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POSTAL RATE COMMISSION  
OFFICE OF THE SECRETARY

USPS-T-2

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

MAILING ONLINE EXPERIMENT

Docket No. MC2000-2

DIRECT TESTIMONY  
OF  
JOSEPH M. POELLNITZ  
ON BEHALF OF  
UNITED STATES POSTAL SERVICE



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1                                   **DIRECT TESTIMONY OF JOSEPH M. POELLNITZ**  
2                                   **AUTOBIOGRAPHICAL SKETCH**

3  
4           My name is Joseph M. Poellnitz. I am a Principal Consultant with the  
5 Washington Consulting Practice at PricewaterhouseCoopers, LLP (PwC). I have  
6 been employed with PwC since August 1997 (including approximately one year  
7 with Price Waterhouse, LLP).

8           During my employment at Price Waterhouse and PwC, I have worked  
9 exclusively on Postal Service projects, and I am a member of PwC's Postal  
10 Industry Market Team, which specializes in providing management consulting  
11 services to postal administrations throughout the world. My areas of expertise  
12 include cost estimation and attribution, financial and economic analysis, and  
13 performance measurement. I have managed performance measurement projects  
14 for a major Postal Service product offering and have led several projects  
15 supporting production of the Postal Service's Cost and Revenue Analysis  
16 reports. Most recently, I have focused my efforts on performing costing and  
17 pricing studies for Postal Service product offerings. In addition, I assisted in the  
18 preparation of Postal Service testimony in the previous Mailing Online  
19 Classification Case, Docket No. MC98-1 (USPS-RT-2).

20           Prior to joining Price Waterhouse, I was employed as a Supply Corps  
21 Officer in the United States Navy. My responsibilities as a Naval Officer included  
22 financial and program management for a major defense acquisition program and  
23 management of logistics and financial operations aboard a United States Navy  
24 warship.

25           I have a Bachelor of Arts in Economics (*cum laude*) from Harvard

1 University. In addition, I am a candidate in the Chartered Financial Analyst (CFA)  
2 Study and Examination Program. The CFA program is a program for investment  
3 practitioners, which tests knowledge in the areas of ethical and professional  
4 standards; quantitative methods; economics; financial statement analysis;  
5 corporate finance; global markets and instruments; asset valuation and  
6 investment theory; analysis of debt, equity, and derivative investments; and  
7 portfolio management. I passed the level I and II CFA exams in June of 1998  
8 and 1999, respectively, and I am currently registered to take the third (and final)  
9 exam in June of 2000.

1     **I.     PURPOSE OF TESTIMONY**

2             The purpose of my testimony is to estimate Mailing Online (MOL)  
3     experiment print contract and advertising costs and to summarize MOL  
4     information technology costs.<sup>1</sup> My testimony begins with an overview of the cost  
5     components associated with MOL service and a summary of all MOL experiment  
6     costs. I then describe in detail the development of cost estimates for print  
7     contractor hardware, personnel, facilities, consumables, and transportation.<sup>2</sup>  
8     Next, I describe the development of cost estimates for MOL advertising. Finally, I  
9     categorize the MOL information technology costs estimated by witness Lim  
10    (USPS-T-3) as either volume variable or product-specific, and estimate the  
11    volume variable portion of these costs on a unit basis.

---

<sup>1</sup> The cost model presented in my testimony projects costs over the three-year period beginning with the rollout of the first four MOL experiment print sites scheduled for April 2000.

<sup>2</sup> MOL will allow customers who use the Postal Service's Internet site to present electronic documents for printing and subsequent entry into the mail stream. MOL documents will be stored electronically, batched with other documents, and transmitted to one or more commercial printers who will print and prepare the documents for entry at a designated postal acceptance facility. See Section II of witness Garvey's testimony (USPS-T-1) for a complete description of the MOL service.

1 **II. OVERVIEW OF METHODOLOGY AND SUMMARY OF RESULTS**

2 In this section of my testimony, I present an overview of my costing  
3 methodology followed by a summary of costs for the MOL experiment.

4  
5 **A. Costing Methodology Overview**

6 In my testimony, I identify three types of costs applicable to the MOL  
7 experiment: (1) print contract costs, (2) advertising costs, and (3) information  
8 technology costs. Estimates of each type of cost are developed using a “bottom-  
9 up” approach, in which the components that are expected to comprise the MOL  
10 system are costed individually and then synthesized into unit and total MOL  
11 experiment costs.

12

13 **1) Print Contract Costs**

14 MOL print contract costs are those incurred by the Postal Service through  
15 negotiated contracts with existing private printers. Print contract costs for the  
16 MOL experiment are expected to vary across print sites, and no contracts have  
17 been let for the experiment at the time this testimony is being written. As a result,  
18 there is no direct means of measuring actual print contract costs for the  
19 experiment.<sup>3</sup> Therefore, I attempt to estimate the costs of a network of “average”  
20 print contractors by estimating the resources expected to be used by print

---

<sup>3</sup> Although the Postal Service has contracted with Vestcom International, Inc. to provide print services for the MOL market test, the costs listed in the Vestcom contract are not representative of the “average” MOL experiment print contract due to likely geographical variation in print site costs and print contractor requirements for the MOL experiment that were inapplicable during the MOL market test (e.g., inserters must have the capability of reading dataglyphs).

1 contractors to support the MOL experiment.<sup>4</sup> I expect print contractor costs to  
2 include the following:

- 3 • Hardware costs – the costs of digital printers, finishers, and inserters.
- 4 • Personnel costs – the costs of digital printer operators, inserter  
5 operators, supervisors, and contingency personnel.
- 6 • Facility costs – the costs of print site space required for MOL-related  
7 hardware.
- 8 • Consumable costs – the costs of toner, developer, fuser agent, paper,  
9 and envelopes.
- 10 • Transportation costs – the costs of transporting MOL documents from  
11 MOL print sites to Postal Service mail processing facilities.

12

### 13 **2) Advertising Costs**

14 Advertising costs that are expected to be expended in direct support of  
15 MOL during the experiment are provided by the Postal Service's Internet  
16 Business Group.

17

### 18 **3) Information Technology Costs**

19 MOL information technology costs are detailed and estimated by witness  
20 Lim (USPS-T-3). In Exhibit A, the Mailing Online Cost Model, I categorize the

---

<sup>4</sup> At the time my testimony is being written, MOL experiment print contractor requirements have not been finalized. I estimate MOL experiment costs based on expected print contractor requirements derived from discussions with personnel from the Postal Service's Internet Business Group. MOL print site rollout timing is also uncertain; however, small changes in the timing of the experiment would not materially affect the results of my testimony.

1 program year information technology costs presented by witness Lim as either  
2 volume variable or product-specific and estimate the volume variable portion of  
3 these costs on a unit basis.

4

5 **B. Summary of Results**

6 In my testimony, I estimate production costs for 8.5x11 and 8.5x14 black  
7 and white impressions; 11x17 black and white impressions; and 8.5x11 and  
8 8.5x14 spot color impressions.<sup>5</sup> To these basic production costs, I add insertion  
9 costs, paper costs, envelope costs, transportation costs, advertising costs, and  
10 information technology costs to provide total MOL experiment costs.<sup>6</sup>

11 The following tables present unit and total costs for the MOL experiment  
12 as derived in Exhibit A, the Mailing Online Cost Model: Table 1 presents the cost  
13 per impression and total cost for 8.5x11 and 8.5x14 black and white impressions,  
14 11x17 black and white impressions, and 8.5x11 and 8.5x14 spot color  
15 impressions; Table 2 presents per sheet and total costs for 8.5x11, 8.5x14, and  
16 11x17 paper; Table 3 presents per envelope and total costs for letter-sized and  
17 flat-sized envelopes; Table 4 presents the per document and total insertion costs  
18 for letter-sized and flat-sized documents; Table 5 presents the per piece and  
19 total transportation costs for First-Class letters, First-Class flats, Standard Mail

---

<sup>5</sup> The term "impression" refers to a single imprint on one side of a piece of paper.

<sup>6</sup> Not all cost categories addressed in this section directly correspond to the cost components shown in Sections III, IV, and V below. These latter costs are assigned to the relevant cost categories addressed in this section to mirror the expected format of MOL print contracts. No explicit provision is made for print contractor profit (which will likely be negotiated into the MOL print contracts). However, because the costs in my testimony are estimated conservatively high, as explained where appropriate, contractor profit is nonetheless included implicitly.

