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POSTAL RATE AND FEE CHANGES, 1997	Docket No. R97-1

DIRECT TESTIMONY
OF
DAVID E. TREWORGY
ON BEHALF OF
UNITED STATES POSTAL SERVICE

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Direct Testimony

of

David E. Treworgy

AUTOBIOGRAPHICAL SKETCH

My name is David E. Treworgy. I am a Principal Consultant in the Management Consulting Services division of Price Waterhouse LLP (hereafter Price Waterhouse), located at 1616 North Fort Myer Drive in Arlington, Virginia. I have been employed by Price Waterhouse since 1988, when I joined as a Staff Consultant; in 1990 I was promoted to Senior Consultant; in 1993 I was promoted to Manager. In 1995 Price Waterhouse revised the firm's title system; in that year, I became a Principal Consultant, my current position.

During my career at Price Waterhouse, I have worked on many consulting projects for the United States Postal Service, specializing in financial analysis, particularly in the costing area. My experience with the Postal Service includes cost analysis in areas such as transportation, labor, and buildings; product profitability analysis; marketing strategy; and capital and program evaluation.

In Docket No. MC95-1 I testified before the Postal Rate Commission on behalf of the Postal Service in the area of transportation costs. I have provided technical support to various Postal Service witnesses in other proceedings, including Docket No. R94-1 and Docket No. R90-1.

Many of the projects I have worked on required that I spend a great deal of time in Postal Service field offices observing operations firsthand, personally visiting over fifty facilities including Associate Offices, Airport Mail Facilities, Airport Mail Centers, Bulk Mail Centers, and Sectional Center Facilities. In addition, I also have visited several Distribution Network

Offices and the Information Systems Service Centers in San Mateo, California; St. Louis, Missouri; and Raleigh, North Carolina.

My academic background includes a bachelor's degree with honors in Economics from Williams College and a Master's of Business Administration degree from the Graduate School of Business Administration at Harvard University.

I. PURPOSE AND SCOPE OF TESTIMONY

The purpose of my testimony is to estimate unit volume variable costs in support of the proposed delivery confirmation (DC) services for Priority Mail and Standard B customers. Specifically, I develop four distinct volume variable cost estimates: 1) "Priority Mail base delivery confirmation" (PMB DC), the unit cost for electronic delivery confirmation associated with the basic Priority Mail product; 2) "Priority Mail retail surcharge delivery confirmation" (PMRS DC) special service, the additional cost over PMB DC to provide manual delivery confirmation; 3) "Standard B electronic delivery confirmation" (SBE DC) special service; and 4) "Standard B manual delivery confirmation" (SBM DC) special service.

In addition to these four volume variable cost estimates, I also provide an estimate of certain costs related to scanning equipment and an associated distribution key. These costs, which are capital depreciation and program costs, are not variable with respect to delivery confirmation volume, and hence are not included in the four volume variable unit costs calculated separately.

The two basic operational processes, electronic delivery confirmation and manual delivery confirmation, apply to both Priority Mail and Standard B. After briefly describing the new scanners being deployed by the Postal Service, my testimony describes the two basic operational processes involved in providing delivery confirmation—electronic and manual—and then estimates the associated unit volume variable costs.

II. NEW SCANNERS TO BE DEPLOYED BY THE POSTAL SERVICE

The Postal Service is in the process of purchasing and deploying hand-held barcode scanners for use by carriers, box section clerks, window clerks, and other postal employees. These battery-powered scanners will feature data input via barcode reader and alphanumeric keyboard. At the end of the day, the scanners will be placed in docking

stations that will permit passive transfer of information from the scanners to a central database. Every city and rural carrier route will receive a dedicated scanner; other postal locations that require access to a scanner will be outfitted with dedicated scanners as well. The Postal Service plans to deploy approximately 300,000 scanners over the next 18 months.

It is planned that the scanners ultimately will serve a variety of purposes, including delivery and collection management, service performance measurement, and mail item information acquisition. Delivery confirmation, the focus of this testimony, is an example of mail item information acquisition. Based on discussions with postal managers, I briefly outline how the scanners will be used to serve each purpose.

A. Delivery and Collection Management

The Postal Service plans to utilize the hand-held scanners for a program known as "enhanced street performance" (ESP). The ESP program will involve collecting information specific to a carrier's progress along a route. Location information may be collected actively by scanning a barcode affixed to a stationary location (such as a collection box). A scanner could also be used to hold location information captured passively through a global positioning system device mounted in a postal vehicle. The information obtained through the scanners may be used by the Postal Service to identify potential for improvements to carrier route structuring, improve the consistency of delivery times, and support collections management.

B. Service Performance Measurement

The scanners will permit the Postal Service to test the on-time performance of Standard B. This capability will be highly valuable to the Postal Service because, unlike other products such as First-Class Mail and Priority Mail, it is not currently monitored externally. The only internal monitoring system for Standard B, the Origin-Destination Information System

(ODIS), does not provide information for the complete travel of a mail item from acceptance to final delivery.[1] Delivery confirmation thus may enhance postal capabilities for service performance measurement.

In addition to creating a service tracking system for Standard B, where none effectively exists, the scanner infrastructure will also enhance the current Priority Mail performance measurement system. The delivery confirmation system will supplement the existing external measurement program by increasing the geographical coverage of monitored destinating mail volume.[2]

C. Mail Item Information Acquisition

The scanners will be used for individual mail item information acquisition. The products for which the scanners are planned to be used at this time include Express Mail, inbound international mail, Priority Mail and Standard B delivery confirmation, and the Certified, Registered, and Insurance special services.[3] In the future, the scanners may also be used for other products. For delivery confirmation, the scanners will be used for two purposes: 1) scanning the barcode for a delivered DC item and 2) scanning the barcode for an attempted DC item. DC mail items will be scanned by the postal employee who delivers the piece to the final recipient. Thus, if the carrier is able to deliver a mail item on the route, the barcode will be scanned on the route at the time of final delivery to the recipient. DC mail

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[1] ODIS tracks only those mail items with a date stamp (stamped and metered items). Items without a date stamp (permit imprint items) cannot be monitored. In Accounting Period 8 of FY 1997, approximately three quarters of all Standard B parcels did not have a date stamp and, consequently, could not be evaluated by ODIS for service performance.

[2] The external Priority Mail service performance measurement system provides information on only 301 3-digit ZIP Codes; the scanner infrastructure in combination with the delivery confirmation services holds the potential to provide data on virtually all 3-digit ZIP Codes.

[3] The specifics of how scanners will be used for each of these products have yet to be determined, except for Priority Mail and Standard B. This is why only Priority Mail and Standard B costs are presented in this testimony.

items addressed to post office boxes will be scanned by the box section clerk; items attempted to be delivered by the carrier will be scanned when delivered to the recipient by the window clerk.

III. OVERALL APPROACH TO DEVELOPMENT OF COST ESTIMATES

While electronic and manual delivery confirmation will be new services available to Priority and Standard B mailers, they will not involve substantial changes to postal operations. Thus, items both with and without delivery confirmation will be co-mingled in the same mail stream, with DC items requiring minimal additional work steps upon acceptance and at final delivery. I conducted special studies to estimate the costs of the additional steps needed to effect delivery confirmation.

Section IV of my testimony describes the operational steps required for delivery confirmation. Section V estimates the unit volume variable costs resulting from those operational steps. I address all volume variable costs that will arise from delivery confirmation, including direct labor and associated piggybacks (indirect labor and non-labor), postmasters, corporate call management, information systems, and supplies. Where estimation is difficult, I have used conservatively high estimates in order to be confident that the proposed fees cover their volume variable costs. Section VI summarizes the final unit volume variable costs.[4]

[4] My testimony concludes with section VII, which produces a distribution key for scanner infrastructure capital and program costs.

IV. DELIVERY CONFIRMATION OPERATIONS

A. Introduction

Both the electronic and manual delivery confirmation services will provide mailers with positive confirmation of the delivery date and time. The distinction between them lies in how acceptance and delivery confirmation information is transmitted to and from the Postal Service and the mailer. The electronic service involves computer links between the mailer and the Postal Service both upon acceptance and upon delivery. By contrast, the manual process requires the Postal Service both to record acceptance information and to provide confirmation of delivery to the mailer. Thus, from a cost perspective, the electronic and manual versions incur substantially similar volume variable costs other than for the activities associated with acceptance and confirming delivery.[5]

In sections IV(B), IV(C) and IV(D), I highlight those operations associated with delivery confirmation that will result in volume variable costs for the Postal Service. Because the processes that serve delivery confirmation generally are established work practices unaffected by the proposed special services, I do not describe them in exhaustive detail. Rather, I identify only those specific new activities which will generate additional volume variable costs.

B. Acceptance Operations

i. Electronic delivery confirmation

At acceptance, the mailer provides items to the Postal Service with no change to current procedures. Prior to acceptance, the mailer applies a barcoded DC label to each item. The

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[5] A technical but limited exception to this statement arises because postmasters and supplies exhibit slightly different volume variable costs for the delivery confirmation services as discussed in sections V(B)(iii) and V(C)(iii), respectively.

mailer maintains a record of the barcode ID numbers for later use in confirming delivery. On the day of acceptance, the mailer transmits electronically to the Postal Service the ID numbers of the DC items.

ii. Manual delivery confirmation

While electronic delivery confirmation mailers shoulder the burdens of affixing the DC label to a mail item, recording its barcode ID number electronically, and communicating this information to the Postal Service, the manual service requires the Postal Service to perform these activities instead. Table 1 lists the operational steps necessary when the mailer manually submits an item to the Postal Service at the retail counter.[6] The "DC-specific activity?" column identifies activities that are allocated exclusively to delivery confirmation.

