yet left, or has arrived back at, the office.

Associated Scan Sequences: Prep time that is done before street actions commence for the day are measured by the time between the "Clock to Street" scan and the "Leave Office Scan." Prep time that is done after the street actions are concluded is the time between the "Arrive Office" scan and the "Clock Off Street/End Tour" scan. Prep time can be interrupted by an admin action.

Off the Clock Time: This time pool captures carrier time when the carrier is not on the clock. Lunch is off the clock and by definition, emergencies occur when the carrier must clock off the street.

Associated *Scan Sequences*: There are two scan sequences that comprise off the clock time: "Clock to Lunch" and "Clock Off Lunch", "Clock to Emergency" and "Clock Off Emergency".

Non-Delivery Activity Time: This time pool captures carrier time when they are not involved in street time actions. It includes breaks and "other"

time. Other time includes things like water and bathroom breaks and safety talks (on the street).

Associated Scan Sequences: There are two scan sequences that comprise off the clock time: “Clock to Break” and “Clock Off Break”, and “Clock to Other” and “Clock Off Other”.

Please refer to Attachment 4 to view a typical carrier day and how this process works.

D. **Data Retrieval, Data Verification, and Data Aggregation**

USPS-LR-K-79 details the process of how the scan data were downloaded from the mainframe, explaining the data checks and analyses that were done in order to produce the output files necessary for the creation of the time pools . Each record in USPS-LR-K-79 lists the route-ZIP, scan-ZIP, and route number of the route where the scan was taken, the date on which the scan was recorded, and the 2- or 3-digit barcode number of the scan. Each barcode number defines a carrier function, such as entering a route section, initiating a large-parcel delivery, leaving a route section, or finishing the parcel delivery. There are 36 such barcodes, and these are listed, along with the functions they define, in the file called BARCODE.SCANS.XLS.

IV. DEVELOPMENT OF CITY CARRIER VOLUME DATA, BY 2004

A. Volume Workload

Carrier volume measures were defined in a manner consistent with their operations. City carriers deliver mail each day to the assigned delivery points on their routes. They collect mail to enter the mail stream from those delivery points as well. In some offices, in some instances, regular “letter route” carriers are asked to pull collection mail from mailboxes although this function is done primarily by special purpose route carriers

The volume measures in the CCSTS were defined to be consistent with operational practice and to ensure consistency throughout the sample. Therefore, the study used volume measures that could be easily captured from regular Postal data systems or easily recorded in a special survey at the local office The volume data thus come from several sources. They are Delivery Operation Information System (DOIS) reports; Delivery Support Information System (DSIS) reports; non-DOIS/DSIS site reports; and manual counts by carriers and supervisors. The manual counts were used to provide data that were not captured daily at the unit or that were not routinely recorded by the regular systems. The following volume measures were captured from daily reports from DOIS or DSIS, or in a volume recording form for non-DOIS/DSIS sites:

- *DPS Letters*
- *Non-DPS Automation Letters*
- *Non-DPS Other letters*
- *Cased Flats*
- *Sequenced Mail*

Carriers and/or supervisors provided the following data in *piece counts* for *delivered mail* from daily mail counts specifically taken for the study:

- *Mail Pieces that did not fit in the box* or required a route deviation (Parcels, etc.)
- *SPR's* – Small parcels (non letter/flat mail) that can be placed in the mail receptacle
- *Accountables* – All mail pieces requiring a signature, customer contact, including all Express Mail

Carriers and/or supervisors provided the following data in *feet and inches counts*

for *collected mail* from daily mail counts specifically taken for the study:

- *Stamped Letters*
- *Metered Letters*
- *Stamped Flats*
- *Metered Flats*

Carriers were required to provide piece counts for collected *Express Mail*, *Priority*, and all other *Package*s. These were pieces of mail that were collected at the point of delivery. On the rare occasion that a carrier pulled a collection box, the following workload counts were captured and recorded:

- *Stamped Letters – Trays/Tubs*
- *Meter Letters – Trays/Tubs*
- *Stamped Flats – Trays/Tubs*
- *Meter Flats – Trays/Tubs*
- *Non-Priority Packages – Trays/Tubs*
- *Non-Priority Packages – Hampers*
- *Express – Hampers*
- *Express – Trays/Tubs*
- *Priority – Hampers*
- *Priority – Trays/Tubs*
- *Letter – Hampers*

In the final analysis, nothing was done with the data from collection boxes, primarily because the activity was so sparse, supporting the *a priori* belief that the function was performed largely by special purpose route drivers. Piece Counts and Collection mail from delivery points are used by witness Bradley in his volume variability

analysis. Volume Forms used in the study are provided in USPS-LR-K-78. Documentation of the aggregation of the volume data is found in USPS-LR-K-80.