1 letters, and Standard Mail flats; Table 6 presents the per piece and total volume  
 2 variable information technology costs; and Table 7 presents the pre-experiment  
 3 and experiment product-specific costs for MOL, including both advertising and  
 4 information technology costs.<sup>7</sup>

5

6 **Table 1: MOL Experiment Impression Costs<sup>8</sup>**

Impression Type	Unit	Total
8.5x11/14 B&W	\$0.017301	\$86,425,118
11x17 B&W	\$0.029044	\$40,730,481
8.5x11/14 Spot Color	\$0.023102	\$105,435,331

7

8 **Table 2: MOL Experiment Paper Costs**

Paper Size	Unit	Total
8.5x11	\$0.004869	\$25,932,674
8.5x14	\$0.005904	\$5,695,048
11x17	\$0.020800	\$9,598,397

9

10 **Table 3: MOL Experiment Envelope Costs**

Envelope Type	Unit	Total
#10, No Window	\$0.015020	\$19,643,197
Flat, No Window	\$0.048686	\$15,015,132

11

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<sup>7</sup> All costs other than those presented in Table 7 are considered volume variable.

<sup>8</sup> Impression costs include digital printer hardware costs, finisher hardware costs, digital printer/finisher maintenance costs, digital printer/finisher personnel costs (including contingency operators), a portion of supervisor personnel costs, facilities costs associated with digital printers/finishers, and consumables costs (not including paper and envelope costs).

1

**Table 4: MOL Experiment Insertion Costs<sup>9</sup>**

Shape	Unit	Total
Letter	\$0.023074	\$30,176,099
Flat	\$0.025320	\$7,808,987

2

3

**Table 5: MOL Experiment Transportation Costs**

Mail type	Unit	Total
First-Class Letter	\$0.000208	\$81,228
First-Class Flat	\$0.000315	\$29,084
Standard Letter	\$0.000456	\$396,522
Standard Flat	\$0.006008	\$1,231,423

4

5

**Table 6: MOL Experiment Volume Variable Information Technology Costs**

Impression Type	Unit	Total
8.5x11/14 B&W	\$0.000638	\$2,192,811
11x17 B&W	\$0.000638	\$615,587
8.5x11/14 Spot Color	\$0.000638	\$2,003,366

6

7

**Table 7: MOL Experiment Product Specific Costs**

Component	Pre-Experiment	Experiment
Advertising	\$0	\$2,175,000
Information Technology	\$9,634,448	\$20,669,470

<sup>9</sup> Insertion costs include inserter hardware costs, inserter maintenance costs, inserter personnel costs (including sweepers), a portion of supervisor personnel costs, and facilities costs associated with inserters.

1     **III.     PRINT CONTRACT COSTS**

2             In this section of my testimony, I describe the methods I use to calculate  
3     print contract costs for hardware, personnel, facilities, consumables, and  
4     transportation.

5

6             **A.     Print Contract Hardware Costs**

7             The following section of my testimony describes the calculations made to  
8     estimate the costs of hardware required to provide printing services for MOL.

9     This includes estimates of the costs of digital printers, finishers, and inserters,  
10    and the costs of maintenance for this equipment.

11

12                     **1) Digital Printer Costs**

13             Digital printer costs are a function of the number of digital printers required  
14    to support national rollout of the MOL experiment and the lease costs for these  
15    printers.<sup>10</sup> The number of digital printers required to support national rollout for  
16    each impression type for each year of the experiment equals the annual MOL  
17    impression volume divided by annual printer throughputs.<sup>11</sup> Annual impression

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<sup>10</sup> Although it is expected that some MOL volume will be produced using the capacity of print contractors' existing operations, my testimony conservatively assumes that all MOL volume will be produced using dedicated printer, finisher, and inserter equipment. I assume that each impression type (8.5x11/14 black and white, 11x17 black and white, and 8.5x11/14 spot color) will use dedicated printer and finisher hardware, and I round the number of printers and finishers to the next higher integer for each impression type. Likewise, I assume that each insertion type (for flats or letters) will use dedicated inserter hardware, and I round the number of inserters to the next higher integer for each insertion type. Therefore, equipment cost estimates are conservatively high and consistent with the cost estimates made by witness Seckar in Docket No. MC98-1 (USPS-T-2).

<sup>11</sup> This is a minor deviation from the methodology used by witness Seckar in

1 volume is taken from the MOL market research, and printer throughput estimates  
2 are provided by the manufacturer.<sup>12</sup>

3 The calculated annual number of digital printers is then multiplied by  
4 annual lease costs (based on a three-year lease plan, the industry standard) to  
5 determine annual digital printer costs.<sup>13</sup> My testimony assumes the use of Xerox  
6 DocuTech 6180 digital printers for black and white impressions and Xerox  
7 DocuTech 92C digital printers for spot color impressions, as these machines are  
8 capable of providing all of the printing options expected to be offered via MOL.<sup>14</sup>

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Docket No. MC98-1 (USPS-T-2). As in my testimony, witness Seckar used impression volume and printer throughputs to determine the number of digital printers required for MOL. However, he made the additional assumption that annual MOL volumes would be evenly distributed across print sites, and he rounded the number of printers to the next higher integer at the site level. In my testimony, I make no assumptions about MOL volume allocation between sites, or about the specific printer configuration at each site. Instead, I determine the number of printers required in each year for the entire MOL network and round up to the next full printer at the network level.

<sup>12</sup> See witness Rothschild's testimony (USPS-T-5) in Docket No. MC98-1 for MOL market research (and the supporting USPS-LR-2/MC98-1, Section E) and USPS-LR-1/MC2000-2, Tab G, pp.41-42 for printer throughput estimates. Maximum throughput estimates (based purely on printing speed) are adjusted by a productivity rate of 68 percent. The productivity rate is the percentage of time that the system operator is working on a billable job. Key factors in calculating productivity rates include downtime, breaks, meetings, and rework of mistakes. The average of the range of productivity factors for profitable printers listed in USPS-LR-1/MC2000-2, Tab E, p.27 (rounded to the nearest percentage point) is used. The resulting printer throughput estimates thus reflect a reasonable operating environment and are consistent with the throughput estimates used by witness Seckar in Docket No. MC98-1 (USPS-T-2).

<sup>13</sup> Lease costs are provided by the manufacturer. Costs for equipment leases initiated in later years are inflated by the Consumer Price Index (CPI). See USPS-LR-1/MC2000-2, Tab C, p.14 for digital printer lease costs and Tab A, p.7 for CPI data.

<sup>14</sup> My testimony assumes print impression options will be limited to 8.5x11/14 black and white, 8.5x11/14 spot color, and 11x17 black and white. In Section VI of his testimony, witness Garvey (USPS-T-1) suggests that, during the experiment, the number of printing options will likely increase, perhaps to include

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## 2) Finisher Costs

Each Docutech 6180 digital printer is assumed to have an associated finisher.<sup>15</sup> The annual number of finishers is multiplied by annual lease costs (again, based on a three-year lease plan) to determine annual finisher costs.<sup>16</sup> My testimony assumes the use of Xerox in-line Signature Booklet Makers (where applicable), as these machines are capable of providing all of the finishing options expected to be offered via MOL.<sup>17</sup>

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## 3) Inserter Costs

The methodology used to estimate inserter costs is very similar to that used to estimate digital printer costs. Inserter costs are a function of the number of inserters required for the MOL experiment and the lease costs for these inserters. The number of inserters necessary to support the experiment for each insertion type for each year of the experiment equals the annual MOL page volume divided by annual inserter throughputs.<sup>18</sup> Annual page volume is taken

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full color. However, the number and type of new options have not been determined, and no market research exists from which to project volumes for new options. Therefore, I have excluded such potential options from my analysis.<sup>15</sup> Finishers are required only for finishing 11x17 impressions. Because there are no 11x17 spot color impressions, no finishers are required for the Docutech 92C digital printers used for MOL.

<sup>16</sup> Lease costs were provided by the manufacturer. See USPS-LR-1/MC2000-2, Tab C, p.14.

<sup>17</sup> See Section II of witness Garvey's testimony (USPS-T-1) for a range of possible finishing options. Like witness Seckar in Docket No. MC98-1 (USPS-T-2), I have not estimated the costs of specific finishing options, but only of finisher hardware.

<sup>18</sup> This is a minor deviation from the methodology used by witness Seckar in Docket No. MC98-1 (USPS-T-2). As in my testimony, witness Seckar used page volume and inserter throughputs to determine the number of inserters required. However, he made the additional assumption that annual volumes would be

1 from the MOL market research, and inserter throughput estimates are provided  
2 by the manufacturer.<sup>19</sup>

3 The calculated annual number of inserters is then multiplied by annual  
4 lease costs (based on a four-year lease plan, the industry standard for inserters)  
5 to determine annual inserter costs.<sup>20</sup> My testimony assumes the use of Pitney  
6 Bowes 8 Series inserters for the experiment, as these machines meet the  
7 inserter requirements of the expected printer contracts.<sup>21</sup>

8

#### 9 **4) Maintenance Costs**

10 Costs for full-service, high volume maintenance plans are included for  
11 digital printers, finishers, and inserters. These maintenance costs are based on  
12 standard service plans provided by the manufacturers.<sup>22</sup>

13

#### 14 **B. Personnel Costs**

15 My testimony assumes that each print site will have two daily shifts and  
16 that one operator will be assigned to each digital printer/finisher configuration

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evenly distributed across print sites, and he rounded the number of inserters to the next higher integer at the site level. In my testimony, I make no assumptions about MOL volume allocation between sites, or about the specific inserter configuration at each site. Instead, I determine the number of inserters required in each year for the entire MOL network and round up to the next full inserter at the network level.