Table 1: Operational Steps for Window Acceptance of DC Item

Step	DC-specific activity?	Description of operational step
1	No	Mailer approaches retail counter with mail item.
2	No	Mailer requests Priority or Standard B mail service.
3	Yes	Mailer requests DC.
4	Yes	If necessary, window clerk provides explanation of DC to mailer.
5	Yes	Window clerk affixes DC label to mail item and scans barcode.
6	No	Window clerk requests payment for total amount of transaction as computed by IRT. Single transaction amount includes postage, DC fee, and any other special services or purchases requested by the mailer.
7	Yes	Window clerk hands customer DC receipt with tracking number and instructions
8	No	Window clerk inducts item into normal mail stream.
9	No	DC information is transferred to central database along with other retail data captured by IRT.

[6] Carrier acceptance of manual DC mail items is also possible. However, the volume is likely to be extremely low. The cost for any items accepted by the carrier will be less than that of items accepted at the window. Thus, to the extent that some manual DC mail items are accepted by carriers, the volume variable cost estimates are conservatively high.

C. Delivery Operations

Following acceptance, DC mail items are sorted and transported through the postal system with no change to current processes. Additional costs are not incurred until the carrier or box section clerk attempts final delivery to the addressee. Four possible outcomes arise when a DC mail item reaches this point:

1. Carrier successfully delivers mail item
2. Carrier attempts delivery of mail item
3. Box section clerk successfully delivers mail item
4. Box section clerk attempts delivery of mail item

These outcomes are identical for the electronic and manual DC services. Accordingly, after acceptance no processing or delivery costs distinguish the two.[7] The separate operational steps for each outcome are detailed in tables 2 through 5, respectively.

The most common delivery outcome is successful carrier delivery of the mail item to the addressee's delivery receptacle.[8] The operational steps involved, which apply to all carriers, are identified in table 2.

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[7] Costs for the manual and electronic services vary because of the respective methods of obtaining confirmation from the Postal Service, as discussed in section IV(D).

[8] If the mail item does not fit in the receptacle, then the carrier attempts to deliver the mail item to the addressee through some other means, such as knocking on the door of the residence. The manner in which the carrier delivers the mail item does not affect delivery confirmation costs. For example, if the mail item is too large for a curbside mailbox and the carrier goes to the door of the residence, the additional time is caused by the mail item itself, not the DC service.

Table 2: Operational Steps for Successful Carrier Delivery of DC Item

Step	DC-specific activity?	Description of operational step
1	No	Carrier arrives at addressee's delivery point on regular route.
2	Yes	Carrier scans DC barcode, keys status as "delivered," and verifies ZIP Code
3	No	Carrier delivers mail item.
4	No	Carrier finishes route, returns to delivery unit, and places scanner in docking station
5	Yes	DC information is transmitted electronically to central database

If the delivery is unsuccessful, the carrier leaves the addressee a notice explaining how to retrieve the mail item at the retail window of the local post office. This outcome will not, however, be unique to delivery confirmation since the only reasons a delivery would be unsuccessful are the same reasons that delivery of any mail item might be unsuccessful.[9]

Table 3 identifies the operational steps involved when a carrier is unsuccessful in delivering a mail item. As in the case of successful delivery, these steps apply to all types of carriers.

Table 3: Operational Steps for Attempted Carrier Delivery of DC Item

Step	DC-specific activity?	Description of operational step
1	No	Carrier arrives at addressee's delivery point on regular route.
2	No	Carrier prepares and leaves Form 3849 at addressee's delivery receptacle with other mail
3	Yes	Carrier scans DC barcode on attempted delivery item, keys status as "attempted," and verifies ZIP Code.
4	No	Carrier finishes route, returns to delivery unit, places scanner in docking station, and places attempted delivery item on carrier-left-notice shelves.[10]
5	Yes	DC information is transmitted electronically to central database.
6	No	Addressee presents Form 3849 to window clerk at retail counter and requests mail item.
7	No	Window clerk retrieves item from carrier-left-notice shelves
8	Yes	Window clerk scans DC barcode, keys "delivered" status, and verifies ZIP Code
9	Yes	DC information is transmitted electronically to central database.

[9] For example, if the mail item is too large to fit in the mailbox, the recipient is not at home, and there is no other safe place for the carrier to leave a carrier release mail item, a notice is left for the customer and the carrier returns the mail item to the post office.

[10] The "carrier-left-notice shelves" are where mail items are staged for retrieval by the window clerk at the time the addressee presents a notice of attempted delivery, Form 3849, at the retail counter.

A portion of DC items will be delivered not by the carrier, but by the box section clerk. Table 4 identifies the operational steps involved in successful delivery to a post office box.

Table 4: Operational Steps for Successful Box Section Delivery of DC Item

Step	DC-specific activity?	Description of operational step
1	No	Box section clerk arrives at addressee's PO box.
2	Yes	Box section clerk scans DC barcode, keys "delivered" status, and verifies ZIP Code.
3	No	Box section clerk delivers mail item to addressee's PO box.
4	Yes	DC information is transmitted electronically to central database.

If the item is too large for the recipient's PO box or any available parcel locker, then the delivery is unsuccessful. Table 5 lists the steps involved in this process.

Table 5: Operational Steps for Attempted Box Section Delivery of DC Item

Step	DC-specific activity?	Description of operational step
1	No	Box section clerk arrives at addressee's PO box.
2	No	Box section clerk determines item is too large for PO box or parcel locker, prepares "article too large" notice, and places notice in addressee's PO box.
3	Yes	Box section clerk scans DC barcode, keys "attempted" status, and verifies ZIP Code.
4	No	Box section clerk places oversized item in box-left-notice shelves.
5	Yes	DC information is transmitted electronically to central database.
6	No	Addressee presents "article too large" notice to window clerk at retail counter and requests item.
7	No	Window clerk retrieves item from box-left-notice shelves
8	Yes	Window clerk scans DC barcode, keys "delivered" status, and verifies ZIP Code.
10	Yes	DC information is transmitted electronically to central database

For delivery confirmation purposes, firm holdouts, which are not delivered by the carrier or addressed to a physical PO box, are operationally similar to box section items.

D. Provision of Delivery Confirmation Information to Mailers

Delivery confirmation enables mailers to verify mail item delivery, but electronic and manual delivery confirmation offer different sets of options as to how mailers may do so. All DC mailers may use the Internet to monitor the status of DC items.

i. Electronic delivery confirmation

An electronic delivery confirmation mailer can use a toll-free telephone number to effect a modem connection to the Postal Service Information Systems Service Center (ISSC) in San Mateo, California and download the appropriate records.

ii. Manual delivery confirmation

The Postal Service currently is implementing a means for handling various customer inquiries through the corporate call management (CCM) system. The CCM system offers callers access to information through two primary means: 1) an interactive voice response (IVR) system and 2) customer service agents fielding telephone calls. Both the IVR system and the customer service agents can provide information to mailers regarding the status of DC items, among other services.

Mailers purchasing the manual DC service may verify delivery by dialing a toll-free telephone number. For many callers, delivery can be confirmed by following automated instructions that require entry of the DC ID number; a computer interface indicates the status of the mail item. Callers may transfer from the IVR to speak with a customer service agent should they so desire.

Confirmation of delivery will be provided to callers through the CCM system using existing equipment and customer service agents. My testimony estimates volume variable costs for the CCM system in accordance with established procedures for estimating volume variable costs.

V. DELIVERY CONFIRMATION VOLUME VARIABLE COSTS BY COST CATEGORY

A. Introduction

In developing volume variable cost estimates for delivery confirmation, I first consider labor costs and associated piggyback costs, then estimate non-labor costs. The elements of each of these categories of volume variable costs are outlined in table 6.

Table 6: Overview of DC Volume Variable Cost Categories

Cost Category	PMB DC	Additional cost of PMRS DC	SBE DC	SBM DC
Postal Service labor costs				
Acceptance	No cost	✓	No cost	✓
Delivery	✓	No cost	✓	✓
Postmasters	No cost	✓	✓	✓
Non-labor costs				
Corporate call management[11]	No cost	✓	No cost	✓
Information systems	✓	No cost	✓	✓
Supplies	No cost	✓	No cost	✓

This table shows, as discussed above in section IV, that acceptance labor, corporate call management, and supplies costs are incurred only by manual DC. This reflects the additional costs of capturing information at acceptance and communicating delivery information to the mailer.

The following discussion, supported by the spreadsheets in appendix B, describes the volume variable costs for the three labor cost categories (sections V(B)(i), V(B)(ii), and V(B)(iii)) and the three non-labor cost categories (sections V(C)(i), V(C)(ii), and V(C)(iii)).

[11] A small amount of postal labor costs are included in the estimate for this primarily contracted-out cost area.

B. Postal Service Labor and Associated Non-Labor Costs

This section presents volume variable costs related to postal labor. Piggyback ratios are applied to acceptance and delivery labor costs in order to account for indirect labor and non-labor costs that are associated with the direct cost of labor. Indirect labor and non-labor costs include pension funding, and buildings and maintenance.

i. Volume variable costs for acceptance labor and associated piggybacks

As indicated in table 6, there are no acceptance labor costs for the electronic service. The volume variable cost of labor for the manual acceptance process is computed using the same methodology as that used for the delivery process. For ease of presentation, only the cost analysis methodology for delivery labor is explained in detail; that discussion follows in section V(B)(ii). The calculations for manual acceptance labor are presented in appendix B, worksheets B-5, B-6, and B-7. Worksheet B-7 reports the final volume variable cost for manual acceptance of $0.2221.

ii. Volume variable costs for delivery labor and associated piggybacks

The volume variable cost for labor incurred for delivery is a function of the requisite new operational steps as discussed in section IV(C). Appendix B, worksheets B-1 to B-4, shows the calculations that estimate the volume variable cost for delivery labor. The general methodology requires calculation for each new activity of a "total activity cost" based on the following formula:

Transaction time x Transactions x Wage rate x Piggyback ratio = Total activity cost

I then sum the "total activity costs" together and divide by total DC volume to estimate volume variable cost. These calculations are presented in appendix B, worksheet B-4.

