Postal Rate Commission
Submitted 4/8/2005 10:56 am
Filing ID: 43411
Accepted 4/8/2005

USPS-T-3

BEFORE THE
POSTAL RATE COMMISSION
WASHINGTON, D.C. 20268-0001

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

DIRECT TESTIMONY OF
HERBERT B. HUNTER, III
ON BEHALF OF THE
UNITED STATES POSTAL SERVICE

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ASSOCIATED LIBRARY REFERENCES

USPS-LR-K-27/R2005-1	TRACS-Commercial Air Subsystem / Statistical and Computer Documentation (Source Code and Data on CD-ROM)
USPS-LR-K-28/R2005-1	TRACS-Passenger Rail (Amtrak) Subsystem / Statistical and Computer Documentation (Source Code and Data on CD-ROM)
USPS-LR-K-29/R2005-1	TRACS-Network Air Subsystem / Statistical and Computer Documentation (Source Code and Data on CD-ROM)
USPS-LR-K-30/R2005-1	TRACS-Highway Subsystem / Statistical and Computer Documentation (Source Code and Data on CD-ROM)
USPS-LR-K-31/R2005-1	TRACS-Freight Rail Subsystem / Statistical and Computer Documentation (Source Code and Data on CD-ROM)
USPS-LR-K-32/R2005-1	TRACS-CODES Computer System Documentation and Source Code (w/CD-ROM)

DIRECT TESTIMONY
OF
HERBERT B. HUNTER, III

AUTOBIOGRAPHICAL SKETCH

My name is Herbert B. Hunter, III. I am a Mathematical Statistician in Revenue and Cost Systems, Finance at the Postal Service headquarters in Washington, D.C. I began my career with the Postal Service in 1972 and have held positions in Revenue and Cost Systems since 1983.

In my present position, and in my previous positions as Operations Research Analyst and Senior Mathematical Statistician in the Office of Revenue and Cost Systems, I have worked on the design and development of statistical surveys and related issues, and have had oversight responsibility for improving existing data collection systems used by the Postal Service to produce ongoing estimates of revenue, mail volume, costs, and service performance. I have been the project manager for the Transportation Cost System (TRACS) since May 2004, and have appeared as a witness on behalf of the Postal Service in Docket Nos. R2001-1, R2000-1, and MC96-2. I have provided technical support to the Postal Service on rollforward costs, and revenue and mail volumes, in Docket Nos. R97-1, R94-1, R90-1, R87-1, and R84-1.

I received a B.S. in mathematics from George Mason University in Virginia in 1984 and have completed additional graduate courses in applied statistics at George

Mason University and George Washington University in Washington, D.C. I am a member of the American Statistical Association.

PURPOSE AND SCOPE

The purpose of my testimony is to describe the Transportation Cost System (TRACS), which is a statistical information system used by the Postal Service to distribute Base Year (BY) purchased transportation costs to individual mail categories. TRACS is comprised of five independent subsystems: Highway, Freight Rail, Passenger Rail, Commercial Air, and Network Air. These five subsystems are continuous ongoing surveys, each with its own survey design and estimation methodology. My testimony covers the general design of each TRACS subsystem used by the Postal Service to develop estimates of total costs by major mail category for BY 2004. The BY 2004 cost estimates along with confidence interval estimates are shown in Tables 1-9 of my testimony.

My testimony relies on no input data from other witnesses. TRACS data are provided to the Base Year Costs witness Meehan (USPS-T-9) and the Transportation Costs witness Nash (USPS-T-17).

I. HIGHWAY

The TRACS-Highway subsystem produces separate distribution key estimates for four types of purchased highway contracts: Inter-BMC[1], Intra-BMC, Inter-SCF[2], and Intra-SCF. The costs for each contract type are derived from one or more accounts. The universe under study is all mail whose contract costs accrue to the following highway accounts:

Inter-BMC: Account Number 53131 (regular Inter-BMC);

Intra-BMC: Account Number 53127 (regular Intra-BMC);

Inter-SCF: Account Numbers 53124 (regular Inter-SCF), 53609 (regular inter-P&DC), 53614 (regular inter-cluster), and 53618 (regular inter-area);

Intra-SCF: Account Numbers 53121 (regular intra-SCF), 53601 (regular intra-P&DC), and 53605 (regular intra-district).