<sup>19</sup> The inserter throughput rate provided by the manufacturer implicitly includes a productivity factor of 64 percent.

<sup>20</sup> Lease costs were provided by the manufacturer. See USPS-LR-1/MC2000-2, Tab C, p.16.

<sup>21</sup> The Pitney Bowes Series 8 inserters assumed in this testimony are configured to read dataglyphs and print address information on MOL document envelopes.

<sup>22</sup> See USPS-LR-1/MC2000-2, Tab C, pp.15-16.

1 and each inserter configuration for each shift. One additional inserter operator is  
2 assigned per shift per print site. This operator acts as a “sweeper,” carrying  
3 output from digital printers to inserters. Also, one contingency digital printer  
4 operator is assigned per print site per day in the event that a regularly scheduled  
5 operator is unable to work. Finally, one supervisor is assigned per shift per print  
6 site.<sup>23</sup> Sweeper costs are allocated to insertion types (letters and flats) based on  
7 the proportion of inserter operator costs allocated to each type of document,  
8 contingency personnel costs are allocated to impression types based on the  
9 proportion of digital printer operator costs allocated to each impression type, and  
10 supervisor costs are allocated to impression types and insertion types based on  
11 the proportion of all other personnel costs allocated to impression and insertion  
12 types.

13 Wages for all personnel are taken from the National Association of Quick  
14 Printers, *1997/1998 Wage & Salary Study* (NAQP Study).<sup>24</sup> Benefits are  
15 calculated as 30 percent of the operator’s annual salary, and a 42 percent

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<sup>23</sup> It is unlikely that a contingency operator would be necessary to support MOL print jobs each day or that a supervisor would be assigned solely to MOL on each shift. The assumption that each print site would incur the costs of one supervisor per site per shift and one contingency digital printer operator per site per day for MOL is therefore a conservative one.

<sup>24</sup> See USPS-LR-1/MC2000-2, Tab D, pp. 21-22 for wage rates. The highest wage rate listed for “Digital Copier Operators” in “Small Markets” was used for both digital printer/finisher and inserter operators. Small market wages in this category were higher than major market wages, producing conservative cost estimates consistent with those of witness Seckar in Docket No. MC98-1 (USPS-T-2). The highest wage rate listed for “Copier Department Supervisors” in “Major Markets” was used for supervisors. Major market wages in this category were higher than small market wages, producing conservative cost estimates consistent with those of witness Seckar in Docket No. MC98-1 (USPS-T-2). Because these are 1997 wages, they are inflated (using CPI) for the appropriate number of years to compute wages for each year of the experiment. See USPS-LR-1/MC2000-2, Tab A, p.7 for CPI data.

1 general sales and administration factor is applied to total personnel costs  
2 (including benefits) to account for sales, customer support, and administrative  
3 support.<sup>25</sup>  
4

5 **C. Facility Costs**

6 To estimate print contract facility costs, 606 square feet of print site space  
7 are allocated to each printer/finisher configuration and 493 square feet are  
8 allocated to each inserter configuration used for MOL.<sup>26</sup> These specifications  
9 ensure sufficient space to operate the machines and perform maintenance. Total  
10 annual space requirements are calculated by multiplying the annual numbers of  
11 printers/finishers and inserters by these footprints. Annual facilities costs are  
12 then calculated by applying a per square foot facilities cost figure to the total  
13 annual space requirements for each type of hardware.<sup>27</sup> Allocation of facilities  
14 costs to impression and insertion types is done implicitly by performing the above  
15 calculations discretely for each impression and insertion type.  
16

17 **D. Consumable Costs**

18 In addition to hardware, personnel, and facilities costs, print contractors

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<sup>25</sup> See USPS-LR-1/MC2000-2, Tab E, p.26. This is consistent with the wage rate calculations made by witness Seckar in Docket No. MC98-1.

<sup>26</sup> See USPS-LR-1/MC2000-2, Tab F, pp.29-31. The 606 square foot "footprint" of the larger Docutech 6180 digital printers is used for both Docutech 6180 digital printer facilities costs and Docutech 92C digital printer facilities costs to estimate costs conservatively high.

<sup>27</sup> The per square foot metric was taken from the Summary Description of USPS Development of Costs by Segments and Components for Fiscal Year 1997, and inflated by CPI to account for inflation. See USPS-LR-1/MC2000-2, Tab F, p.39 and Tab A, p.7.

1 incur consumables costs, which include the costs of toner, developer, fuser,  
2 paper, and envelopes, to produce MOL documents. In addition to paper, black  
3 and white digital printers use toner, developer, and fuser agent; and spot color  
4 digital printers use black toner and color toner. MOL non-paper consumable  
5 costs are calculated for each impression type using the manufacturer's standard  
6 price points.<sup>28</sup> Representative paper costs are provided by Cauthorne Paper  
7 Company (for 8.5x11 and 8.5x14) and Ris Paper Company (11x17).<sup>29</sup> Envelope  
8 costs are provided by Florida Envelope Company.<sup>30</sup>

9

#### 10 **E. Transportation Costs**

11 Print contractors will incur daily the costs of transporting finished MOL  
12 pieces from the print site to the prescribed mail processing facility. To calculate  
13 total annual transportation costs, I multiply an average cost per mile figure by the  
14 expected average number of miles per round-trip and again by the total number  
15 of round-trips per year.<sup>31</sup> I then allocate total annual transportation costs to First-

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<sup>28</sup> See USPS-LR-1/MC2000-2, Tab C, p.15.

<sup>29</sup> Per expected print contract requirements, I used 20 pound bond (50 pound offset) paper for 8.5x11 and 8.5x14 pieces and 24 pound bond (60 pound offset) paper for 11x17 pieces for cost estimates.

<sup>30</sup> Non-windowed flat and letter envelopes are used for costing purposes. See USPS-LR-1/MC2000-2, Tab B, pp.11-12.

<sup>31</sup> This is similar to the methodology used by witness Seckar in Docket No. MC98-1 (USPS-T-2). Like witness Seckar, I assume one round-trip per print site per operational day. However, witness Seckar assumed an average round trip distance of 200 miles. Based on discussions with personnel in the Postal Service's Internet Business Group, a more appropriate round trip distance for MOL print sites is 60 miles. The cost per mile metric is the average cost per mile for the Intra-SCF account (for Postal Service Fiscal Year 1995) taken from Docket No. MC97-2, USPS-T-4, WP-7. To convert this metric to year 1 of the experiment, I use the Producer Price Index (PPI) for the trucking industry (published by the Bureau of Labor Statistics; see USPS-LR-1/MC2000-2, Tab A,

1 Class Letters, Standard Letters, First-Class Flats, and Standard Flats based on  
2 the proportion of total annual cubic feet occupied by each category.<sup>32</sup>

3 Total annual cubic feet is calculated based on MOL piece volume  
4 projections, average piece per container factors taken from a recent mail  
5 characteristics study of Standard and First-Class Mail, and average cubic feet  
6 per container factors from the Container Methods Handbook.<sup>33</sup> I use the MOL  
7 market research to segment MOL volume by shape (letters and flats) and by mail  
8 class (First-Class and Standard).<sup>34</sup> I then calculate the annual cubic feet to be  
9 transported for each volume category by multiplying the total number of  
10 containers required for each volume category by the average total cubic feet for  
11 the relevant container type.

12

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p.9). The Intra-SCF account is the most representative transportation mode for MOL print contractor transportation.

<sup>32</sup> While cubic foot miles is the appropriate cost driver for highway transportation, cubic feet is an acceptable method of distributing highway transportation costs if it is assumed that the mileage traveled is equal across classes. During the experiment, MOL will allow customers to use Priority Mail and Express Mail in addition to Standard Mail and First-Class Mail. However, because MOL market research contains no basis on which to project volumes for Priority Mail and Express Mail, I have excluded them from my analysis. Adding Express Mail and Priority Mail to the mailing options available would not affect total transportation costs, but only the distribution of those costs to mail classes. In Section III(E) of his testimony, witness Plunkett (USPS-T-5) discusses the limited expected demand for Express Mail and Priority Mail for the MOL experiment.