"Transactions" refers to the number of times a particular activity will be performed during the test year. Thus, "transaction time" multiplied by "transactions" produces the aggregate total time in hours that will be incurred by a particular activity. Further multiplication by the appropriate wage rate and associated piggyback ratio produces "total activity cost" in dollars. Summing the "total activity cost" figures results in a grand total volume variable cost for delivery labor. For example, in the case of the first activity, "city carrier scans delivered DC mail item barcode," the activity time as estimated by special study (0.003801 hours),[12] multiplied by the estimated number of "transactions" (49,044,041), in turn multiplied by the city carrier wage rate ($26.083), and finally multiplied by the piggyback ratio (1.29571), results in a "total activity cost" of $6,299,776. The sum of this "total activity cost" and the similarly calculated results for the other activities is $10,600,244. Dividing by total delivery confirmation volume of 73,655,738 produces a volume variable cost of $0.1439. The derivation of each of the four components that are multiplied together to produce "total activity cost" is discussed below.

a. Transaction Times

"Transaction times" are estimates of the time required to perform each of the activities designated in tables 1 through 5 by a "Yes" in the column, "DC-specific activity?". Worksheet B-1 lists these new activities along with estimated transaction times. These transaction time estimates were developed through a series of special studies performed in the field during January and February 1997. A detailed explanation of the studies conducted is presented in appendix A.

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[12] As explained in appendix B, input sheet B-1, the transaction times measured in the field are increased by an overhead time factor to account for activities such as break time and, in the case of window clerks, time spent waiting for customers. In the case of "city carrier scans delivered DC mail item barcode," the special study measured a base transaction time of 11.82 seconds (0.003283 hours); this time is increased by a factor of 1.1576 to account for in-office and street support time, resulting in a transaction time of 13.68 seconds (0.003801 hours).

Because the hand-held scanners have not yet been deployed, transaction times for scanning live mail items could not be recorded. As a proxy for this transaction time, I utilized results from the field studies that recorded the times for similar activities. Specifically, I summed the time required to initialize an Express Mail CTT scanner (9.36 seconds) and the time to scan a single DC barcode (2.46 seconds) for a total of 11.82 seconds. The estimate is realistic because the tested equipment and transaction activities are similar to the planned equipment and transaction activities.

b. Transactions

The number of "transactions," or times that particular activities will be repeated, is presented in worksheet B-3. "Transactions" is the actual volume that will be handled by the particular activity; because there are various delivery procedures that a DC mail item could undergo, only some activities will handle total DC volume. For a particular activity, the aggregate transaction time for multiple transactions varies directly with DC volume.

c. Wage rates and piggyback ratios

Wage rates used are the productive hourly direct labor rates for the individual labor categories involved in the provision of delivery confirmation. These are presented in appendix B, input sheet B-2.

Wage rates are inflated by the piggyback ratios to account for those additional costs that are associated with an increased amount of direct labor. Piggyback ratios have been developed for each of the existing subclasses and special services for the test year. For all labor categories except mail processing, the "Total Special Services" piggyback ratio is applied to each wage rate. For mail processing (box section clerk), the "Total Special Services" piggyback ratio is inappropriate for application to delivery confirmation due to the inclusion of costs for mail sorting equipment. Instead, the box section clerk delivery (MODS 44) piggyback ratio is used, since this more accurately reflects the cost characteristics of delivery confirmation.

iii. Volume variable costs for postmasters

The labor costs estimated for acceptance labor and delivery labor cover all volume variable labor costs for each cost segment (CS) associated with delivery confirmation with one exception, postmasters. Because the piggyback ratios for direct labor do not cover CS 1, Postmasters, and because delivery confirmation will result in volume variable costs for that cost segment, volume variable costs for postmasters must be estimated separately.

Volume variable costs for postmasters are calculated based on the methodology by which the Cost and Revenue Analysis (CRA) distributes total CS 1 volume variable costs to subclasses and special services. For FY 1996, total volume variable costs for CS 1 are $296,508,000; total revenues for the subclasses and special services to which these costs are distributed are $55,547,292,000.[13] This implies that products incur postmasters costs of $0.0053 for every $1.00 of revenue generated. The DC services are proposed to be priced at $0.35 for the Priority Mail Retail Surcharge and $0.25 and $0.60 for the Standard B electronic and manual services, respectively.[14] Multiplying each price by the degree to which postmasters costs are incurred results in $0.35 x $0.0053 = $0.0019 for PMRS, $0.25 x $0.0053 = $0.0013 for the electronic DC service, and $0.60 x $0.0053 = $0.0032 for the manual DC service.

C. Non-Labor Costs

Delivery confirmation will result in volume variable costs for three non-labor areas: corporate call management, information systems, and supplies. Each of these is discussed below.

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[13] USPS-T-5, Workpaper B. See USPS-LR-H-1, pp. 1—1 to 1—4 for documentation of methodology.

[14] USPS-T-40 and USPS-T-33.

i. *Volume variable costs for corporate call management*

Manual DC users will be able to call a toll-free number to determine whether a particular mail item has been delivered. Corporate call management includes three distinct costs: 1) an automated attendant, which is operated by a contractor for the Postal Service and allows callers to select such options as language (English, Spanish, etc.) and type of service (Express Mail tracking inquiry, ZIP Code and address information, etc.), 2) an IVR unit, also operated by a contractor, which provides information in an automated fashion, and 3) customer service agents, who are accessed only if the caller does not receive satisfactory information from the IVR. All DC calls are expected to incur the cost of the automated attendant and the IVR; only a portion are expected to incur the costs of the customer service agent time.[15] The volume variable cost for these three elements, detailed in appendix B, input sheet B-6, is $0.0847.[16]

ii. Volume variable costs for information systems

Additional information systems costs for the proposed electronic delivery confirmation will be incurred in two forms: 1) the transfer of barcode information from the scanning site to a central database over the communications network and 2) toll-free line charges for mailers

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[15] An exception to this statement applies to certain calls that bypass the IVR entirely and route directly to the customer service agents. Rather than select an option from the automated attendant, callers may choose to hold for an agent. These callers, which include those without touch tone telephone service, will not enter the IVR. The cost analysis assumes that all calls incur the cost of the IVR; to the extent that some callers bypass the IVR, costs are estimated to be conservatively high.

[16] This estimate is based largely on historical operating statistics for Express Mail, the primary driver of which is the length of time per call a mailer speaks with a customer service agent. Because Express Mail is a more complicated product, conversations can involve topics such as guaranteed delivery refund procedures that do not apply to delivery confirmation. As a result, the CCM volume variable cost estimate for delivery confirmation is probably too high. However, in the absence of definite information regarding call characteristics I have chosen to be conservative and use the Express Mail historical information.

accessing the Postal Service's database at the ISSC in San Mateo, California. Manual delivery confirmation will incur only the first of these.

The costs for data transfer and toll-free line charges are presented in appendix B, input sheet B-7. The volume variable information systems costs for the electronic and manual delivery confirmation services are $0.0047 and $0.0039, respectively.

iii. Volume variable costs for supplies

The only supplies required for delivery confirmation are the barcode labels that are affixed to the mail items at retail acceptance. Based on firm quotes from a current supplier, the Postal Service Marketing Department estimates unit costs for these labels to be $0.0262.

VI. SUMMARY OF DELIVERY CONFIRMATION VOLUME VARIABLE COSTS

Total volume variable costs for the electronic and manual delivery confirmation services are calculated by summing the volume variable costs for each category. Table 7 summarizes the volume variable costs by cost category and totals the final volume variable costs.

Table 7: Final DC Volume Variable Unit Costs

Cost Category	PMB DC	PMRS DC*	SBE DC	SBM DC
Acceptance	$0.0000	$0.2221	$0.0000	$0.2221
Delivery	$0.1439	$0.0000	$0.1439	$0.1439
Postmasters	$0.0000	$0.0019	$0 0013	$0.0032
Corporate call management	$0 0000	$0.0847	$0 0000	$0.0847
Information systems	$0.0047	$0.0000	$0 0047	$0.0039
Supplies	$0.0000	$0.0262	$0 0000	$0.0262
Total volume variable cost	$0 1486	$0.3349	$0 1499	$0.4840

*PMRS costs in addition to PMB costs; the total cost for manual Priority Mail delivery confirmation, then, is the sum of the cost for PMB and PMRS ($0 1486 + $0 3349 = $0 4835)

VII. DISTRIBUTION KEY FOR SCANNER INFRASTRUCTURE CAPITAL AND PROGRAM COSTS

I have developed certain capital and program costs for the scanner infrastructure program; these total $65.3 million and $120.2 million, respectively, for a total of $185.5 million. These costs, which are detailed in appendix C, worksheet C-1, include costs such as scanning equipment depreciation, information systems hardware and software development, and training.

Most of these costs, $133.7 million, are not volume variable with respect to delivery confirmation. Some costs, however, vary in proportion to the total number of carrier routes in the postal system. This is because each carrier route requires one scanner; as mail volume grows and additional carriers are added, the number of scanners will increase accordingly. In addition to the hardware cost of purchasing a scanner, related costs such as support and maintenance. These types of costs total $51.9 million.