The primary sampling unit (PSU) for all four contract types is the route-trip-stop-day, which is defined as all mail unloaded from a truck at one facility on a specific trip, on a specific day. The survey design is essentially the same for all contract types, though each has its own sampling frame. Each highway sampling frame is a list of stop-days[3]. There are three major steps involved in constructing the sampling frames. In the first step, routing and operational information is extracted

[1] Bulk Mail Center.
[2] Sectional Center Facility.
[3] Abbreviated name for route-trip-stop-days.

from the National Air and Surface System (NASS)[4] for all highway contract routes that are expected to be in operation in the upcoming quarter. The information extracted from NASS includes the route number, the trip number, the facilities where the vehicle stops, and the days of a week when the trip operates. In the second step, account information is extracted from the Highway Pay Master File[5] for the same contract routes. The account information is used to group the contracts into the four contract types. In the third and final step, the ZIP Code and facility type are extracted from the NASS Facility File[6] for each stop on a route. The facility information is used for stratifying the sampling frame, as well as for administering the survey.

The sample design consists of three stages. In the first stage, within each contract type, the stop-days are stratified based on the type of stop facility and whether the trip is inbound or outbound. A systematic random sample of stop-days is selected from each stratum. In the second stage, for each selected stop-day, a subsample of wheeled containers, pallets and loose items[7] off-loaded at the test facility is selected. From selected containers, a third stage sample of items is selected. For pallets and loose items selected at the second stage, there is no third stage sample. All selected mail is recorded.

Weight and volume information for each mail category is recorded for the contents of sampled items. For sampled pallets, the dimensions of the pallet and the

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[4] See Section III and Appendix I-1 of TRACS Highway Subsystem Statistical and Computer Documentation, filed as USPS-LR-K-30, for additional details regarding NASS.
[5] See Section III and Appendix I-2 of TRACS Highway Subsystem Statistical and Computer Documentation, filed as USPS-LR-K-30, for additional details regarding the Pay Master File.
[6] See Section III and Appendix I-3 of TRACS Highway Subsystem Statistical and Computer Documentation, filed as USPS-LR-K-30, for additional details regarding NASS Facility File.
[7] Items include pieces, parcels, bundles, sacks, trays, or tubs. Items that are not in wheeled containers or on pallets are called loose items.

proportion of the pallet's space occupied by each mail category are recorded. For developing estimates of cubic-foot-miles, data collectors also record the facility where the item, or the pallet, was loaded onto the vehicle (to establish miles traveled), and the percentage of vehicle floor space occupied by palletized mail, containerized items, and loose items (to establish cubic-feet utilized). Data are recorded directly into portable microcomputers using the Computerized On-Site Data Entry System (CODES) software. From the sample data, the cubic-foot-miles for each contract type are estimated by mail category.

Distribution key estimates are calculated by dividing the total cubic-foot-miles for each mail category by the total cubic-foot-miles. Separate distribution keys calculated for each quarter, for each of the four contract types, are used to distribute quarterly costs by contract type. Estimated annual costs, shown in Tables 1-4, are the sums of the quarterly costs. The estimated confidence intervals for annual costs, also shown in Tables 1-4, are derived from the estimated coefficients of variation (CVs) of the quarterly distribution keys.

A more detailed description of the TRACS-Highway sample design and estimation methodology is contained in Sections I-VII of Library Reference USPS-LR-K-30, TRACS Highway Subsystem Statistical and Computer Documentation. TRACS data collection procedures are detailed further in Chapter 5 of Handbook F-65, filed as Library Reference USPS-LR-K-21, with supplemental instructions in Library Reference USPS-LR-K-23, Supplemental Statistical Programs Policies and Data Collection Instructions. The CODES software, used on laptop computers to record the data, is documented in Section 1 of Library Reference USPS-LR-K-32.