<sup>33</sup> See USPS-LR-2/MC98-1, Section E for MOL piece volume projections; see Docket No. R97-1, USPS-LR-H-105, Table 17 and USPS-LR-H-185, Table 3 for average piece per container factors; and see Docket No. R97-1, USPS-LR-H-133, pp. 43,153 for average cubic feet per container factors.

<sup>34</sup> Per expected contractual requirements, I assume that a maximum of five 8.5x11 sheets, four 8.5x14 sheets, or two 11x17 sheets will be inserted into a #10 envelope. Documents forecasted to have more than these threshold numbers of sheets are categorized as flats.

1 **IV. ADVERTISING COSTS**

2 The Postal Service plans to expend funds for advertising MOL during the  
3 experiment. Estimates of these advertising expenditures are provided by the  
4 Postal Service's Internet Business Group. MOL advertising costs are not  
5 expected to depend on MOL volumes and are therefore categorized as product-  
6 specific (not volume variable).<sup>35</sup>

7  
8 **V. INFORMATION TECHNOLOGY COSTS**

9 Information technology costs by program year are taken from the  
10 testimony of witness Lim (USPS-T-3). In my Exhibit A, I categorize these  
11 program year costs as either volume variable or product-specific based on the  
12 discussion in Section IV(C) of witness Takis' testimony in this docket (USPS-T-  
13 4). I further estimate the volume variable portion of these costs on a unit basis.

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<sup>35</sup> See witness Takis (USPS-T-4), Section IV(C).

**EXHIBIT A: Mailing Online Cost Model**

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**Table 1: Mailing Online Cost Summary**

	Notes	Unit Cost	Pre-experiment Costs	Experiment Costs	Total Cost	
<b>Impressions</b>						
1	Black & White 8.5x11 & 8.5x14	From Table 2	\$0.017301	N/A	\$86,425,118	\$86,425,118
2	Black & White 11x17	From Table 2	\$0.029044	N/A	\$40,730,481	\$40,730,481
3	Spot Color 8.5x11 & 8.5x14	From Table 2	\$0.023102	N/A	\$105,435,331	\$105,435,331
4	<b>Total</b>	Sum of L1 through L3		N/A	<b>\$232,590,930</b>	<b>\$232,590,930</b>
<b>Inserters</b>						
5	Letter-sized documents	From Table 3	\$0.023074	N/A	\$30,176,099	\$30,176,099
6	Flat-sized documents	From Table 3	\$0.025320	N/A	\$7,808,987	\$7,808,987
7	<b>Total</b>	L5 + L6		N/A	<b>\$37,985,086</b>	<b>\$37,985,086</b>
<b>Transportation</b>						
8	First-Class letters	From Table 4	\$0.000208	N/A	\$81,228	\$81,228
9	First-Class flats	From Table 4	\$0.000315	N/A	\$29,084	\$29,084
10	Standard Mail (A) letters	From Table 4	\$0.000456	N/A	\$396,522	\$396,522
11	Standard Mail (A) flats	From Table 4	\$0.006008	N/A	\$1,231,423	\$1,231,423
12	<b>Total</b>	Sum of L8 through L11		N/A	<b>\$1,738,256</b>	<b>\$1,738,256</b>
<b>Paper</b>						
13	8.5x11	From Table 5	\$0.004869	N/A	\$25,932,674	\$25,932,674
14	8.5x14	From Table 5	\$0.005904	N/A	\$5,695,048	\$5,695,048
15	11x17	From Table 5	\$0.020800	N/A	\$9,598,397	\$9,598,397
16	<b>Total</b>	Sum of L13 through L15		N/A	<b>\$41,226,119</b>	<b>\$41,226,119</b>
<b>Envelopes</b>						
17	#10 envelopes	From Table 5	\$0.015020	N/A	\$19,643,197	\$19,643,197
18	Flat-sized envelopes	From Table 5	\$0.048686	N/A	\$15,015,132	\$15,015,132
19	<b>Total</b>	L17 + L18		N/A	<b>\$34,658,328</b>	<b>\$34,658,328</b>
20	<b>Product Specific Information Technology</b>	From Table 6	N/A	\$9,634,448	\$20,669,470	\$30,303,918
<b>Volume Variable Information Technology</b>						
21	Black & White 8.5x11 & 8.5x14	From Table 6	\$0.000638	N/A	\$2,192,811	\$2,192,811
22	Black & White 11x17	From Table 6	\$0.000638	N/A	\$615,587	\$615,587
23	Spot Color 8.5x11 & 8.5x14	From Table 6	\$0.000638	N/A	\$2,003,366	\$2,003,366
24	<b>Total</b>	Sum of L21 through L23		N/A	<b>\$4,811,765</b>	<b>\$4,811,765</b>
25	<b>Product Specific Advertising</b>	From Table 7	N/A	N/A	\$2,175,000	\$2,175,000

**Table 2: Mailing Online Impression Costs**

<b>Total Costs</b>		<b>Notes</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Total</b>
<b>Black &amp; White 8.5x11 &amp; 8.5x14</b>						
1	Hardware	From Table 8	\$4,153,032	\$7,263,813	\$11,459,274	\$22,876,118
2	Maintenance	Ibid.	\$5,568,768	\$9,967,487	\$15,931,462	\$31,467,717
3	Personnel	From Table 9	\$4,008,972	\$7,134,905	\$10,756,095	\$21,899,972
4	Facilities	From Table 10	\$137,561	\$244,038	\$389,105	\$770,704
5	Consumables	From Table 11	\$1,666,259	\$2,980,772	\$4,763,575	\$9,410,607
6	<b>Total</b>	Sum of L1 through L5	<b>\$15,534,592</b>	<b>\$27,591,015</b>	<b>\$43,299,511</b>	<b>\$86,425,118</b>
<b>Black &amp; White 11x17</b>						
7	Hardware	From Table 8	\$2,715,444	\$4,843,873	\$7,528,968	\$15,088,285
8	Maintenance	Ibid.	\$1,424,788	\$2,543,967	\$4,077,125	\$8,045,880
9	Personnel	From Table 9	\$2,621,251	\$4,756,603	\$7,068,291	\$14,446,145
10	Facilities	From Table 10	\$89,944	\$162,692	\$255,698	\$508,333
11	Consumables	From Table 11	\$467,769	\$836,791	\$1,337,277	\$2,641,837
12	<b>Total</b>	Sum of L7 through L11	<b>\$7,319,195</b>	<b>\$13,143,927</b>	<b>\$20,267,359</b>	<b>\$40,730,481</b>
<b>Spot Color 8.5x11 &amp; 8.5x14</b>						
13	Hardware	From Table 8	\$4,515,360	\$8,036,850	\$12,574,541	\$25,126,751
14	Maintenance	Ibid.	\$3,366,518	\$6,029,471	\$9,622,624	\$19,018,613
15	Personnel	From Table 9	\$7,092,797	\$12,842,828	\$19,207,313	\$39,142,938
16	Facilities	From Table 10	\$243,377	\$439,269	\$694,831	\$1,377,476
17	Consumables	From Table 11	\$3,677,495	\$6,578,672	\$10,513,384	\$20,769,552
18	<b>Total</b>	Sum of L13 through L17	<b>\$18,895,548</b>	<b>\$33,927,091</b>	<b>\$52,612,693</b>	<b>\$105,435,331</b>
19	<b>Total Costs</b>	L6 + L12 + L18	<b>\$41,749,335</b>	<b>\$74,662,032</b>	<b>\$116,179,563</b>	<b>\$232,590,930</b>