The appropriate level of volume variability and the distribution of volume variable costs for the $51.9 million are those of the overall carrier cost system, the total of cost segments 6, 7, and 10. The detailed distribution key is presented in appendix C, worksheet C-2.

APPENDIX A

SPECIAL STUDIES

APPENDIX A: SPECIAL STUDIES

A. Introduction

Two special studies were conducted to estimate labor costs associated with delivery confirmation (DC). A third study was conducted to estimate the percentage of mail items oversized for PO boxes or any available parcel locker.

The two studies conducted to estimate labor costs measured transaction times associated with each of three distinct activities. The two studies were: 1) the "scanning study" and 2) the "window acceptance study." The study in which the transaction time was measured, the name of the activity measured, and the average transaction time for each of the three activities are presented in Table A-1.

Table A- 1 Summary of Transaction Time Studies

Special study	Activity measured by time and motion study	Base transaction time (seconds)
Scanning	Scanning clerk initializes scanner (full initialization time)	9.36
Scanning	Scanning clerk scans one DC parcel	2.46
Window acceptance	Window clerk affixes DC label to parcel and scans barcode	14 32

The third data collection effort, the "oversized for PO box study," involved a special telephone survey to determine the percentage of mail items that are undeliverable by the box section clerk and therefore must receive an attempted scan. This was estimated to be 43.03 percent.

Each of the three studies is discussed below.

B. Scanning Study

Scanning clerks at 15 delivery units in the Northern Virginia District were observed by Price Waterhouse data collectors for the scanning study, conducted in January 1997. The delivery units were selected to represent a cross-section of delivery unit sizes.

Each scanning clerk was asked to scan three assortments of parcels. Realistic Standard B parcels with affixed barcode labels were manufactured specifically for this test. Prior to scanning each assortment, the scanning clerk "initialized" the scanner by entering certain information: the clerk's own 5-digit ID number, the 2-digit code indicating that the scan would be for delivery confirmation, date, and ZIP Code. A scanner requires initialization only once prior to scanning a group of barcodes.

The transaction time for "full initialization" began when the clerk first removed the scanner from its cradle and ended when the clerk began to scan the first barcode for a parcel assortment. The transaction time for barcode scanning began when the clerk began scanning the first barcode and ended when the clerk finished scanning all barcodes.

For scanner initialization time, a total of 90 observations for the various assortments observed at all 15 sites resulted in an average of 9.36 seconds for "full initialization." For parcel scanning transaction time, the average scanning time for each of 15 clerks was calculated; the average of these results was 2.46 seconds.

C. Window Acceptance Study

The purpose of the window acceptance study, conducted in February 1997, was to determine the incremental transaction time required for a window clerk to accept a DC mail item with delivery confirmation relative to a DC mail item without delivery confirmation.[1]

The window acceptance study was conducted at 12 randomly selected post offices in the Suncoast District.[2] Two Price Waterhouse customers initiated live transactions with all window clerks at each office. First, four transactions per window clerk were conducted without delivery confirmation to estimate the baseline transaction time to accept a parcel. Second, four transactions per window clerk were conducted with delivery confirmation. Other than the introduction of delivery confirmation, each customer interacted with the window clerk in the same manner for the baseline and delivery confirmation transactions. One Price Waterhouse customer, representing half of the transactions, simulated full understanding of the delivery confirmation product and did not require additional explanation from the window clerk. The second Price Waterhouse customer, representing the other half of the transactions, simulated incomplete understanding and asked questions regarding delivery confirmation during the transaction.

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[1] This study is distinct from that described in USPS-T-21.

[2] The Suncoast District was selected because, as one of four districts in the state of Florida, the window clerks had been recently trained for a one month long test of Priority Mail delivery confirmation. The Suncoast District includes approximately 300 post offices with window clerks. Of the 300 post offices, only 200 utilize the retail computer equipment that currently supports special software for the Priority Mail delivery confirmation test. A random sample of 15 post offices was taken from the 200 post offices. Three of these were not tested due to time constraints. The 12 tested were representative of the 15 in terms of size and location.

Because the software used on the terminals for the delivery confirmation test was designed for Priority Mail, the Price Waterhouse customers mailed parcels at Priority Mail rates. The actions performed by the window clerk are unrelated to the physical characteristics of the mail item or the subclass; therefore, the results of this study can be applied appropriately to Standard B parcels as well as Priority Mail.

The additional activities performed by the window clerk in accepting a parcel with delivery confirmation are minimal. In addition to the usual activities involved in accepting a parcel, the clerk must apply an adhesive DC label to the parcel and scan the barcode using the existing IRT scanner designed for Express Mail.

The average baseline transaction time, based on a total of 124 observations (31 clerks at 12 post offices), was 43.17 seconds. The average delivery confirmation transaction time, based on a total of 124 observations (the same 31 clerks at the same 12 post offices), was 57.49 seconds. The difference between these (57.49 minus 43.17) equals 14.32 seconds, and represents the incremental time required for the window clerk to process a delivery confirmation transaction relative to a transaction without delivery confirmation.

D. Oversized for PO Box Study

The driving factor for determining the proportion of undeliverable Standard B parcels by the box section clerk is the availability and utilization of parcel lockers. The first telephone survey was of 147 randomly selected delivery units (200 were selected, but only 147 could be contacted).[3] For each delivery unit, it was determined over the telephone whether or not the post office utilizes parcel lockers.[4] Use of parcel lockers permits a box section clerk to deliver a higher percentage of DC parcels without requiring a special attempted delivery

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[3] A total of 200 delivery units were randomly selected from nearly 40,000 listed in the ALMS database. Information regarding parcel lockers could not be obtained for 53 of the 200 for one of several reasons, most common of which was failure to answer the telephone.

[4] A parcel locker can be thought of as a special group of common receptacles through which any addressee with a regular PO box may receive oversized parcels. If an addressee receives a parcel which is too large for the addressee's regular box, the box section clerk may instead leave a numbered key. The addressee then uses the key to open the appropriate numbered parcel locker and retrieves the parcel. The now empty parcel locker captures the key in the lock. Similar to the mechanisms of airport terminal lockers, the key remains in the lock until the box section clerk withdraws it for use the next day.

scan. The survey indicated that, of the 147 delivery units questioned, 106 (72.11 percent) did not and 41 (27.89 percent) did have parcel lockers.

A second telephone survey of 14 delivery units in the Northern Virginia District (nine with parcel lockers, five without) and 10 delivery units in the Suncoast District (six with parcel lockers, four without) generated an estimate of the proportion of Standard B parcels that were oversized for the PO box or an available parcel locker. For one day's parcels, the box section clerk was asked to record the total number of Standard B parcels received and the subset of those which were oversized for the addressee's PO box. For those box sections with parcel lockers, the clerk noted the number that were delivered via a PO box or a parcel locker and the number that could not be delivered in either manner and still required an oversized parcel notice to be placed in the addressee's PO box. Of those delivery units without parcel lockers, 241 of 466 parcels (51.72 percent) were oversized, could not be delivered to the addressee's PO box, and required a notice to be placed in the addressee's PO box. Of those delivery units with parcel lockers, 147 of 715 parcels total (20.56 percent) were oversized, could be delivered neither to the addressee's PO box nor to a parcel locker, and required a notice to be placed in the addressee's PO box.

Multiplying the percentage of Standard B parcels that were oversized at box sections without parcels lockers (51.72) by the percentage of delivery units without parcel lockers (72.11) and adding the result to the product of the percentage of Standard B parcels that were oversized at box sections with parcel lockers (20.56) and the percentage of units with parcel lockers (27.89) produces the weighted average percentage of Standard B parcels that are oversized at the box section and require a notice to be placed in the addressee's PO box. The result of this multiplication is 43.03 percent.

Data Sheet A-1

Scanning Clerk Initializes Scanner

Obs.	Post office	Full initialization
1	Belleview	9.19
2	Belleview	9 44
3	Belleview	7 88
4	Belleview	10.88
5	Belleview	6.33
6	Belleview	7.18
7	Chantilly	10.54
8	Chantilly	8.22
9	Chantilly	8.94
10	Chantilly	7.56
11	Chantilly	6.93
12	Chantilly	6.90
13	Ft. Belvoir	9.01
14	Ft. Belvoir	8.81
15	Ft. Belvoir	9.11
16	Ft. Belvoir	8.93
17	Ft. Belvoir	7.72
18	Ft Belvoir	7.59
19	Haymarket	14.00
20	Haymarket	8.87
21	Haymarket	9.53
22	Haymarket	11.35
23	Haymarket	10.53
24	Haymarket	8.90
25	Herndon	9.75
26	Herndon	10.12
27	Herndon	9.30
28	Herndon	10.09
29	Herndon	8.16
30	Herndon	7.72
31	Jefferson Manor	10.44
32	Jefferson Manor	9.44
33	Jefferson Manor	10.21
34	Jefferson Manor	8.99
35	Jefferson Manor	9.15
36	Jefferson Manor	9.03
37	Leesburg	19.66
38	Leesburg	18 41
39	Leesburg	15 78
40	Leesburg	15 69
41	Leesburg	11 75
42	Leesburg	9.06
43	Manassas	13 19
44	Manassas	10.56
45	Manassas	9.65
46	Manassas	9.00
47	Manassas	9.44
48	Manassas	7.91
49	Marshall	8.97
50	Marshall	9.01
51	Marshall	11.86
52	Marshall	12.28
53	Marshall	8.43
54	Marshall	8.38
55	McLean	4.46
56	McLean	4.93
57	McLean	4.47
58	McLean	9.82
59	McLean	5.84
60	McLean	6.91
61	Purcelleville	9 72
62	Purcelleville	10.05
63	Purcelleville	10 41
64	Purcelleville	11.29
65	Purcelleville	8.75
66	Purcelleville	7.93
67	Quantico	8.78
68	Quantico	14.12
69	Quantico	7.94
70	Quantico	11.19
71	Quantico	8.91
72	Quantico	9.25
73	Reston	12.63
74	Reston	9.54
75	Reston	7 50
76	Reston	10.40
77	Reston	8.56
78	Reston	7 06
79	Vienna	8 10
80	Vienna	7.62
81	Vienna	10.10
82	Vienna	7.59
83	Vienna	7.37
84	Vienna	7.56
85	Woodbridge	7.75
86	Woodbridge	8.81
87	Woodbridge	8.16
88	Woodbridge	7.69
89	Woodbridge	8 07
90	Woodbridge	7.43
	Average	9.36