B. DOIS Data

Please see the testimony of witness Lewis, USPS-T-30, for a more complete discussion of DOIS (Delivery Operations Information System). DOIS is a database that is a repository of many areas of delivery support information. DOIS provides carrier route structures linked to timekeeping and mail processing, through end of run (EOR) reports, to provide data to assist delivery managers. The use of EOR allows the survey to utilize existing data as a validated measure of the major workloads (letters, flats, etc.) for city carriers. Most of the offices (137 of 161) at the time of the survey were under DOIS. The study solicited from them DOIS-generated workload reports for the period of the survey, or retrieved the reports directly from the mainframe.

C. Non- DOIS Sites

At the time of the survey, some of the offices had not been converted to DOIS. They used a different database that was more local DSIS (Delivery Support Information System). Please see the testimony of witness Lewis testimony, USPS-T-30, for a more complete discussion of DSIS. DSIS provides the study the same data as DOIS. The difference between the two systems is that DSIS is not linked directly to the other major information systems. Additionally, at the time of the survey, some very small offices were not under DOIS or DSIS. They, nevertheless, had the same Delivery-mandated workload reporting requirements. In these instances, the study provided a form (see USPS-LR-K-78) for them to record the daily workload for each affected carrier. In USPS-LR-K-80, documentation is presented as to how these data (from 24 of 161 offices) were compiled.

D. Data Collection Instructions

The Study Coordinators trained carriers in their own offices with the training geared to the specifics of the office. Additionally, training was held with the carriers regarding the specifics of the data collection requirements as it pertained to their routes. The carriers recorded the delivered mail that did not fit into the receptacles, SPR's, Bulk Deliveries, Accountables, and all collected mail each day. Collected mail was recorded based on whether it was collected at the point of delivery or pulled as a separate task from mail collection boxes. A bulk delivery was a delivery of containerized mail to a single delivery point that the carrier did not sort. Bulk delivery data were not used in the final analysis. For mail pieces that did not fit into the receptacles, the study relied on the carriers to provide the actual number rather than use an estimate based on proxy dimensions for Parcels. These piece counts are tied to the scan sequences and the time pools for Parcels and Accountables and are used by USPS-t-14. The Study Coordinators would validate these counts and attach with the carrier forms the appropriate DOIS, non-DOIS volume reports for the office and send them in at the end of each week. Please see USPS-LR-K-78 for a more complete description of the process.

E. **Data Retrieval, Data Check, and Data Aggregation**

The volume data from the survey were collected at the HQ Help Desk. There the data were scrutinized for possible errors, omissions, and completeness. Questions were referred back to the local Study Coordinators who had their own copies as well as records of Delivery required volume reporting instruments at their disposal. Once assured that the data were accurate, the data were keypunched twice. Volumes were reported for 3,668 routes located in 161 of the City Carrier Street Time Survey ZIPs. USPS-LR-K-80 details the process of how the volume data were organized. Specifically two databases were created from the mail volumes. The table below shows the

variables pulled from the DOIS/non-DOIS data to create one database.

MASKED ZIP CODE	DATE	ROUTE	DPS LETTERS	NON-DPS, AUTOMATION LETTERS	NON-DPS, OTHER LETTERS	CASED FLATS	SEQUENCED MAIL

The second table below shows the variables pulled from the Carrier Mail Counts.

ROUTE NUMBER	DEVIATION PARCELS	SMALL PARCELS	ACCOUNTA-BLES	BULK DEL	SL FT	SL INCHS	ML FT	ML INCHS	SF FT	SF INCHS	MF FT	MF INCHS	EXP-RESS	PRIO-RITY	OTHR PACK

USPS-LR-K-80 provides the definitions for these variables and how they were assimilated from the raw data. These datasets are used by USPS-T-14 in combination with the time pools datasets to do his analysis.

V. CONCLUSIONS

A. <u>Proposed Changes Relative to the PRC Methodology</u>

Because the final outputs of the City Carrier Street Time Survey are different from the previous studies, no valid comparison of cost (time) pools for CS 7 as currently constructed can be made with the costs pools as defined by the existing Commission methodology. Comparison of costs can only be made legitimately at a higher level of aggregation. Please see Witness Meehan's testimony, where she provides citations to the relevant USPS CRA values and the relevant PRC values.