II. FREIGHT RAIL

The TRACS-Freight Rail subsystem produces distribution key estimates for the Inter-BMC freight rail account (53143). The universe under study is all mail whose freight rail costs accrue to this account. The PSU for the freight rail subsystem is the origin-destination-day, which is defined as all mail being transported from a given origin BMC to a given destination on a given day. While highway transportation is contracted by route, with one route consisting of multiple trips and stops, freight rail is contracted between one origin and one destination. A trip between the origin and the destination facility is referred to as a rail movement.

The freight rail sampling frame is a list of all origin-destination-days (PSUs) for which the destination BMC is not a mail bag depository or mailer's plant, and for which the movement is not used exclusively for empty equipment. The freight rail sampling frame is developed using 12 weeks of historical records from the Rail Management Information System (RMIS).[8] The information extracted from RMIS includes the origin BMC, the destination facility, the date of arrival, the number of tractor trailer vans on the movement, and the cost of the movement.

The sample design consists of four stages. In the first stage, a random sample of origin-destination-days is selected from the sampling frame. In the second stage, one van is randomly selected from the vans in the selected PSU. In the third stage, a subsample of wheeled containers, pallets and loose items off-loaded from the test van is selected. From selected containers, a fourth stage sample of items is selected. For pallets and loose items selected at the third stage, there is no fourth

stage sample. All selected mail is recorded. The freight rail sample design at the third and fourth stages is the same as the highway sample design at the second and third stages.

Weight and volume information by rate category is recorded for the contents of sampled items. For sampled pallets, the dimensions of the pallet and the proportion of the pallet's space occupied by each mail category are recorded. Data collectors also record the percentage of van floor space occupied by palletized mail, containerized items, and loose items. Data are recorded directly into portable microcomputers using CODES software.

The sample data are expanded by mail category to the cubic-foot-miles of the test van. The cost for the trip is multiplied by the cubic-foot-mile proportions to estimate mail category costs for the trip. The costs for tested trips are then expanded to represent all trips in the quarter.

Distribution key estimates are calculated by dividing the expanded costs for a mail category by the total expanded costs. Separate distribution keys calculated for each quarter are used to distribute quarterly costs. Estimated annual costs, shown in Table 5, are the sums of the quarterly costs. The estimated confidence intervals for the annual costs, also shown in Table 5, are derived from the estimated CVs of the quarterly distribution keys.

A more detailed description of the TRACS-Rail sample design and estimation methodology is contained in Sections I-VII of Library Reference USPS-LR-K-31, TRACS Freight Rail Subsystem Statistical and Computer Documentation. TRACS

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[8] See Section III-1 and Appendix I-2 of TRACS Freight Rail Subsystem Statistical and Computer

data collection procedures are detailed further in Chapter 6 of Handbook F-65, filed as Library Reference USPS-LR-K-21, with supplemental instructions in Library Reference USPS-LR-K-23, Supplemental Statistical Programs Policies and Data Collection Instructions. The CODES software, used on laptop computers to record the data, is documented in Section 1 of Library Reference USPS-LR-K-32.

III. PASSENGER RAIL (AMTRAK)

The TRACS-Amtrak subsystem produces distribution key estimates for the passenger rail service account: 53142. The universe under study is all mail transported via Amtrak trains (includes Roadrailers) whose costs accrue to this account. Each Amtrak train makes multiple trips a week along the same route from a specific origin, stopping at various points en route, to a final destination.

The PSU is a trip, which consists of all mail unloaded from an Amtrak train at all the stops along the specific trip. A trip is uniquely determined by its train number and the day the train departs. A trip can extend over more than one calendar date. The sampling frame is a list of trips. It is developed by extracting routing and operations information for all Amtrak trains from the planned mail dispatch movement file and merging it with data from the Amtrak train footage summary file. The information obtained includes the train number, the frequency (days of a week when the train departs), the origin, cities at which it stops, and the arrival time for each stop. Facility specific information is appended from the NASS file.