**Table 2: Mailing Online Impression Costs**

Unit Costs		Year 1	Year 2	Year 3	Total	
20	<b>Black &amp; White 8.5x11 &amp; 8.5x14 Impressions</b>	From Table 13	913,853,467	1,594,919,673	2,486,676,101	4,995,449,242
21	Hardware	L1 / L20	\$0.0045	\$0.0046	\$0.0046	\$0.0046
22	Maintenance	L2 / L20	\$0.0061	\$0.0062	\$0.0064	\$0.0063
23	Personnel	L3 / L20	\$0.0044	\$0.0045	\$0.0043	\$0.0044
24	Facilities	L4 / L20	\$0.0002	\$0.0002	\$0.0002	\$0.0002
25	Consumables	L5 / L20	\$0.0018	\$0.0019	\$0.0019	\$0.0019
26	<b>Total</b>	Sum of L21 through L25	<b>\$0.0170</b>	<b>\$0.0173</b>	<b>\$0.0174</b>	<b>\$0.0173</b>
27	<b>Black &amp; White 11x17 Impressions</b>	From Table 13	256,545,865	447,741,418	698,083,986	1,402,371,270
28	Hardware	L7 / L27	\$0.0106	\$0.0108	\$0.0108	\$0.0108
29	Maintenance	L8 / L27	\$0.0056	\$0.0057	\$0.0058	\$0.0057
30	Personnel	L9 / L27	\$0.0102	\$0.0106	\$0.0101	\$0.0103
31	Facilities	L10 / L27	\$0.0004	\$0.0004	\$0.0004	\$0.0004
32	Consumables	L11 / L27	\$0.0018	\$0.0019	\$0.0019	\$0.0019
33	<b>Total</b>	Sum of L28 through L32	<b>\$0.0285</b>	<b>\$0.0294</b>	<b>\$0.0290</b>	<b>\$0.0290</b>
34	<b>Spot Color 8.5x11 &amp; 8.5x14 Impressions</b>	From Table 13	834,902,418	1,457,128,894	2,271,843,315	4,563,874,628
35	Hardware	L13 / L34	\$0.0054	\$0.0055	\$0.0055	\$0.0055
36	Maintenance	L14 / L34	\$0.0040	\$0.0041	\$0.0042	\$0.0042
37	Personnel	L15 / L34	\$0.0085	\$0.0088	\$0.0085	\$0.0086
38	Facilities	L16 / L34	\$0.0003	\$0.0003	\$0.0003	\$0.0003
39	Consumables	L17 / L34	\$0.0044	\$0.0045	\$0.0046	\$0.0046
40	<b>Total</b>	Sum of L35 through L39	<b>\$0.0226</b>	<b>\$0.0233</b>	<b>\$0.0232</b>	<b>\$0.0231</b>

**Table 3: Mailing Online Inserter Costs**

<b>Total Costs</b>		<b>Notes</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Total</b>
<b>Letter-Sized Documents</b>						
1	Hardware	From Table 8	\$2,170,320	\$3,727,525	\$6,007,717	\$11,905,562
2	Maintenance	Ibid.	\$520,000	\$906,100	\$1,475,078	\$2,901,178
3	Personnel	From Table 9	\$2,921,551	\$5,363,313	\$6,844,355	\$15,129,219
4	Facilities	From Table 10	\$43,042	\$75,001	\$122,098	\$240,141
5	<b>Total</b>	Sum of L1 through L4	<b>\$5,654,913</b>	<b>\$10,071,938</b>	<b>\$14,449,247</b>	<b>\$30,176,099</b>
<b>Flat-Sized Documents</b>						
6	Hardware	From Table 8	\$651,096	\$873,554	\$1,557,612	\$3,082,261
7	Maintenance	Ibid.	\$156,000	\$213,200	\$382,428	\$751,628
8	Personnel	From Table 9	\$876,465	\$1,261,956	\$1,774,462	\$3,912,884
9	Facilities	From Table 10	\$12,913	\$17,647	\$31,655	\$62,215
10	<b>Total</b>	Sum of L6 through L9	<b>\$1,696,474</b>	<b>\$2,366,357</b>	<b>\$3,746,156</b>	<b>\$7,808,987</b>
<b>Unit Costs</b>						
<b>Letter-Sized Documents</b>		<b>Notes</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Total</b>
11		From Table 16	239,245,343	417,547,361	651,007,735	1,307,800,439
12	Hardware	L1 / L11	\$0.0091	\$0.0089	\$0.0092	\$0.0091
13	Maintenance	L2 / L11	\$0.0022	\$0.0022	\$0.0023	\$0.0022
14	Personnel	L3 / L11	\$0.0122	\$0.0128	\$0.0105	\$0.0116
15	Facilities	L4 / L11	\$0.0002	\$0.0002	\$0.0002	\$0.0002
16	<b>Total</b>	Sum of L12 through L15	<b>\$0.0236</b>	<b>\$0.0241</b>	<b>\$0.0222</b>	<b>\$0.0231</b>
<b>Flat-Sized Documents</b>		<b>Notes</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Total</b>
17		From Table 16	56,419,680	98,467,490	153,522,938	308,410,108
18	Hardware	L6 / L17	\$0.0115	\$0.0089	\$0.0101	\$0.0100
19	Maintenance	L7 / L17	\$0.0028	\$0.0022	\$0.0025	\$0.0024
20	Personnel	L8 / L17	\$0.0155	\$0.0128	\$0.0116	\$0.0127
21	Facilities	L9 / L17	\$0.0002	\$0.0002	\$0.0002	\$0.0002
22	<b>Total</b>	Sum of L18 through L21	<b>\$0.0301</b>	<b>\$0.0240</b>	<b>\$0.0244</b>	<b>\$0.0253</b>

**Table 4: Mailing Online Transportation Costs**

Volume Breakdown into Flats and Letters		Notes	Year 1	Year 2	Year 3	Total
	8.5x11 pieces					
1	% of total that is 8.5x11 w/ 1-2 pages	Table 13, L11 * L29	53.50%	53.50%	53.50%	
2	% of total that is 1C, 8.5x11, 1-2 pages	L1 * Table 13, L7	16.60%	16.60%	16.60%	
3	Letter 1C Pieces, 8.5x11, 1-2 pages	L2 * Table 13, L1	49,079,195	85,656,373	133,548,830	268,284,398
4	% of total that is Std, 8.5x11, 1-2 pages	L1 * Table 13, L9	36.90%	36.90%	36.90%	
5	Letter Std Pieces, 8.5x11, 1-2 pages	L4 * Table 13, L1	109,087,724	190,387,369	296,837,344	596,312,437
6	% of total that is 8.5x11 w/ 3-4 pages	Table 13, L13 * L29	8.42%	8.42%	8.42%	
7	% of total that is 1C, 8.5x11, 3-4 pages	L6 * Table 13, L7	2.61%	2.61%	2.61%	
8	Letter 1C Pieces, 8.5x11, 3-4 pages	L7 * Table 13, L1	7,722,681	13,478,152	21,014,098	42,214,932
9	% of total that is Std, 8.5x11, 3-4 pages	L6 * Table 13, L9	5.81%	5.81%	5.81%	
10	Letter Std Pieces, 8.5x11, 3-4 pages	L9 * Table 13, L1	17,165,109	29,957,723	46,707,779	93,830,611
11	% of total that is 8.5x11 w/ 5-6 pages	Table 13, L15 * L29	7.49%	7.49%	7.49%	
12	% of total that is 1C, 8.5x11, 5-6 pages	L11 * Table 13, L7	2.32%	2.32%	2.32%	
13	Letter 1C Pieces, 8.5x11, 5-6 pages	(L12 * Table 13, L1) * .5	3,434,313	5,993,799	9,345,070	18,773,182
14	Flat 1C Pieces, 8.5x11, 5-6 pages	(L12 * Table 13, L1) * .5	3,434,313	5,993,799	9,345,070	18,773,182
15	% of total that is Std, 8.5x11, 5-6 pages	L11 * Table 13, L9	5.16%	5.16%	5.16%	
16	Letter Std Pieces, 8.5x11, 5-6 pages	(L15 * Table 13, L1) * .5	7,633,406	13,322,343	20,771,172	41,726,921
17	Flat Std Pieces, 8.5x11, 5-6 pages	(L15 * Table 13, L1) * .5	7,633,406	13,322,343	20,771,172	41,726,921
18	% of total that is 8.5x11 w/ 7-10 pages	Table 13, L17 * L29	2.52%	2.52%	2.52%	
19	% of total that is 1C, 8.5x11, 7-10 pages	L18 * Table 13, L7	0.78%	0.78%	0.78%	
20	Flat 1C Pieces, 8.5x11, 7-10 pages	L19 * Table 13, L1	2,308,843	4,029,551	6,282,568	12,620,959
21	% of total that is Std, 8.5x11, 7-10 pages	L18 * Table 13, L9	1.74%	1.74%	1.74%	
22	Flat Std Pieces, 8.5x11, 7-10 pages	L21 * Table 13, L1	5,131,837	8,956,433	13,964,181	28,052,451
23	% of total that is 8.5x11 w/ 11-15 pages	Table 13, L19 * L29	1.40%	1.40%	1.40%	
24	% of total that is 1C, 8.5x11, 11-15 pages	L23 * Table 13, L7	0.44%	0.44%	0.44%	
25	Flat 1C Pieces, 8.5x11, 11-15 pages	L24 * Table 13, L1	1,288,320	2,248,464	3,505,632	7,042,416
26	% of total that is Std, 8.5x11, 11-15 pages	L23 * Table 13, L9	0.97%	0.97%	0.97%	
27	Flat Std Pieces, 8.5x11, 11-15 pages	L26 * Table 13, L1	2,863,533	4,997,633	7,791,926	15,653,092
28	% of total that is 8.5x11 w/ >15 pages	Table 13, L21 * L29	5.56%	5.56%	5.56%	
29	% of total that is 1C, 8.5x11, >15 pages	L28 * Table 13, L7	1.73%	1.73%	1.73%	
30	Flat 1C Pieces, 8.5x11, >15 pages	L28 * Table 13, L1	5,102,615	8,905,433	13,884,667	27,892,715
31	% of total that is Std, 8.5x11, >15 pages	L28 * Table 13, L9	3.84%	3.84%	3.84%	
32	Flat Std Pieces, 8.5x11, >15 pages	L31 * Table 13, L1	11,341,520	19,793,997	30,861,278	61,996,795