Data Sheet A-2

Scanning Clerk Scans One DC Mail Item

Obs.	Post office	Time per piece
1	Quantico	1.27
2	Quantico	2.92
3	Quantico	3.92
4	Ft. Belvoir	1.78
5	Ft. Belvoir	1.53
6	Ft. Belvoir	3 08
7	Haymarket	1.03
8	Haymarket	1.81
9	Haymarket	2.19
10	Marshall	1.38
11	Marshall	1.80
12	Marshall	2.03
13	Purcelleville	2.19
14	Purcelleville	2.30
15	Purcelleville	2.34
16	Jefferson Manor	1.62
17	Jefferson Manor	2.16
18	Jefferson Manor	3.26
19	Belleview	3.55
20	Belieview	2.75
21	Belleview	3.02
22	Leesburg	9 75
23	Leesburg	9 13
24	Leesburg	4.34
25	Reston	1 36
26	Reston	1.50
27	Reston	1.49
28	Woodbridge	2.81
29	Woodbridge	1.60
30	Woodbridge	2.00
31	Herndon	1.38
32	Herndon	1.36
33	Herndon	1.56
34	McLean	1.65
35	McLean	1.42
36	McLean	0.87
37	Vienna	2 38
38	Vienna	1.72
39	Vienna	3 21
40	Chantilly	1.78
41	Chantilly	4 89
42	Chantilly	2.04
43	Manassas	1.19
44	Manassas	1.41
45	Manassas	2.01
	Average	2 46

Data Sheet A-3 (page 1 of 3)

Window Clerk Affixes DC Label to Mail Item and Scans Barcode

Obs.	Post office	Clerk	Question procedure	Baseline	DC	Delta
1	Port Tampa	A	Questions	50.44	56.69	6.25
2	Port Tampa	A	No questions	47.03	42 71	(4.32)
3	Port Tampa	A	Questions	38.00	55.90	17.90
4	Port Tampa	A	No questions	48.81	41.97	(6.84)
5	Port Tampa	B	Questions	41 12	71.81	30.69
6	Port Tampa	B	No questions	32.38	40.78	8.40
7	Port Tampa	B	No questions	40.54	42.38	1.84
8	Port Tampa	B	Questions	29.75	55.09	25.34
9	Hilldale	A	No questions	58.65	44.94	(13.71)
10	Hilldale	A	Questions	41.04	56.97	15.93
11	Hilldale	A	No questions	50.04	45 54	(4.50)
12	Hilldale	A	Questions	28.78	72.91	44 13
13	Hilldale	B	Questions	24.94	55.50	30.56
14	Hilldale	B	No questions	43 28	49.37	6.09
15	Hilldale	B	No questions	30.79	42.97	12.18
16	Hilldale	B	Questions	39.75	45.32	5.57
17	Hilldale	C	No questions	31.38	44.15	12.77
18	Hilldale	C	Questions	37.15	56 50	19.35
19	Hilldale	C	No questions	32.37	35.50	3 13
20	Hilldale	C	Questions	42.93	51 44	8.51
21	Hilldale	D	No questions	25 59	55.79	30 20
22	Hilldale	D	No questions	26.25	52.72	26.47
23	Hilldale	D	Questions	53.69	55.78	2.09
24	Hilldale	D	Questions	68.44	64.81	(3.63)
25	Mango	A	Questions	37.04	45.12	8.08
26	Mango	A	No questions	29.69	51 84	22.15
27	Mango	A	Questions	30.01	47 28	17.27
28	Mango	A	No questions	27.69	53.75	26.06
29	Mango	B	Questions	28.75	45.28	16.53
30	Mango	B	Questions	31.60	49.10	17.50
31	Mango	B	No questions	49.05	55.12	6 07
32	Mango	B	No questions	31.44	41.91	10.47
33	Largo	A	Questions	38.37	47.73	9.36
34	Largo	A	No questions	29.31	67.38	38.07
35	Largo	A	No questions	43.38	65.41	22.03
36	Largo	A	Questions	52 50	51.41	(1.09)
37	Largo	B	No questions	37 94	69.82	31.88
38	Largo	B	No questions	29 65	57.66	28.01
39	Largo	B	Questions	33.35	50.59	17.24
40	Largo	B	Questions	57 78	89.25	31.47
41	Largo	C	No questions	26 63	54.50	27.87
42	Largo	C	Questions	28.75	54.04	25.29
43	Largo	C	No questions	35 13	49.47	14.34
44	Largo	C	Questions	66 67	57.10	(9.57)
45	Largo	D	No questions	40 09	62.05	21.96
46	Largo	D	Questions	47 88	58.63	10 75
47	Largo	D	No questions	55.50	59.63	4 13
48	Largo	D	Questions	45.06	54.22	9 16
49	Port Richey	A	No questions	38.97	78.41	39 44
50	Port Richey	A	Questions	57 13	69 94	12.81

Data Sheet A-3 (page 2 of 3)

Window Clerk Affixes DC Label to Mail Item and Scans Barcode

Obs.	Post office	Clerk	Question procedure	Baseline	DC	Delta
51	Port Richey	A	No questions	46.91	62 03	15.12
52	Port Richey	A	Questions	45 15	78.10	32.95
53	Port Richey	B	Questions	52.50	62.53	10.03
54	Port Richey	B	No questions	66.78	62.34	(4.44)
55	Port Richey	B	Questions	44.28	63.62	19.34
56	Port Richey	B	No questions	43.47	60.63	17.16
57	Port Richey	C	Questions	46.50	52.63	6.13
58	Port Richey	C	No questions	26 75	58.84	32.09
59	Port Richey	C	Questions	84.03	53.09	(30.94)
60	Port Richey	C	No questions	48 76	53.51	4.75
61	New Port Richey	A	Questions	38.62	45.15	6 53
62	New Port Richey	A	No questions	25.12	36.72	11.60
63	New Port Richey	A	Questions	28.43	36.03	7.60
64	New Port Richey	A	No questions	32.37	45.81	13.44
65	New Port Richey	B	No questions	37.15	45.38	8.23
66	New Port Richey	B	Questions	32.09	56.19	24 10
67	New Port Richey	B	No questions	23.19	48.16	24.97
68	New Port Richey	B	Questions	31.75	48.13	16.38
69	New Port Richey	C	No questions	65.06	70.21	5.15
70	New Port Richey	C	Questions	46.25	69.17	22.92
71	New Port Richey	C	No questions	42.72	59.14	16.42
72	New Port Richey	C	Questions	60.91	65 65	4.74
73	Tarpon Springs	A	No questions	30.10	60 25	30.15
74	Tarpon Springs	A	Questions	44.38	55.40	11.02
75	Tarpon Springs	A	No questions	34.93	56 71	21 78
76	Tarpon Springs	A	Questions	36.75	65.84	29.09
77	Tarpon Springs	B	Questions	51.15	54.41	3.26
78	Tarpon Springs	B	Questions	43.22	61 15	17 93
79	Tarpon Springs	B	No questions	37.75	57.69	19.94
80	Tarpon Springs	B	No questions	38.87	60.65	21.78
81	Clearwater	A	Questions	47.16	58.03	10.87
82	Clearwater	A	No questions	57.12	57.12	0.00
83	Clearwater	A	Questions	46.34	77.37	31.03
84	Clearwater	A	No questions	52.75	63 22	10.47
85	Clearwater	B	No questions	29.94	50 60	20.66
86	Clearwater	B	Questions	33.84	52.57	18.73
87	Clearwater	B	No questions	39.93	60 25	20.32
88	Clearwater	B	Questions	25.16	46 35	21.19
89	Sarasota	A	No questions	66.25	47 25	(19.00)
90	Sarasota	A	No questions	39.59	55 07	15.48
91	Sarasota	A	Questions	44.15	61.00	16.85
92	Sarasota	A	Questions	32.69	56.88	24.19
93	Sarasota	B	No questions	50.06	55.19	5.13
94	Sarasota	B	No questions	52.68	70.03	17.35
95	Sarasota	B	Questions	41.47	60.37	18.90
96	Sarasota	B	Questions	50.19	51.56	1 37
97	Sarasota	C	Questions	45.49	51.19	5 70
98	Sarasota	C	No questions	46.93	71.46	24 53
99	Sarasota	C	Questions	47.36	61.41	14.05

Data Sheet A-3 (page 3 of 3)