The sample design consists of four stages. At the first stage, mail is stratified by train, and two trips are randomly selected within each stratum (train). All stops on

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Documentation, filed as USPS-LR-K-31, for additional details regarding RMIS.

the selected trip where mail is planned to be unloaded are sampled. At the second stage, one car is randomly selected from all cars offloading mail at each stop of the sampled trip. At the third stage, a subsample of wheeled containers and pallets is selected from the selected car's off-loaded mail. From selected containers, a fourth stage sample of items is selected. There is no fourth stage sample for pallets selected at the third stage. All selected mail items are recorded. The Amtrak sample design at the third and fourth stages is the same as the Highway sample design at the second and third stages, except for the sampling of loose items at the second stage of Highway sampling.

Weight and volume information by rate category is recorded for the contents of the sampled items. For sampled pallets, the dimensions of the pallet and the proportion of the pallet's space occupied by each mail category are recorded. To permit estimation of square-foot-miles, data collectors also record the facility where the item or pallet was loaded onto the train (to establish the miles traveled), and the total number of containers off-loaded from the entire train (to establish the square-feet utilized). Data are recorded directly into portable microcomputers using CODES software.

The sample data are expanded by mail category to the square-foot-miles of the sampled trip. Mail category proportions of square-foot-miles are calculated for each sampled trip, weighted by the trip cost, and then summed across trips to estimate mail category proportions for the train. The weighted mail category proportion is multiplied by the train cost to estimate the mail category cost for the

train. The train cost is calculated by summing the costs of all trips contracted in the quarter.

Distribution key estimates are calculated by dividing the sum of the costs for all trains for each mail category, by the total of all mail category costs for all trains. Separate distribution key estimates calculated each quarter are used to distribute the quarterly costs. Estimated annual costs, shown in Table 6, are the sums of the quarterly costs. The estimated confidence intervals for the estimated annual costs, also shown in Table 6, are derived from the estimated CVs of the quarterly costs.

A more detailed description of the TRACS-Amtrak sample design and estimation methodology is contained in Sections I-VII of Library Reference USPS-LR-K-28, TRACS Passenger Rail (Amtrak) Subsystem Statistical and Computer Documentation. TRACS data collection procedures are detailed further in Chapter 7 of Handbook F-65, filed as Library Reference USPS-LR-K-21, with supplemental instructions in Library Reference USPS-LR-K-23, Supplemental Statistical Programs Policies and Data Collection Instructions. The CODES software, used on laptop computers to record the data, is documented in Section 1 of Library Reference USPS-LR-K-32.

IV. COMMERCIAL AIR

The TRACS-Commercial Air subsystem produces distribution key estimates for commercial air transportation cost accounts. The universe under study is all mail transported under purchased transportation contracts on passenger airlines from a domestic origin to a domestic destination. It does not include mail transported by air taxi or via Alaska, Hawaii, HASP, Christmas, or Network Air services. The PSU is a flight-day, and is defined as all mail dispatched from the specified origin on a given day via a particular airline and flight with the same first-leg destination reflected on the routing label or dispatch and routing (D&R) tag. The sampling frame is constructed by extracting recent dispatch records from the Plan vs. Actual (PVA) file.[9] The PVA file maintains historical routing information (carrier, origin, destination, and date of the flight) about an individual dispatch, and specifies the gross weight and predominant mail class for all items in the dispatch.

The sample design consists of two stages. In the first stage, a stratified random sample of flight-days is selected from the sampling frame. In the second stage, for each selected flight-day, a subsample of mail items dispatched for that flight is selected for detailed sampling.