I must point out that, to the extent that, in response to Commission Rule 53, I discuss and compare PRC versions of costing materials in this testimony, I do not sponsor those materials, or in any way endorse the methodologies used to prepare them. In its Order No. 1380 adopting the roadmap rule, the Commission included the following statements regarding the role played by Postal Service witnesses under these circumstances

> The comparison required by this exercise cannot be equated with sponsoring the preexisting methodology. It merely identifies and gives context to the proposed change, serving as a benchmark so that the impact can be assessed. … [Witnesses submitting testimony under Rule

> 53(c) sponsor the proposed methodological changes, not the preexisting methodology. That they may be compelled to reference the preexisting methodology does not mean that they are sponsoring it.

Order No. 1380 (August 7, 2003) at 7.

Therefore, although I may be compelled to refer to the PRC methodologies and versions corresponding to the Postal Service proposals, which are the subject of my testimony, my testimony does not sponsor those PRC materials.

B. <u>Future Methodology Refinements</u>

The process of the survey has broad implications. It allows the Postal Service to collect huge amounts of data on areas of interest. The process allows for potentially simple updates and also provide a potential scenario where the methodology will be self-sustaining and updating. Of immediate interest is to update city carrier special purpose routes, as this area of city carrier costs was omitted in the FY 2002 City Carrier Street Time Survey.

ATTACHMENTS

ATTACHMENT 1 **USPS-T-15**

STREET TIME SAMPLE CARRIER CARD

CARRIER NAME_____ TEST SERIAL NO._____

BEEP: Number_____ Time_____

Mark A, B, C, or D --- (MARK 0NLY ONE)

( ) A. CARRIER STOPPED (MARK ONLY ONE "AT")

( ) B. CARRIER DRIVING MARK ONE
( ) C. CARRIER WALKING "FROM" AND
( ) D. CARRIER RIDING ONE "TO"

AT FROM TO

( ) ( ) ( ) OWN STATION

( ) ( ) ( ) DELIVERY STOP - CURBLINE
( ) ( ) ( ) DELIVERY STOP - NOT CURBLINE

( ) ( ) ( ) VIM ROOM OR DETATCHED P.O. BOX UNIT
( ) ( ) ( ) COLLECTION BOX
( ) ( ) ( ) RELAY BOX

( ) ( ) VEHICLE PARKED
( ) VEHICLE - PREPARING MAIL for Delivery
( ) VEHICLE - LOADING OR UNLOADING at Station

MISCELLANEOUS ACTIVITIES

( ) (Specify:)_____
( ) (Specify:)_____
( ) (Specify:)_____

ADDITIONAL ACTIVITY CHARACTERISTICS

( ) ( ) ( ) DELIVERY STOP THAT BEGINS or ENDS ROUTE
( ) ( ) ( ) DELIVERY NOT ROUTINE

AT FROM TO

(ADDITIONAL REMARKS NEXT PAGE) **(omitted from Attachment)**

ATTACHMENT 2 **USPS-T-15**

PROPORTIONS OF TOTAL TIME, WITH PREP AND NON-STREET BURDENED ON ALL OTHER ACTIVITIES

DELIVERY MODE	CURB	DISMOUNT	FOOT	OTHER	PARK & LOOP	ALL MODES, EQUAL TO SUM OF CURB THROUGH PARK & LOOP
COST POOL						
DELIVERY ON ROUTE SECTIONS						
LOOPFOOT	1.185%	1.319%	1.907%	0.065%	29.029%	33.504%
CURBLINE	9.716%	1.762%	0.009%	0.101%	2.931%	14.520%
NDCBU	1.100%	3.159%	0.028%	0.098%	1.273%	5.659%
VIM	0.016%	0.169%	0.001%	0.000%	0.045%	0.230%
CENTRAL	0.677%	1.866%	1.177%	0.090%	2.832%	6.641%
DISMOUNT	2.065%	3.159%	0.035%	0.100%	6.346%	11.703%
TRAVEL TO/FROM ROUTE	1.912%	1.483%	0.658%	0.058%	4.992%	9.102%
NETWORK TRAVEL	2.769%	1.417%	1.354%	0.092%	5.744%	11.376%
RELAY	0.028%	0.048%	0.428%	0.005%	0.846%	1.356%
GENERAL COLLECTIONS	0.049%	0.021%	0.005%	0.010%	0.157%	0.242%
EXPRESS COLLECTIONS	0.003%	0.003%	0.000%	0.001%	0.015%	0.023%
PARCEL/ACCOUNTABLE DELIVERY	1.431%	1.013%	0.217%	0.053%	2.414%	5.127%
DEVIATION DELIVERY TRAVEL	0.060%	0.072%	0.015%	0.003%	0.365%	0.516%
TOTAL TIME	21.012%	15.490%	5.833%	0.676%	56.988%	100.000%