Window Clerk Affixes DC Label to Mail Item and Scans Barcode

Obs.	Post office	Clerk	Question procedure	Baseline	DC	Delta
100	Sarasota	C	No questions	30.88	71.44	40 56
101	Dade City	A	No questions	37.31	55.22	17.91
102	Dade City	A	Questions	26.44	55.75	29.31
103	Dade City	A	No questions	28.65	49.09	20.44
104	Dade City	A	Questions	26.03	53.78	27.75
105	Dade City	B	No questions	61 19	46.66	(14.53)
106	Dade City	B	No questions	48.72	59.72	11.00
107	Dade City	B	Questions	43.56	68.34	24.78
108	Dade City	B	Questions	60.35	45 50	(14.85)
109	Dundee	A	Questions	67 44	59.22	(8.22)
110	Dundee	A	No questions	37 09	59.59	22 50
111	Dundee	A	No questions	38.13	55.03	16.90
112	Dundee	A	Questions	41.15	72.50	31.35
113	Dundee	B	No questions	31.40	51 14	19.74
114	Dundee	B	No questions	32.94	64.04	31.10
115	Dundee	B	Questions	46.50	57.84	11.34
116	Dundee	B	Questions	39 31	68.16	28.85
117	Lake Wales	A	No questions	61.53	82.56	21.03
118	Lake Wales	A	Questions	84.12	91.85	7.73
119	Lake Wales	A	No questions	73.40	85.50	12.10
120	Lake Wales	A	Questions	76.84	81.84	5.00
121	Lake Wales	B	No questions	60.56	66.72	6.16
122	Lake Wales	B	Questions	74.25	70.13	(4.12)
123	Lake Wales	B	Questions	59.72	63.88	4.16
124	Lake Wales	B	No questions	38.31	57.38	19.07
			Average	43.17	57.49	14.32

Data Sheet A-4

Proportion of Mail Items Undeliverable by Box Section Clerk

Obs.	Post office without parcel lockers	Total mail items	Undelivered mail items
1	Quantico	14	7
2	Haymarket	7	5
3	Ft. Belvoir	3	3
4	Belleview	8	3
5	Warrenton	36	9
6	Dade City	55	24
7	Dade City	100	72
8	Port Tampa	9	3
9	Port Tampa	9	4
10	Port Tampa	11	7
11	Port Tampa	6	2
12	Mango	28	14
13	Mango	35	15
14	Mango	49	26
15	Tarpon Springs	30	15
16	Tarpon Springs	35	17
17	Tarpon Springs	31	15
	Total	466	241
	Undelivered as a proportion of total		51.72%

Obs.	Post office with parcel lockers	Total mail items	Undelivered mail items
1	Purcellville	30	27
2	Marshall	12	1
3	Bailey's Crossroads	9	0
4	Herndon	3	0
5	Chantilly	104	10
6	Reston	0	0
7	Mclean	0	0
8	Manassas	9	9
9	Vienna	17	5
10	Hilldale	99	24
11	Hilldale	46	17
12	Hilldale	75	22
13	New Port Richey	27	0
14	New Port Richey	34	0
15	New Port Richey	28	0
16	Largo	45	2
17	Largo	31	4
18	Largo	29	3
19	Clearwater	19	1
20	Clearwater	8	1
21	Lake Wales	65	14
22	Dundee	25	7
	Total	715	147
	Undelivered as a proportion of total		20.56%

APPENDIX B

SUPPORTING SPREADSHEETS

Input Sheet B-1

Activity Transaction Times

Special study	DC activity measured by special study	Base transaction time (seconds) [1]	Overhead time factor [2]	Transaction time (seconds) [6]	Transaction time (hours) [7]
Scanning	City carrier scans delivered DC mail item barcode	11.82	1.1576 [3]	13.68	0.003801
	Rural carrier scans delivered DC mail item barcode	11.82	1.0000	11.82	0.003283
	Box section clerk scans delivered DC mail item barcode	11.82	1.1988 [4]	14.17	0.003936
	Window clerk scans delivered DC mail item barcode	11.82	1.5403 [5]	18 21	0.005057
	City carrier scans attempted DC mail item barcode	11 82	1.1576 [3]	13.68	0.003801
	Rural carrier scans attempted DC mail item barcode	11.82	1.0000	11.82	0.003283
	Box section clerk scans attempted DC mail item barcode	11.82	1.1988 [4]	14.17	0.003936
Window acceptance	Window clerk affixes DC label to mail item and scans barcode	14 32	1.5403 [5]	22 06	0.006127

Notes

[1] Special studies as discussed in USPS-T-22, Appendix A: Special Studies.

[2] The overhead time factor accounts for those costs that are considered volume variable with respect to the measured transaction time; each overhead time factor is explained separately.

[3] Component 6 2, (Office Support Time-Other Support costs only) and Component 7.5 (Street Support Time) are considered partially volume variable with respect to elemental load time. The overhead time factor is calculated by dividing the sum of BY 1996 accrued costs for a portion of Component 6.2 ($0.3 million) and all of Component 7.5 ($1,559 8 million) by the sum of accrued costs for Segment 6 ($3,710.1 million) and Segment 7 ($7,751.3 million) less the value of the numerator. The result is calculated as follows: ($0.3 + $1,559.8) / ($3,710.1 + $7,751 3 - $0.3 - $1,559.8) = 0.1576. See USPS-LR-H-1, pp. 6—1 to 7—3 for discussion of methodology. See BY 1996 Cost Segments and Components Report, pp 25 to 28 for all Input values.

[4] The box clerk overhead time factor for DC activities is estimated by considering the MODS 44 cost pool, which contains costs for box clerks delivering mail to PO boxes The overhead portion of the MODS 44 cost pool is considered partially volume variable with respect to the total cost pool. The overhead time factor is calculated by dividing overhead costs for the MODS 44 cost pool ($17.24 million) by total MODS 44 costs ($103.94 million) less the value of the overhead cost. The result is calculated as follows: $17.24 / ($103.94 - $17.24) = 0.1988 See USPS-LR-H-146

[5] The overhead and uniform allowance portion of Component 3.2 is considered volume variable with respect to window service activity costs. The overhead time factor is calculated by dividing overhead ($124.04 million) and uniform ($7.83 million) costs by total window service costs ($1,906.62 million) less the sum of the numerator and the lump sum cost ($4.85 million). The result is calculated as follows: ($124.04 + $7.83) / ($1,906.62 - $124.04 -$7.83 - $4.85) = 0.0745. See USPS-T-15, WP B3, W/S 3.2.1, page 2 of 3. The waiting factor must also be considered. The waiting factor is calculated by dividing attributable waiting time costs ($276.53 million) by total attributable costs ($914.39 million) less the numerator. The result is calculated as follows: $276.53 / ($914.39 - $276.53) = 0.4335. See USPS-T-15, WP B3, W/S 3.2.1, page 2 of 3 The overall overhead time factor is the product of these two factors and is calculated as follows: 1.0745 * 1.4335 = 1.5403.

[6] Product of transaction time and overhead time factor

[7] Fully loaded transaction time in seconds divided by 3,600.

Input Sheet B-2

Wage Rates and Piggyback Ratios by Craft

Labor category	Hourly wage rate	Piggyback ratio
Window clerk	$25.550 [1]	1.41855 [3]
Box section clerk	$25 445 [1]	1.36600 [4]
City carrier	$26.083 [2]	1.29571 [5]
Rural carrier	$21.831 [2]	1.19682 [6]

Notes

[1] USPS LR-H-146.
[2] USPS LR-H-12.
[3] USPS LR-H-77.
[4] USPS LR-H-77.
[5] USPS LR-H-77.
[6] USPS LR-H-77

Input Sheet B-3

Operational Information

Input variable	
Delivery days[1]	302
DC mail items undeliverable by carrier[2]	5.00%
Proportion of post office box sections with parcel lockers[3]	27.89%
Proportion of post office box sections without parcel lockers[3]	72.11%
Proportion of DC mail items oversized for post office box sections with parcel lockers[3]	20.56%
Proportion of DC mail items oversized for post office box sections without parcel lockers[3]	51.72%
Weighted average proportion of DC mail items undeliverable by box section clerk[3]	43.03%
DC mail items undeliverable that are firm holdouts[4]	16.67%
Proportion of DC mail items delivered by city carriers[5]	70.09%
Proportion of DC mail items delivered by rural carriers[5]	8.93%
Proportion of DC mail items delivered by box section clerks[5]	9.80%
Proportion of DC mail items that are firm holdouts[5]	11.18%
Total	100.00%

Notes

[1] USPS Fiscal Year 1998 calendar at six delivery days per week less holidays.

[2] Several sources were reviewed in developing this estimate. None provided the precise statistic, which is the proportion of mail items a carrier is required to bring back from the route at the end of the day. The figure presented, 5 percent, represents a reasonable estimate given unavailability of an exact statistic

[3] Based on special study discussed in USPS-T-22, Appendix A. This study surveyed Standard B parcels only, and is used as a proxy for all DC mail items.

[4] Assumed that 5 days per week 100 percent of firm holdouts will be delivered and 1 day per week (Saturday) 0 percent of firm holdouts will be delivered. Formula is: 1 / 6 = 0.1667

[5] USPS LR-H-114 Based on Priority Mail data only.