Dispatch information is recorded for each selected item. Weight and volume information is then recorded by mail category for the contents of the selected items. The dispatch information is used in the expansion process to link the sample data with dispatch records in the PVA file. TRACS sample data are recorded directly into a portable microcomputer using CODES software.

The sample data are expanded by rate category and primary mail class (as indicated on the tag affixed to a mail item) to the pound-miles of mail for the test flight and then to the total pound-miles of mail for each stratum for the quarter. PVA records are used to determine the pound-miles of mail for the test flight, as well as the total pound-miles of mail for the quarter for each primary mail class. The expanded pound-miles for a mail category are obtained by adding fully expanded pound-miles across all primary mail classes.

Distribution key estimates are calculated by dividing the expanded pound-miles for a mail category by the total expanded pound-miles. Separate distribution keys calculated for each quarter are used to distribute quarterly costs. Estimated annual costs, shown in Table 7, are the sums of the quarterly costs. The estimated confidence intervals for annual costs, also shown in Table 7, are derived from the estimated CVs of the quarterly costs.

A more detailed description of the TRACS-Air sample design and estimation methodology is contained in Sections I-VIII of Library Reference USPS-LR-K-27, TRACS Commercial Air Subsystem Statistical and Computer Documentation. TRACS data collection procedures are detailed further in Chapter 8 of Handbook F-65, filed as Library Reference USPS-LR-K-21, with supplemental instructions in Library Reference USPS-LR-K-23, Supplemental Statistical Programs Policies and Data Collection Instructions. The CODES software, used on laptop computers to record the data, is documented in Section 1 of Library Reference USPS-LR-K-32.

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[9] See Section III and Appendix I-A of TRACS Commercial Air Subsystem Statistical and Computer Documentation, filed as USPS-LR-K-27, for additional details regarding the PVA file.

V. NETWORK AIR

There are two major air networks: Network Air Day Turn, and Network Air Night Turn. The day turn network operates six days per week, while the night turn network operates five days per week. Both networks are serviced by Federal Express (FedEx) through its main hub located in Memphis, Tennessee.

The TRACS-Network Air subsystem is a continuous, ongoing statistical sampling system comprised of two subsystems: the Network Air Day Turn subsystem, and the Network Air Night Turn subsystem. These two subsystems are designed to produce distribution key estimates for network air transportation cost accounts. Two distribution keys are produced: one based on cubic-feet for the day turn subsystem, and the other based on pounds for the night turn subsystem.

The universe under study for the TRACS-Network Air subsystem is all mail moved on the day turn and night turn networks. It does not include mail transported on commercial airlines or by air taxi, or via Alaska, Hawaii, HASP, or Christmas Network services. The sample design, data collection procedures and estimation methodology for both subsystems are similar, except for the inclusion of a density factor developed to convert estimated pounds of mail to estimated cubic-feet of mail in the day turn subsystem.

The PSU is a scanner-day which is defined as all mail that is scanned at a particular scanner on a specific day during the quarter, and which travels on the same first-leg network flight to the hub, where it is then placed on another network flight leaving the hub. The sampling frame for each subsystem is a list of scanner-days which is constructed by extracting a recent history of each network's flight data

from a postal administrative database called the Transaction Concentrator Log (TCLOG).

The sample design consists of two stages: at the first stage, the PSUs are grouped into two sampling strata and a random sample of scanner-days is selected; at the second stage, for each selected scanner-day, a subsample of mail items transported by the network to the hub is selected for detailed sampling.

Routing information for the network flight, including the origin and destination cities, and the dispatch date and time, is recorded for each selected mail item. Weight and volume information by mail category is then recorded for the contents of each selected item. The routing information is used in the expansion process to link the sample data with records in the TCLOG file. TRACS sample data are recorded directly into a portable microcomputer using CODES software.