**Table 4: Mailing Online Transportation Costs**

Volume Breakdown into Flats and Letters		Notes	Year 1	Year 2	Year 3	Total
	8.5x14 pieces					
33	% of total that is 8.5x14 w/ 1-2 pages	Table 13, L11 * L30	5.97%	5.97%	5.97%	
34	% of total that is 1C, 8.5x14, 1-2 pages	L33 * Table 13, L7	1.85%	1.85%	1.85%	
35	Letter 1C Pieces, 8.5x14, 1-2 pages	L34 * Table 13, L1	5,480,894	9,565,631	14,913,997	29,960,522
36	% of total that is Std, 8.5x14, 1-2 pages	L33 * Table 13, L9	4.12%	4.12%	4.12%	
37	Letter Std Pieces, 8.5x14, 1-2 pages	L36 * Table 13, L1	12,182,315	21,261,411	33,149,157	66,592,883
38	% of total that is 8.5x14 w/ 3-4 pages	Table 13, L13 * L30	0.94%	0.94%	0.94%	
39	% of total that is 1C, 8.5x14, 3-4 pages	L38 * Table 13, L7	0.29%	0.29%	0.29%	
40	Letter 1C Pieces, 8.5x14, 3-4 pages	L39 * Table 13, L1	862,426	1,505,166	2,346,739	4,714,331
41	% of total that is Std, 8.5x14, 3-4 pages	L38 * Table 13, L9	0.65%	0.65%	0.65%	
42	Letter Std Pieces, 8.5x14, 3-4 pages	L41 * Table 13, L1	1,916,905	3,345,513	5,216,067	10,478,485
43	% of total that is 8.5x14 w/ 5-6 pages	Table 13, L15 * L30	0.84%	0.84%	0.84%	
44	% of total that is 1C, 8.5x14, 5-6 pages	L43 * Table 13, L7	0.26%	0.26%	0.26%	
45	Flat 1C Pieces, 8.5x14, 5-6 pages	L44 * Table 13, L1	767,050	1,338,709	2,087,212	4,192,971
46	% of total that is Std, 8.5x14, 5-6 pages	L43 * Table 13, L9	0.58%	0.58%	0.58%	
47	Flat Std Pieces, 8.5x14, 5-6 pages	L46 * Table 13, L1	1,704,913	2,975,532	4,639,220	9,319,665
48	% of total that is 8.5x14 w/ 7-10 pages	Table 13, L17 * L30	0.28%	0.28%	0.28%	
49	% of total that is 1C, 8.5x14, 7-10 pages	L48 * Table 13, L7	0.09%	0.09%	0.09%	
50	Flat 1C Pieces, 8.5x14, 7-10 pages	L49 * Table 13, L1	257,839	449,998	701,602	1,409,439
51	% of total that is Std, 8.5x14, 7-10 pages	L48 * Table 13, L9	0.19%	0.19%	0.19%	
52	Flat Std Pieces, 8.5x14, 7-10 pages	L51 * Table 13, L1	573,095	1,000,205	1,559,443	3,132,743
53	% of total that is 8.5x14 w/ 11-15 pages	Table 13, L19 * L30	0.16%	0.16%	0.16%	
54	% of total that is 1C, 8.5x14, 11-15 pages	L53 * Table 13, L7	0.05%	0.05%	0.05%	
55	Flat 1C Pieces, 8.5x14, 11-15 pages	L54 * Table 13, L1	143,872	251,096	391,490	786,458
56	% of total that is Std, 8.5x14, 11-15 pages	L53 * Table 13, L9	0.11%	0.11%	0.11%	
57	Flat Std Pieces, 8.5x14, 11-15 pages	L56 * Table 13, L1	319,784	558,108	870,159	1,748,051
58	% of total that is 8.5x14 w/ >15 pages	Table 13, L21 * L30	0.62%	0.62%	0.62%	
59	% of total that is 1C, 8.5x14, >15 pages	L58 * Table 13, L7	0.19%	0.19%	0.19%	
60	Flat 1C Pieces, 8.5x14, >15 pages	L59 * Table 13, L1	569,832	994,510	1,550,563	3,114,905
61	% of total that is Std, 8.5x14, >15 pages	L58 * Table 13, L9	0.43%	0.43%	0.43%	
62	Flat Std Pieces, 8.5x14, >15 pages	L61 * Table 13, L1	1,266,558	2,210,484	3,446,417	6,923,460

**Table 4: Mailing Online Transportation Costs**

Volume Breakdown into Flats and Letters		Notes	Year 1	Year 2	Year 3	Total
	11x17 pieces					
63	% of total that is 11x17 w/ 1-2 pages	Table 13, L11 * L31	8.35%	8.35%	8.35%	
64	% of total that is 1C, 11x17, 1-2 pages	L63 * Table 13, L7	2.59%	2.59%	2.59%	
65	Letter 1C Pieces, 11x17, 1-2 pages	L64 * Table 13, L1	7,658,320	13,365,825	20,838,967	41,863,112
66	% of total that is Std, 11x17, 1-2 pages	L63 * Table 13, L9	5.76%	5.76%	5.76%	
67	Letter Std Pieces, 11x17, 1-2 pages	L66 * Table 13, L1	17,022,055	29,708,056	46,318,516	93,048,626
68	% of total that is 11x17 w/ 3-4 pages	Table 13, L13 * L31	1.31%	1.31%	1.31%	
69	% of total that is 1C, 11x17, 3-4 pages	L88 * Table 13, L7	0.41%	0.41%	0.41%	
70	Flat 1C Pieces, 11x17, 3-4 pages	L69 * Table 13, L1	1,205,048	2,103,132	3,279,041	6,587,220
71	% of total that is Std, 11x17, 3-4 pages	L68 * Table 13, L9	0.91%	0.91%	0.91%	
72	Flat Std Pieces, 11x17, 3-4 pages	L71 * Table 13, L1	2,678,445	4,674,605	7,288,284	14,641,334
73	% of total that is 11x17 w/ 5-6 pages	Table 13, L15 * L31	1.17%	1.17%	1.17%	
74	% of total that is 1C, 11x17, 5-6 pages	L73 * Table 13, L7	0.36%	0.36%	0.36%	
75	Flat 1C Pieces, 11x17, 5-6 pages	L74 * Table 13, L1	1,071,781	1,870,545	2,916,410	5,858,737
76	% of total that is Std, 11x17, 5-6 pages	L73 * Table 13, L9	0.81%	0.81%	0.81%	
77	Flat Std Pieces, 11x17, 5-6 pages	L76 * Table 13, L1	2,382,234	4,157,638	6,482,270	13,022,142
78	% of total that is 11x17 w/ 7-10 pages	Table 13, L17 * L31	0.39%	0.39%	0.39%	
79	% of total that is 1C, 11x17, 7-10 pages	L78 * Table 13, L7	0.12%	0.12%	0.12%	
80	Flat 1C Pieces, 11x17, 7-10 pages	L79 * Table 13, L1	360,272	628,771	980,332	1,969,375
81	% of total that is Std, 11x17, 7-10 pages	L78 * Table 13, L9	0.27%	0.27%	0.27%	
82	Flat Std Pieces, 11x17, 7-10 pages	L81 * Table 13, L1	800,772	1,397,562	2,178,972	4,377,306
83	% of total that is 11x17 w/ 11-15 pages	Table 13, L19 * L31	0.22%	0.22%	0.22%	
84	% of total that is 1C, 11x17, 11-15 pages	L83 * Table 13, L7	0.07%	0.07%	0.07%	
85	Flat 1C Pieces, 11x17, 11-15 pages	L84 * Table 13, L1	201,029	350,850	547,019	1,098,899
86	% of total that is Std, 11x17, 11-15 pages	L83 * Table 13, L9	0.15%	0.15%	0.15%	
87	Flat Std Pieces, 11x17, 11-15 pages	L86 * Table 13, L1	446,826	779,831	1,215,852	2,442,509
88	% of total that is 11x17 w/ >15 pages	Table 13, L21 * L31	0.87%	0.87%	0.87%	
89	% of total that is 1C, 11x17, >15 pages	L88 * Table 13, L7	0.27%	0.27%	0.27%	
90	Flat 1C Pieces, 11x17, >15 pages	L89 * Table 13, L1	796,212	1,389,604	2,166,564	4,352,381
91	% of total that is Std, 11x17, >15 pages	L88 * Table 13, L9	0.60%	0.60%	0.60%	
92	Flat Std Pieces, 11x17, >15 pages	L91 * Table 13, L1	1,769,731	3,088,658	4,815,596	9,673,983
93	<b>Grand Total</b>	Sum of L3, L5, L8, L10, L13, L14, L16, L17, L20, L22, L25, L27, L30, L32, L35, L37, L40, L42, L45, L47, L50, L52, L55, L57, L60, L62, L65, L67, L70, L72, L75, L77, L80, L82, L85, L87, L90, and L92	<b>295,665,022</b>	<b>516,014,851</b>	<b>804,530,873</b>	<b>1,616,210,547</b>