Input Sheet B-4

Volumes

Part 1: Standard B volume proportions by delivery confirmation service

	Baseline market research volume [1]	Upward adjustment for girth [2]	Downward adjustment for girth [2]	Baseline market research volume adjusted for girth [3]	Additional delivery confirmation volume	Volume adjusted for delivery confirmation [5]	Percent	Electronic acceptance	Manual acceptance
DBMC/ASF	70,170,068	1,489,158	(64,000)	71,595,226	924,981	72,520,207	61.45%	61 45%	0 00%
Intra-BMC	29,615,993	8,675	(4,600)	29,620,068	382,679	30,002,747	25.42%	0 00%	25 42%
Inter-BMC									
Machinable	13,826,527			13,826,527	178,633	14,005,160	11.87%	0 00%	11.87%
Non-machinable	1,372,229	97,632	(200)	1,469,661	18,987	1,488,648	1.26%	0 00%	1.26%
Total	114,984,817	1,595,465	(68,800)	116,511,482	1,505,280 [4]	118,016,762	100 00%	61.45%	38 55%

Part 2: Priority Mail volume proportions by delivery confirmation service

Electronic[7]	10.60%
Manual[7]	89.40%

Part 3: Total volume by delivery confirmation service

Standard B electronic service[6]	4,404,949
Standard B manual service[6]	2,763,505
Priority Mail electronic service[7]	7,047,652
Priority Mail manual service[7]	59,439,632
Total	73,655,738

Notes

[1] USPS LR-H-163, p. 222

[2] USPS LR-H-163, p 223

[3] Baseline market research volume adjusted upward and downward for girth.

[4] USPS LR-H-163, p. 225. Total volume of 1,505,280 distributed to volume categories based on girth adjusted market research volume proportions

[5] Girth adjusted market research volume adjusted for delivery confirmation.

[6] USPS LR-H-163, pp. 8, 93, 157, and 225 Total volume of 7,168,454 distributed to electronic and manual services based on proportions of 61.45 percent and 38.55 percent, respectively.

[7] USPS-T-33 Total volume of 66,487,284 distributed to electronic and manual services based on proportions of 10.6 percent and 89.4 percent, respectively.

Input Sheet B-5

Postmasters Costs

	Priority Mail base	Priority Mail retail surcharge	Standard B electronic	Standard B manual
Postmasters cost per dollar of revenue[1]	$0.0053	$0.0053	$0.0053	$0.0053
Unit revenue	$0.0000	$0.3500 [2]	$0.2500 [3]	$0.6000 [3]
Unit cost[4]	$0.0000	$0.0019	$0.0013	$0.0032

Notes

[1] Developed using Cost and Revenue Analysis methodology. See USPS-T-5, Workpaper B and USPS-LR-H-1, pp. 1—1 to 1—4.

[2] USPS-T-33

[3] USPS-T-40

[4] Product of cost per dollar of revenue and unit revenue.

Input Sheet B-6

Corporate Call Management Costs

Automated attendant	
Toll cost per call[1]	$0.0392
Announcements cost per call (3 menu layers @ $0.039000 per layer)[2]	$0.1170
Total automated attendant cost per call	$0.1562
Interactive voice response unit (IVR)	
Base charge[1]	$0.1887
Transfer eligibility cost[1]	$0.0400
Total IVR cost per call	$0.2287
Call centers	
Corporate call management project attributable costs[3]	$288,576,217
Less automated attendant costs (191,300,000 standard calls @ $0.117200 per call + 6,500,000 Express Mail calls @ $0 195200)[2]	($23,689,160)
Less IVR costs (6,500,000 EM calls @ $0.228700 per call)[1]	($1,486,550)
Corporate call management attributable costs net of automated attendant and IVR costs	$263,400,507
Total customer service agent hours[3]	5,710,608
Fully loaded customer service agent cost per hour	$46 1248
Fully loaded customer service agent cost per minute	$0.7687
Agent talk time per call transferred from IVR (minutes)[1]	2.400
Fully loaded customer service agent cost per call transferred from IVR	$1.8450
Proportion of calls transferred from IVR to customer service agent[1]	20.00%
Fully loaded customer service agent cost per call	$0.3690
Summary of corporate call management costs	
Automated attendant (cost incurred by 100 percent of calls)	$0.1562
Interactive voice response unit (cost incurred by 100 percent of calls)	$0.2287
Customer service agent (cost incurred by 20 percent of calls)	$0.3690
Total unit attributable cost per call	$0 7539
Proportion of delivery confirmation manual service placing call to call center[4]	11.24%
Total unit attributable cost	$0.0847

Notes

[1] USPS Information Systems Department.

[2] Standard calls require two menu layers, Express Mail calls require four. Each layer costs $0.039000 (USPS Information Systems Department) in addition to the toll charge of $0.039200.

[3] Based on information provided by USPS Marketing Department for FY 1999 "full up" corporate call management project budget. Institutional costs subtracted and balance deflated to FY 1998 dollars.

[4] FY 1996 Express Mail call volume of 6.470 million (USPS Information Systems Department) divided by total Express Mail FY 1996 volume of 57 573 million (USPS LR-H-46, p. 1).

Input Sheet B-7

Information Systems Costs

	Priority Mail base	Priority Mail retail surcharge	Standard B electronic	Standard B manual
Data transfer cost per scan[1]	$0 0036	$0 0000	$0.0036	$0.0036
Scans per delivery confirmation parcel[2]	1.1003	1.1003	1.1003	1.1003
Data transfer cost per delivery confirmation parcel[3]	$0.0039	$0.0000	$0 0039	$0.0039
Mailer manifest toll-free line charges[4]	$0.0008	$0.0000	$0.0008	$0.0000
Total information systems unit cost	$0.0047	$0.0000	$0.0047	$0.0039

Notes

[1] USPS Information Systems Department. Based on historical experience with Express Mail

[2] Ratio of DC items delivery scans plus attempted scans to total DC items. See Worksheet B-2: Volumes by Delivery Method.

[3] Product of data transfer cost per scan and scans per delivery confirmation parcel.

[4] Based on information provided by USPS Information Systems Department.

Input Sheet B-8

Supplies Costs

	Priority Mail base	Priority Mail retail surcharge	Standard B electronic	Standard B manual
Delivery confirmation label[1]	0.0000	0.0262	0.0000	0.0262

Note

[1] USPS Marketing Department. Electronic service customers print barcodes on regular address labels provided and prepared by mailer.

Worksheet B-1

Delivery Activities Transaction Times

Activity caused by delivery confirmation service in delivery unit	Transaction time (seconds) [1]	Transaction time (hours) [2]
City carrier scans delivered DC mail item barcode	13.68	0.003801
Rural carrier scans delivered DC mail item barcode	11.82	0.003283
Box section clerk scans delivered DC mail item barcode	14.17	0.003936
Window clerk scans delivered DC mail item barcode	18.21	0.005057
City carrier scans attempted DC mail item barcode	13.68	0.003801
Rural carrier scans attempted DC mail item barcode	11 82	0.003283
Box section clerk scans attempted DC mail item barcode	14.17	0.003936

Notes

[1] Input Sheet B-1: Activity Transaction Times.
[2] Transaction time in seconds divided by 3,600.

Worksheet B-2

Volumes by Delivery Method

Input variable	
Standard B and Priority Mail delivery confirmation volume[1]	73,655,738
Proportion undeliverable by carrier[2]	5.00%
Proportion undeliverable by box section clerk[2]	43.03%
Proportion undeliverable that are firm holdouts[2]	16.67%

Delivery confirmation delivery proportions[3]	*Delivered*	*Attempted*	*Total*
City carrier	66.59%	3.50%	70.09%
Rural carrier	8.48%	0.45%	8.93%
Box section	5.58%	4.22%	9.80%
Firm holdouts	9.32%	1.86%	11.18%
Total	89.97%	10.03%	100.00%

Priority Mail and Standard B DC delivery volumes[4]	*Delivered*	*Attempted*	*Total*
City carrier	49,044,041	2,581,265	51,625,307
Rural carrier	6,248,585	328,873	6,577,457
Box section	4,112,282	3,105,980	7,218,262
Firm holdouts	6,861,985	1,372,726	8,234,712
Total	66,266,893	7,388,845	73,655,738

Notes

[1] Input Sheet B-4: Volumes.

[2] Input Sheet B-3: Operational Information.

[3] City, rural, box, and firm holdout split from Input Sheet B-3: Operational Information; attempted delivery calculated based on functional undeliverable percentages.

[4] Proportions multiplied by volume.

Worksheet B-3

Delivery Activities Transaction Volumes

Activity caused by delivery confirmation service in delivery unit	Methodology for calculating transaction volume	Transactions [1]
City carrier scans delivered DC mail item barcode	City carrier/delivered	49,044,041
Rural carrier scans delivered DC mail item barcode	Rural carrier/delivered	6,248,585
Box section clerk scans delivered DC mail item barcode	Box section/delivered + firm holouts/delivered + firm holdouts/attempted	12,346,993
Window clerk scans delivered DC mail item barcode	City carrier/attempted + rural carrier/attempted + box section/attempted	6,016,119
City carrier scans attempted DC mail item barcode	City carrier/attempted	2,581,265
Rural carrier scans attempted DC mail item barcode	Rural carrier/attempted	328,873
Box section clerk scans attempted DC mail item barcode	Box section/attempted + firm holdouts/attempted	4,478,707

Note

[1] Data from Worksheet B-2: Volumes by Delivery Method.

Worksheet B-4

Delivery Activities Unit Cost

Activity caused by delivery confirmation service in delivery unit	Transactions [1]	Transaction time [2]	Labor category [3]	Wage rate [4]	Piggyback ratio [4]	Total activity cost [5]
City carrier scans delivered DC mail item barcode	49,044,041	0.003801	City carrier	$26.083	1 29571	$6,299,776
Rural carrier scans delivered DC mail item barcode	6,248,585	0.003283	Rural carrier	$21.831	1.19682	$536,042
Box section clerk scans delivered DC mail item barcode	12,346,993	0.003936	Box section clerk	$25.445	1.36600	$1,689,181
Window clerk scans delivered DC mail item barcode	6,016,119	0.005057	Window clerk	$25 550	1.41855	$1,102,738
City carrier scans attempted DC mail item barcode	2,581,265	0.003801	City carrier	$26.083	1 29571	$331,567
Rural carrier scans attempted DC mail item barcode	328,873	0.003283	Rural carrier	$21 831	1.19682	$28,213
Box section clerk scans attempted DC mail item barcode	4,478,707	0 003936	Box section clerk	$25.445	1 36600	$612,728
					Total cost	$10,600,244
					Delivery volume[6]	73,655,738
					Delivery activities unit volume variable cost	$0.1439

Notes

[1] Worksheet B-3 Delivery Activities Transaction Volumes.
[2] Worksheet B-1: Delivery Activities Transaction Times.
[3] Labor categories based on most appropriate category for delivery activity.
[4] Input Sheet B-2: Wage Rates and Piggyback Ratios by Craft
[5] Product of transactions, transaction time, wage rate, and piggyback ratio
[6] Input Sheet B-4: Volumes.