The sample pounds of mail for each mail category are expanded to the total pounds of mail of the origin-airport for the test day, and then to the total pounds of mail of the origin-airport for the quarter, by primary mail class group, for each subsystem. A final expansion is made to the population control total pounds of mail for primary mail class group and sampling stratum combination, for each subsystem. TCLOG records are used to determine the total pounds of mail for the expansion process. For the day turn subsystem, primary mail class density factors are developed using day turn cubic-feet and weight information obtained from a postal operations database named the Enterprise Data Warehouse (EDW). The density factors are applied to the expanded pounds by primary mail class to obtain expanded cubic-feet. The final expanded pounds and cubic-feet totals for the night turn and

day turn subsystems, respectively, are obtained for each mail category by adding the fully expanded pounds, or cubic-feet, across the primary mail classes.

Distribution key estimates for each subsystem are calculated by dividing the total expanded pounds or cubic-feet for each mail category by the total expanded pounds or cubic-feet. Separate distribution keys for each subsystem are used each postal quarter to distribute volume variable costs to mail categories. Estimated annual cost totals, shown in Tables 8-9, are obtained by summing the estimated cost totals across quarters. The estimated confidence intervals for the estimated annual costs (also shown in Tables 8-9) are derived from the estimated CVs of the quarterly costs.

A more detailed description of the TRACS-Network Air sample design and estimation methodology is found in Sections I-VII of Library Reference USPS-LR-K-29, TRACS Network Air Subsystem Statistical and Computer Documentation. TRACS data collection procedures are detailed in Chapter 8 of Handbook F-65, filed as Library Reference USPS-LR-K-21, with supplemental instructions in Library Reference USPS-LR-K-23, Supplemental Statistical Programs Policies and Data Collection Instructions. The CODES software, used on laptop computers to record the sample data, is documented in Section 1 of Library Reference USPS-LR-K-32.

APPENDIX

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Table 5. BY04 Freight Rail Estimated Costs and Confidence Intervals

Table 6. BY04 Passenger Rail (Amtrak) Estimated Costs and Confidence Intervals

Table 7. BY04 Commercial Air Estimated Costs and Confidence Intervals

Table 8. BY04 Network Air Day Turn Estimated Costs and Confidence Intervals

Table 9. BY04 Network Air Night Turn Estimated Costs and Confidence Intervals

Table 1. BY04 Inter-BMC Highway Estimated Costs and Confidence Intervals

Mail Category	CV	Lower 95% C.L. ($1,000)	Cost ($1,000)	Upper 95% C.L. ($1,000)
1C Single-Piece Letters	0.111	7,288	9,316	11,343
1C Presort Letters	0.150	3,936	5,568	7,199
1C Single-Piece Cards	0.614	-	248	547
1C Presort Cards	0.322	22	59	97
Priority Mail	0.118	7,227	9,411	11,595
Express Mail	0.345	39	121	203
Periodicals	0.063	29,460	33,582	37,704
Standard Mail ECR	0.099	10,284	12,759	15,234
Standard Mail Regular	0.043	70,631	77,185	83,740
Parcel Post	0.046	80,160	88,110	96,059
Bound Printed Matter	0.081	10,629	12,637	14,644
Media Mail	0.046	31,821	34,998	38,175
US Postal Service	0.202	939	1,555	2,170
Free Mail	0.280	443	982	1,521
International Mail	0.204	3,820	6,361	8,903
Total			292,891	

Table 2. BY04 Intra-BMC Highway Estimated Costs and Confidence Intervals

Mail Category	CV	Lower 95% C.L. ($1,000)	Cost ($1,000)	Upper 95% C.L. ($1,000)
1C Single-Piece Letters	0.100	9,514	11,824	14,133
1C Presort Letters	0.127	3,687	4,910	6,134
1C Single-Piece Cards	0.357	35	117	200
1C Presort Cards	0.448	12	98	184
Priority Mail	0.108	15,168	19,258	23,349
Express Mail	0.287	472	1,082	1,691
Periodicals	0.089	18,256	22,111	25,965
Standard Mail ECR	0.117	11,661	15,131	18,600
Standard Mail Regular	0.056	66,828	75,129	83,430
Parcel Post	0.053	84,515	94,263	104,012
Bound Printed Matter	0.077	15,075	17,738	20,400
Media Mail	0.074	21,226	24,804	28,382
US Postal Service	0.260	442	900	1,358
Free Mail	0.312	196	505	813
International Mail	0.272	1,204	2,578	3,952
International Mail	0.204	3,820	6,361	8,903
Total			290,447	