**Table 4: Mailing Online Transportation Costs**

Volume Breakdown into Flats and Letters		Notes	Year 1	Year 2	Year 3	Total
<b>Total Annual Volume - All Sites</b>						
94	First-Class Letters	Sum of L3, L8, L13, L35, L40, and L65	74,237,830	129,564,946	202,007,700	405,810,476
95	First-Class Flats	Sum of L14, L20, L25, L30, L45, L50, L55, L60, L70, L75, L80, L85, and L90	17,507,027	30,554,462	47,638,168	95,699,656
96	Standard Mail (A) Letters	Sum of L5, L10, L16, L37, L42, and L67	165,007,513	287,982,415	449,000,035	901,989,963
97	Standard Mail (A) Flats	Sum of L17, L22, L27, L32, L47, L52, L57, L62, L72, L77, L82, L87, and L92	38,912,653	67,913,028	105,884,770	212,710,451
98	<b>Total</b>	Sum of L94 through L97	<b>295,665,022</b>	<b>516,014,651</b>	<b>804,530,673</b>	<b>1,616,210,547</b>
<b>Average Pieces per Container</b>						
99	First-Class Letters	Docket No. R97-1, USPS-LR-H-185, Table 3	410.7	410.7	410.7	
100	First-Class Flats	Ibid., Table 8	541	541	541	
101	Standard Mail (A) Letters	Docket No. R97-1, USPS-LR-H-105, Table 17	187	187	187	
102	Standard Mail (A) Flats	Ibid.	142	142	142	
<b>Total Number of Containers Required</b>						
103	First-Class Letters	L94 / L99	180,759	315,473	491,862	
104	First-Class Flats	L95 / L100	32,360	56,478	88,056	
105	Standard Mail (A) Letters	L96 / L101	882,393	1,540,013	2,401,070	
106	Standard Mail (A) Flats	L97 / L102	274,033	478,261	745,667	
107	<b>Total</b>	Sum of L103 through L106	<b>1,369,546</b>	<b>2,390,225</b>	<b>3,726,655</b>	
<b>Cubic Feet per Container</b>						
108	Letter Tray	Docket No. R97-1, USPS-LR-H-133, pp. 43 and 153	0.75	0.75	0.75	
109	Flat Tub	Ibid.	1.50	1.50	1.50	
110	Letter Tray	Ibid.	0.75	0.75	0.75	
111	Sack	Ibid.	7.50	7.50	7.50	
<b>Annual Cubic Feet</b>						
112	First-Class Letters cubic feet	L103 * L108	135,569	236,605	368,896	
113	First-Class Flats cubic feet	L104 * L109	48,541	84,717	132,084	
114	Standard Mail (A) Letters cubic feet	L105 * L110	661,795	1,155,010	1,800,802	
115	Standard Mail (A) Flats cubic feet	L106 * L111	2,055,246	3,586,956	5,592,505	
116	<b>Total</b>	Sum of L112 through L115	<b>2,901,151</b>	<b>5,063,287</b>	<b>7,894,288</b>	
<b>Percentage of Total Annual Cubic Feet</b>						
117	First-Class Letters % of total cubic feet	L112 / L116	5%	5%	5%	
118	First-Class Flats % of total cubic feet	L113 / L116	2%	2%	2%	
119	Standard Mail (A) Letters % of total cubic feet	L114 / L116	23%	23%	23%	
120	Standard Mail (A) Flats % of total cubic feet	L115 / L116	71%	71%	71%	

**Table 4: Mailing Online Transportation Costs**

Transportation Costs		Notes	Year 1	Year 2	Year 3	Total
121	Operational days	From Table 12, L53	3,848	7,193	7,575	
122	Cubic feet per operational day	L116 / L121	754	704	1,042	
123	Miles per round trip	From Internet Business Group	60	60	60	
124	Cost per mile	Year 1 from Docket No. MC97-2, USPS-T-4, WP-7, Year 2 = Year 1, L126, Year 3 = Year 2, L126	\$1.24	\$1.47	\$1.54	
125	Inflation factor	USPS-LR-1/MC2000-2, Tab A, p.9 <sup>1</sup>	1.19	1.05	1.05	
126	Inflated cost per mile	L124 * L125	\$1.47	\$1.54	\$1.62	
127	<b>Total annual transportation cost</b>	L126 * L123 * L121	<b>\$339,173</b>	<b>\$664,856</b>	<b>\$734,227</b>	<b>\$1,738,256</b>
<b>Total Annual Transportation Costs By Mail Type</b>						
128	First-Class Letters	L127 * L117	\$15,849	\$31,068	\$34,310	\$81,228
129	First-Class Flats	L127 * L118	\$5,675	\$11,124	\$12,285	\$29,084
130	Standard Mail (A) Letters	L127 * L119	\$77,370	\$151,683	\$167,488	\$396,522
131	Standard Mail (A) Flats	L127 * L120	\$240,279	\$471,000	\$520,144	\$1,231,423
132	<b>Total</b>	Sum of L128 through L131	<b>\$339,173</b>	<b>\$664,856</b>	<b>\$734,227</b>	<b>\$1,738,256</b>
<b>Unit Costs</b>						
133	First-Class Letters	L128 / L94	\$0.0002	\$0.0002	\$0.0002	\$0.0002
134	First-Class Flats	L129 / L95	\$0.0003	\$0.0004	\$0.0003	\$0.0003
135	Standard Mail (A) Letters	L130 / L96	\$0.0005	\$0.0005	\$0.0004	\$0.0005
136	Standard Mail (A) Flats	L131 / L97	\$0.0062	\$0.0069	\$0.0049	\$0.0060

<sup>1</sup>Year 1 inflation factor is calculated by dividing the September 1999 index value by the August 1995 index value and multiplying this ratio by the April 1999 index value divided by the September 1998 index value. This is to convert the August 1995 cost per mile metric to April 2000, when I assume the experiment will begin for purposes of estimating printer costs. Inflation factors for years 2 and 3 are calculated by dividing the April 1999 index value by the April 1998 index value.

**Table 5: Mailing Online Paper and Envelope Costs**

*Inflation rates are Producer Price Index values for Pulp, Paper, and Products shown in USPS-LR-1/MC2000-2, Tab A, p.3*