Worksheet B-5

Manual Acceptance Transaction Time

Activity caused by delivery confirmation manual service at retail window	Transaction time (seconds) [1]	Transaction time (hours) [2]
Window clerk affixes DC label to mail item and scans barcode	22 06	0.006127

Notes

[1] Input Sheet B-1. Activity Transaction Times.
[2] Transaction time in seconds divided by 3,600.

Worksheet B-6

Manual Acceptance Transaction Volume

Activity caused by delivery confirmation manual service at retail window	Methodology for calculating transaction volume	Transactions
Window clerk affixes DC label to mail item and scans barcode	Window acceptance volume	62,203,137 [1]

Note

[1] Input Sheet B-4: Volumes Sum of Standard B manual and Priority Mail manual.

Worksheet B-7

Manual Acceptance Unit Cost

Acceptance activity	Transactions [1]	Transaction time [2]	Labor category [3]	Wage rate [4]	Piggyback ratio [4]	Total activity cost [5]
Window clerk affixes DC label to mail item and scans barcode	62,203,137	0 006127	Window clerk	$25.550	1.41855	$13,813,180
					Manual acceptance volume[6]	62,203,137
					Manual acceptance unit volume variable cost	$0.2221

Notes

[1] Worksheet B-6: Manual Acceptance Transaction Volume
[2] Worksheet B-5 Manual Acceptance Transaction Time.
[3] Labor categories based on most appropriate category for acceptance activity.
[4] Input Sheet B-2: Wage Rates and Piggyback Ratios by Craft
[5] Product of transactions, transaction time, wage rate, and piggyback ratio.
[6] Input Sheet B-4: Volumes. Sum of Priority Mail manual service (59,439,378) and Standard B manual service (2,763,505).

Worksheet B-8

Volume Variable Costs Summary

Cost element for delivery confirmation service	Priority Mail base	Priority Mail retail surcharge	Standard B electronic	Standard B manual
Acceptance[1]	$0.0000	$0 2221	$0 0000	$0.2221
Delivery[2]	$0.1439	$0.0000	$0.1439	$0 1439
Postmasters[3]	$0 0000	$0.0019	$0.0013	$0.0032
Corporate call management[4]	$0.0000	$0 0847	$0.0000	$0.0847
Information systems[5]	$0.0047	$0.0000	$0.0047	$0.0039
Supplies[6]	$0.0000	$0.0262	$0.0000	$0.0262
Total unit attributable cost	$0.1486	$0.3349	$0.1499	$0 4840

Notes

[1] No cost for Priority Mail base and Standard B electronic service. Manual service cost from Worksheet B-7. Manual Acceptance Unit Cost.
[2] Worksheet B-4: Delivery Activities Unit Cost.
[3] Input Sheet B-5: Postmasters Costs.
[4] Input Sheet B-6: Corporate Call Management Costs.
[5] Input Sheet B-7. Information Systems Costs.
[6] Input Sheet B-8: Supplies Costs.

APPENDIX C

DISTRIBUTION KEY FOR SCANNER RELATED CAPITAL AND PROGRAM COSTS

Worksheet C-1

Scanning Infrastructure Capital and Program Costs

(in thousands)

Capital costs	Test year costs [1]	Attribution of costs	Volume variable with respect to delivery confirmation	Distribution of costs
Information systems	$14,886.4	Not volume variable	$0.0	No attributable costs to distribute
Carrier scanners	$42,430.0	Variable with overall carrier cost system (CS 6, 7, and 10)	$42,430.0	Overall carrier cost system (CS 6, 7, and 10)
Box section scanners	$6,751.1	Not volume variable	$0 0	No attributable costs to distribute
Support for carrier scanners	$161 3	Variable with overall carrier cost system (CS 6, 7, and 10)	$161.3	Overall carrier cost system (CS 6, 7, and 10)
Support for box section scanners	$25.7	Not volume variable	$0.0	No attributable costs to distribute
Miscellaneous	$1,058 7	Not volume variable	$0.0	No attributable costs to distribute
Total capital costs	$65,313.2		$42,591.3	

Program costs	Test year costs [1]	Attribution of costs	Volume variable with respect to delivery confirmation	Distribution of costs
Information systems	$64,723.5	Not volume variable	$0.0	No attributable costs to distribute
Carrier scanner suppport and maintenance	$9,259 7	Variable with overall carrier cost system (CS 6, 7, and 10)	$9,259.7	Overall carrier cost system (CS 6, 7, and 10)
Box section scanner support and maintenance	$1,473.3	Not volume variable	$0.0	No attributable costs to distribute
Call center development	$183.2	Not volume variable	$0.0	No attributable costs to distribute
Training	$22,032 9	Not volume variable	$0.0	No attributable costs to distribute
Miscellaneous	$22,558.0	Not volume variable	$0.0	No attributable costs to distribute
Total program costs	$120,230 6		$9,259.7	

Total capital and program costs	$185,543.8		$51,851.0	

Notes

[1] USPS Marketing Department.

Worksheet C-2 (page 1 of 2)

Distribution Key for Volume Variable Scanning Infrastructure Capital and Program Costs

(in thousands)

Rate category	CS 6 & 7 [1]	CS 10 [1]	Total CS 6, 7, & 10	Distribution key	Distributed amount
First-Class Mail:					
Letters & parcels	1,873,760	296,468	2,170,228	14.63%	$7,583.5
Presort ltr & parcel	1,018,479	263,567	1,282,046	8.64%	$4,479.9
Single piece cards	89,369	19,248	108,617	0.73%	$379.5
Presort prvt p cs	36,403	11,053	47,456	0.32%	$165.8
Total First	3,018,011	590,336	3,608,347	24.32%	$12,608 8
Priority Mail	107,436	12,979	120,415	0.81%	$420.8
Express Mail	21,374	4,729	26,103	0.18%	$91.2
Mailgrams	166	11	177	0 00%	$0.6
Second-class mail.					
Within county:	23,499	13,610	37,109	0.25%	$129.7
Outside county:					
Reg rate pub	223,671	108,288	331,959	2.24%	$1,160 0
Nonprofit pub	59,624	34,191	93,815	0 63%	$327.8
Classroom pub	1,856	913	2,769	0.02%	$9.7
Total Second	308,650	157,002	465,652	3.14%	$1,627.1
				0 00%	
Third-class mail:					
Single piece rate	25,799	1,149	26,948	0 18%	$94 2
Bulk rate-reg					
Car presort	716,279	259,640	975,919	6.58%	$3,410.2
Other	809,641	304,392	1,114,033	7.51%	$3,892.8
Total regular	1,525,920	564,032	2,089,952	14.08%	$7,303.0
Bulk rate- nonprof					
Car presort	46,962	13,834	60,796	0.41%	$212.4
Other	191,940	70,010	261,950	1 77%	$915.3
Total nonprof	238,902	83,844	322,746	2.18%	$1,127 8
Total Third	1,790,621	649,025	2,439,646	16.44%	$8,525 0

Workheet C-2 (page 2 of 2)

Distribution Key for Volume Variable Scanning Infrastructure Capital and Program Costs

(in thousands)

Rate category	CS 6 & 7	CS 10	Total CS 6, 7, & 10	Distribution key	Distributed amount
Fourth-class mail:					
Parcel zone rate	42,935	9,804	52,739	0.36%	$184.3
Bound prnt matter	51,222	10,381	61,603	0.42%	$215.3
Spc 4th-cl rate	27,690	5,199	32,889	0.22%	$114.9
Library rate	4,585	1,243	5,828	0.04%	$20.4
Total Fourth	126,432	26,627	153,059	1.03%	$534.8
US Postal Service	13,403	1,537	14,940	0.10%	$52.2
Free mail	3,222	671	3,893	0.03%	$13.6
International mail	23,043	2,585	25,628	0.17%	$89.6
Total All Mail	5,412,358	1,445,502	6,857,860	46 22%	$23,963.7
Special services:					
Registry	7,042	2,335	9,377	0.06%	$32.8
Certified	93,596	54,058	147,654	1.00%	$516.0
Insurance	2,581	2,738	5,319	0.04%	$18.6
COD	2,799	3,874	6,673	0.04%	$23.3
Special delivery	644	219	863	0.01%	$3.0
Money orders	0	1,233	1,233	0 01%	$4.3
Stamped envelopes	0	0	0	0 00%	$0 0
Special handling	0	0	0	0.00%	$0.0
Post office box	329	0	329	0.00%	$1.1
Other	7,971	26	7,997	0.05%	$27.9
Total Spc Svcs	114,962	64,483	179,445	1.21%	$627.0
Attributable	5,527,320	1,509,985	7,037,305	47.43%	$24,590.8
Other	5,934,155	1,867,077	7,801,232	52.57%	$27,260.2
Total Costs	11,461,475	3,377,062	14,838,537	100.00%	$51,851.0

Notes

[1] See USPS-T-5, Workpaper B.