Table 3. BY04 Inter-SCF Highway Estimated Costs and Confidence Intervals

Mail Category	CV	Lower 95% C.L. ($1,000)	Cost ($1,000)	Upper 95% C.L. ($1,000)
1C Single-Piece Letters	0.057	138,996	156,599	174,203
1C Presort Letters	0.110	78,780	100,308	121,837
1C Single-Piece Cards	0.161	941	1,373	1,806
1C Presort Cards	0.348	802	2,526	4,249
Priority Mail	0.069	129,863	150,013	170,163
Express Mail	0.238	2,695	5,049	7,402
Periodicals	0.125	45,363	60,094	74,824
Standard Mail ECR	0.221	3,276	5,789	8,302
Standard Mail Regular	0.105	35,013	44,082	53,151
Parcel Post	0.148	21,983	30,942	39,901
Bound Printed Matter	0.167	2,823	4,202	5,580
Media Mail	0.167	5,557	8,252	10,947
US Postal Service	0.267	991	2,077	3,164
Free Mail	0.277	648	1,417	2,187
International Mail	0.321	5,912	15,952	25,992
Total			588,675	

Table 4. BY04 Intra-SCF Highway Estimated Costs and Confidence Intervals

Mail Category	CV	Lower 95% C.L. ($1,000)	Cost ($1,000)	Upper 95% C.L. ($1,000)
1C Single-Piece Letters	0.048	106,691	117,884	129,076
1C Presort Letters	0.076	34,959	41,088	47,218
1C Single-Piece Cards	0.104	1,427	1,794	2,161
1C Presort Cards	0.136	1,034	1,408	1,782
Priority Mail	0.047	144,120	158,614	173,107
Express Mail	0.167	7,096	10,561	14,025
Periodicals	0.055	60,240	67,553	74,867
Standard Mail ECR	0.117	25,080	32,571	40,062
Standard Mail Regular	0.056	77,121	86,600	96,079
Parcel Post	0.076	59,981	70,420	80,860
Bound Printed Matter	0.117	15,418	19,983	24,548
Media Mail	0.119	12,166	15,867	19,568
US Postal Service	0.136	3,185	4,342	5,498
Free Mail	0.299	647	1,563	2,479
International Mail	0.206	5,901	9,901	13,900
Total			640,148	

Table 5. BY04 Freight Rail Estimated Costs and Confidence Intervals

Mail Category	CV	Lower 95% C.L. ($1,000)	Cost ($1,000)	Upper 95% C.L. ($1,000)
1C Single-Piece Letters	0.310	100	254	408
1C Presort Letters	0.494	3	88	172
1C Single-Piece Cards	-	-	-	-
1C Presort Cards	0.993	-	12	35
Priority Mail	0.247	270	524	777
Express Mail	-	-	-	-
Periodicals	0.089	5,455	6,606	7,757
Standard Mail ECR	0.125	3,351	4,442	5,534
Standard Mail Regular	0.030	30,590	32,533	34,476
Parcel Post	0.032	22,077	23,561	25,045
Bound Printed Matter	0.097	2,935	3,623	4,311
Media Mail	0.049	12,627	13,958	15,289
US Postal Service	0.350	45	142	239
Free Mail	0.439	40	285	531
International Mail	0.177	1,726	2,641	3,555
Total			88,668	