ATTACHMENT 3 **USPS-T-15**

STEP 1 - CARRIER-ACTIVITY PROPORTIONS BY DELIVERY MODE, ALL SCAN TIME INCLUDED

DELIVERY MODE	CURB	DISMOUNT	FOOT	OTHER	PARK & LOOP	UNKNOWN	TOTAL MINUS UNKNOWN
ACTIVITY							
DELIVERY ON ROUTE SECTIONS							
LOOPFOOT	301,811,099	336,954,625	500,691,932	16,701,268	7,468,985,875	147,560,289	8,625,144,799
CURBLINE	2,475,115,420	450,213,026	2,282,855	26,137,603	754,187,561	75,448,666	3,707,936,466
NDCBU	280,218,856	807,165,768	7,422,713	25,321,185	327,466,512	16,817,341	1,447,595,033
VIM	4,058,002	43,140,916	161,371	43,854	11,511,418	16,202,854	58,915,561
CENTRAL	172,374,270	476,803,290	309,049,327	23,103,515	728,610,854	31,136,310	1,709,941,256
DISMOUNT	525,913,368	806,997,642	9,163,552	25,736,701	1,632,697,922	58,356,440	3,000,509,185
TRAVEL TO/FROM ROUTE	487,121,375	378,786,527	172,685,664	14,986,801	1,284,394,137	52,235,333	2,337,974,504
NETWORK TRAVEL	705,359,926	361,911,203	355,667,105	23,768,835	1,478,001,455	81,468,489	2,924,708,523
RELAY	7,246,607	12,285,356	112,507,660	1,317,080	217,761,735	10,406,457	351,118,438
GENERAL COLLECTIONS	12,604,969	5,274,783	1,230,336	2,613,603	40,498,624	16,253,115	62,222,315
EXPRESS COLLECTIONS	877,553	865,454	41,145	161,270	3,966,967	562,411	5,912,389
PARCEL/ACCOUNTABLE DELIVERY	364,593,711	258,720,849	56,961,228	13,578,447	621,004,242	28,858,334	1,314,858,478
DEVIATION DELIVERY TRAVEL	15,302,298	18,407,354	3,973,009	825,181	93,941,400	1,423,123	132,449,242
PREP	325,537,012	239,509,760	39,837,109	9,679,152	730,543,474	25,646,026	1,345,106,507
NON-STREET (BREAK)	223,483,644	153,645,123	66,655,418	5,817,023	612,450,975	23,450,504	1,062,052,182
OFFCLOCK (LUNCH, EMERGENCY)	397,427,447	290,338,307	131,608,102	16,589,105	991,393,772	32,989,641	1,827,356,732
NA (INVALID SEQUENCES)	743,159,796	506,182,860	207,263,817	20,844,852	1,745,793,152	98,261,030	3,223,244,477
TOTAL TIME	7,042,205,355	5,147,202,842	1,977,202,341	227,225,474	18,743,210,075	717,076,363	33,137,046,087

INVALID-SEQUENCE TIME (ALSO REFERRED TO AS ERROR TIME) AS A % OF TOTAL SCAN TIME	10.553%	9.834%	10.483%	9.174%	9.314%	13.703%	9.727%

ATTACHMENT 4 **USPS-T-15**

SCAN SEQUENCE FOR A TYPICAL CARRIER

Scan Number	Barcode Scan	Scan Time	Time Pool
1	**Clock To Street**	11:00.00	
			Delivery Prep/Street support
2	**Leave Office**	11:10.05	
			Travel to/from office
3	**Begin Loop/Foot Section**	11:18.00	
			Delivery time
4	**Clock To Lunch**	12:00.00	
			Off the clock time
5	**Clock Off Lunch/End Lunch**	12:30.01	
			Delivery time
6	**Finish Loop/Foot Section**	1:45.55	
			Network Travel
7	**Begin Loop/Foot Section**	1:49.11	
			Delivery time
8	**Start Parcel Delivery**	2:10.20	
			Parcel/Accountable time
9	**End Parcel Delivery**	2:12.33	
			Delivery time
10	**Start Parcel Delivery**	2:41.41	
			Parcel/Accountable time
11	**End Parcel Delivery**	2:43.42	
			Delivery time
12	**Finish Loop/Foot Section**	3:15.14	
			Network Travel
13	**Begin Loop/Foot Section**	3:19.28	
			Delivery time
14	**Start Accountable Delivery**	4:03.00	
			Parcel/Accountable time
15	**End Accountable Delivery**	4:06.78	
			Delivery time
16	**Finish Loop/Foot Section**	4:15.19	
			Network Travel
17	**Begin NDCBU Section**	4:20.00	
			Delivery time
18	**Finish NDCBU Section**	4:35.54	
			Travel to/from office
19	**Arrive Office**	4:50.65	
			Delivery Prep/ Street support
20	**Clock Off Street/End Tour**	5:00.00	