Table 6. BY04 Passenger Rail (Amtrak) Estimated Costs and Confidence Intervals

Mail Category	CV	Lower 95% C.L. ($1,000)	Cost ($1,000)	Upper 95% C.L. ($1,000)
1C Single-Piece Letters	0.129	828	1,107	1,386
1C Presort Letters	0.159	1,832	2,662	3,492
1C Single-Piece Cards	0.561	-	52	109
1C Presort Cards	0.601	-	23	49
Priority Mail	0.292	201	470	738
Express Mail	-	-	-	-
Periodicals	0.027	18,312	19,349	20,387
Standard Mail ECR	0.294	113	267	421
Standard Mail Regular	0.139	762	1,047	1,332
Parcel Post	0.240	163	308	453
Bound Printed Matter	0.461	27	287	546
Media Mail	0.241	53	100	147
US Postal Service	0.705	-	77	183
Free Mail	0.494	6	209	412
International Mail	0.464	9	99	190
Total			26,057	

Table 7. BY04 Commercial Air Estimated Costs and Confidence Intervals

Mail Category	CV	Lower 95% C.L. ($1,000)	Cost ($1,000)	Upper 95% C.L. ($1,000)
1C Single-Piece Letters	0.082	93,495	111,413	129,332
1C Presort Letters	0.070	105,756	122,636	139,517
1C Single-Piece Cards	0.153	331	473	615
1C Presort Cards	0.233	983	1,811	2,639
Priority Mail	0.134	21,832	29,572	37,312
Express Mail	0.138	2,844	3,898	4,952
Periodicals	0.179	3,542	5,451	7,359
Standard Mail ECR	0.232	605	1,109	1,613
Standard Mail Regular	0.137	3,046	4,159	5,272
Parcel Post	0.533	-	485	992
Bound Printed Matter	0.282	279	626	972
Media Mail	0.184	341	534	726
US Postal Service	1.918	-	1,146	5,452
Free Mail	0.362	58	198	339
International Mail	0.133	8,312	11,246	14,180
Total			294,757	

Table 8. BY04 Network Air Day Turn Estimated Costs and Confidence Intervals

Mail Category	CV	Lower 95% C.L. ($1,000)	Cost ($1,000)	Upper 95% C.L. ($1,000)
1C Single-Piece Letters	0.022	111,887	116,877	121,867
1C Presort Letters	0.022	83,265	87,100	90,934
1C Single-Piece Cards	0.105	454	572	689
1C Presort Cards	0.179	1,165	1,795	2,426
Priority Mail	0.004	662,484	667,926	673,368
Express Mail	0.222	1,996	3,534	5,072
Periodicals	0.088	6,260	7,570	8,880
Standard Mail ECR	0.242	635	1,206	1,777
Standard Mail Regular	0.071	9,119	10,600	12,082
Parcel Post	0.141	2,475	3,423	4,371
Bound Printed Matter	0.148	887	1,250	1,614
Media Mail	0.115	1,337	1,726	2,115
US Postal Service	0.214	1,962	3,380	4,797
Free Mail	0.246	581	1,120	1,660
International Mail	0.065	17,972	20,574	23,177
Total			928,655	

Table 9. BY04 Network Air Night Turn Estimated Costs and Confidence Intervals

Mail Category	CV	Lower 95% C.L. ($1,000)	Cost ($1,000)	Upper 95% C.L. ($1,000)
1C Single-Piece Letters	0.067	2,779	3,197	3,615
1C Presort Letters	0.121	2,075	2,721	3,367
1C Single-Piece Cards	0.410	4	19	34
1C Presort Cards	0.429	4	27	50
Priority Mail	0.220	841	1,477	2,113
Express Mail	0.014	71,958	74,024	76,091
Periodicals	0.294	232	546	861
Standard Mail ECR	0.454	33	302	571
Standard Mail Regular	0.295	190	451	711
Parcel Post	0.479	3	51	100
Bound Printed Matter	0.882	-	2	6
Media Mail	0.909	-	1	2
US Postal Service	0.091	1,545	1,881	2,217
Free Mail	-	-	-	-
International Mail	0.025	38,433	40,400	42,367
Total			125,101	