Unit Paper & Envelope Costs	Notes	Year 1	Inflation Rate	Year 2	Inflation Rate	Year 3
<b>Paper Costs</b>						
1 8.5x11	From Cauthorne Paper Co.	\$0.0047	2.70%	\$0.0048	2.70%	\$0.0050
2 8.5x14	Ibid.	\$0.0057	2.70%	\$0.0059	2.70%	\$0.0060
3 11x17	From Ris Paper Co.	\$0.0201	2.70%	\$0.0206	2.70%	\$0.0212
<b>Envelope Costs</b>						
4 #10 - no window, no logo	USPS-LR-1/MC2000-2, Tab B, p.12	\$0.0145	2.70%	\$0.0149	2.70%	\$0.0153
5 #10 - no window, logo	Ibid., p.12	\$0.0279	2.70%	\$0.0286	2.70%	\$0.0294
6 #10 - window, no logo	Ibid., p.12	\$0.0166	2.70%	\$0.0170	2.70%	\$0.0175
7 #10 - window, logo	Ibid., p.12	\$0.0290	2.70%	\$0.0298	2.70%	\$0.0306
8 Flat-sized (9x12) - no window, no logo	Ibid., p.11	\$0.0470	2.70%	\$0.0483	2.70%	\$0.0496
9 Flat-sized (9x12) - no window, logo	Ibid., p.11	\$0.1350	2.70%	\$0.1386	2.70%	\$0.1424
10 Flat-sized (9x12) - window, no logo	Ibid., p.12	\$0.1300	2.70%	\$0.1335	2.70%	\$0.1371
11 Flat-sized (9x12) - window, logo	Ibid., p.12	\$0.2200	2.70%	\$0.2259	2.70%	\$0.2320
<b>Total Paper &amp; Envelope Costs</b>						
	Notes	Year 1	Year 2	Year 3	Total	
<b>Total Paper Costs</b>						
12 Total 8.5x11 pages	From Table 13	974,425,779	1,700,634,621	2,651,498,717	5,326,559,116	
13 Total 8.5x14 pages	From Table 13	176,450,092	307,952,788	480,136,305	964,539,185	
14 Total 11x17 pages	From Table 13	84,417,856	147,331,826	229,708,452	461,458,134	
15 Total 8.5x11 cost	L1 * L12	\$4,579,801	\$8,208,793	\$13,144,079	\$25,932,674	
16 Total 8.5x14 cost	L2 * L13	\$1,005,766	\$1,802,725	\$2,886,558	\$5,695,048	
17 Total 11x17 cost	L3 * L14	\$1,695,111	\$3,038,300	\$4,864,986	\$9,598,397	
18 <b>Grand Total</b>	Sum of L15 through L17	<b>\$7,280,677</b>	<b>\$13,049,819</b>	<b>\$20,895,623</b>	<b>\$41,226,119</b>	
<b>Total Envelope Costs</b>						
19 Total #10 envelopes	From Table 4	239,245,343	417,547,361	651,007,735	1,307,800,439	
20 Total Flat-sized (9x12) envelopes	From Table 4	56,419,680	98,467,490	153,522,938	308,410,108	
21 Total #10 envelope cost	L19 * L4	\$3,469,057	\$6,217,907	\$9,956,233	\$19,643,197	
22 Total Flat-sized (9x12) envelope cost	L20 * L8	\$2,651,725	\$4,752,927	\$7,610,479	\$15,015,132	
23 <b>Grand Total</b>	L21 + L22	<b>\$6,120,782</b>	<b>\$10,970,834</b>	<b>\$17,566,712</b>	<b>\$34,658,328</b>	

**Table 6: Mailing Online Information Technology Costs**  
*Estimated by Wilness Lim*

Total IT Costs	Notes	Pre-Experiment	Year 1	Year 2	Year 3	Total
<b>1 Systems Development and Implementation</b>	MOL					
2 Hardware	USPS-T-3	\$2,645,144	\$264,514	\$264,514	\$264,514	\$3,438,687
3 Software	USPS-T-3	\$2,225,527	\$66,129	\$66,129	\$66,129	\$2,423,913
4 Telecom & Networking	USPS-T-3	\$154,087	\$432,000	\$432,000	\$432,000	\$1,450,087
5 Services						
6 MOL Cost For Development (To Date)	USPS-T-3	\$3,258,290	\$0	\$0	\$0	\$3,258,290
7 MOL Application Development	USPS-T-3	\$970,202	\$0	\$0	\$0	\$970,202
8 MOL Enhancement	USPS-T-3	\$0	\$4,117,583	\$3,725,198	\$1,552,800	\$9,395,581
9 MOL Integration with USPS.com	USPS-T-3	\$250,000	\$0	\$0	\$0	\$250,000
<b>10 Total</b>	Sum of L1 through L9	<b>\$9,503,251</b>	<b>\$4,880,226</b>	<b>\$4,487,841</b>	<b>\$2,315,443</b>	<b>\$21,186,760</b>
<b>11 Administrative Management &amp; Maintenance</b>	MOL					
12 Software	USPS-T-3	\$0	\$20,000	\$20,000	\$20,000	\$60,000
13 Personnel	USPS-T-3	\$0	\$785,400	\$922,000	\$980,000	\$2,687,400
14 Services	USPS-T-3	\$28,129	\$745,295	\$1,669,918	\$752,074	\$3,195,415
<b>15 Total</b>	Sum of L12 through L14	<b>\$28,129</b>	<b>\$1,550,695</b>	<b>\$2,611,918</b>	<b>\$1,752,074</b>	<b>\$5,942,815</b>
<b>16 Help Desk</b>	MOL/USPS.com					
17 Hardware	USPS-T-3	\$0	\$0	\$1,500	\$1,500	\$3,000
18 Software	USPS-T-3	\$0	\$2,500	\$4,249	\$4,249	\$10,998
19 Personnel	USPS-T-3	\$0	\$245,000	\$245,000	\$245,000	\$735,000
20 Services	USPS-T-3	\$0	\$599,726	\$960,369	\$1,206,671	\$2,766,767
<b>21 Total</b>	Sum of L17 through L20	<b>\$0</b>	<b>\$847,226</b>	<b>\$1,211,119</b>	<b>\$1,457,420</b>	<b>\$3,515,765</b>
<b>22 Print Sites</b>	MOL					
23 Hardware	USPS-T-3	\$73,437	\$313,820	\$78,455	\$0	\$465,711
24 Software	USPS-T-3	\$4,000	\$20,000	\$5,000	\$0	\$29,000
25 Telecom & Network	USPS-T-3	\$25,632	\$0	\$0	\$0	\$25,632
26 Services	USPS-T-3	\$0	\$882,400	\$1,507,600	\$1,560,000	\$3,950,000
<b>27 Total</b>	Sum of L23 through L26	<b>\$103,069</b>	<b>\$1,216,220</b>	<b>\$1,591,055</b>	<b>\$1,560,000</b>	<b>\$4,470,343</b>
<b>28 Grand Total</b>	L10 + L15 + L21 + L27	<b>\$9,634,448</b>	<b>\$8,494,366</b>	<b>\$9,901,932</b>	<b>\$7,084,937</b>	<b>\$35,115,683</b>

**Table 6: Mailing Online Information Technology Costs**

Estimated by Witness Lim

Product Specific IT Costs	Notes	Pre-Experiment	Year 1	Year 2	Year 3	Total
<b>29 Systems Development and Implementation</b>	MOL					
30 Hardware	USPS-T-3	\$2,645,144	\$264,514	\$264,514	\$264,514	\$3,438,687
31 Software	USPS-T-3	\$2,225,527	\$66,129	\$66,129	\$66,129	\$2,423,913
32 Telecom & Networking	USPS-T-3	\$154,087	\$0	\$0	\$0	\$154,087
33 Services						
34 MOL Cost For Development (To Date)	USPS-T-3	\$3,258,290	\$0	\$0	\$0	\$3,258,290
35 MOL Application Development	USPS-T-3	\$970,202	\$0	\$0	\$0	\$970,202
36 MOL Enhancement	USPS-T-3	\$0	\$4,117,583	\$3,725,198	\$1,552,800	\$9,395,581
37 MOL Integration with USPS.com	USPS-T-3	\$250,000	\$0	\$0	\$0	\$250,000
<b>38 Total</b>	Sum of L29 through L37	<b>\$9,503,251</b>	<b>\$4,448,226</b>	<b>\$4,055,841</b>	<b>\$1,883,443</b>	<b>\$19,890,760</b>
<b>39 Administrative Management &amp; Maintenance</b>	MOL					
40 Software	USPS-T-3	\$0	\$20,000	\$20,000	\$20,000	\$60,000
41 Personnel	USPS-T-3	\$0	\$785,400	\$922,000	\$980,000	\$2,687,400
42 Services	USPS-T-3	\$28,129	\$745,295	\$1,669,918	\$752,074	\$3,195,415
<b>43 Total</b>	Sum of L40 through L42	<b>\$28,129</b>	<b>\$1,550,695</b>	<b>\$2,611,918</b>	<b>\$1,752,074</b>	<b>\$5,942,815</b>
<b>44 Help Desk</b>	MOL/USPS.com					
45 Hardware	USPS-T-3	\$0	\$0	\$0	\$0	\$0
46 Software	USPS-T-3	\$0	\$0	\$0	\$0	\$0
47 Personnel	USPS-T-3	\$0	\$0	\$0	\$0	\$0
48 Services	USPS-T-3	\$0	\$0	\$0	\$0	\$0
<b>49 Total</b>	Sum of L45 through L48	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>50 Print Sites</b>	MOL					
51 Hardware	USPS-T-3	\$73,437	\$313,820	\$78,455	\$0	\$465,711
52 Software	USPS-T-3	\$4,000	\$20,000	\$5,000	\$0	\$29,000
53 Telecom & Network	USPS-T-3	\$25,632	\$0	\$0	\$0	\$25,632
54 Services	USPS-T-3	\$0	\$882,400	\$1,507,600	\$1,560,000	\$3,950,000
<b>55 Total</b>	Sum of L51 through L54	<b>\$103,069</b>	<b>\$1,216,220</b>	<b>\$1,591,055</b>	<b>\$1,560,000</b>	<b>\$4,470,343</b>
<b>56 Grand Total</b>	L38 + L43 + L49 + L55	<b>\$9,634,448</b>	<b>\$7,215,140</b>	<b>\$8,258,813</b>	<b>\$5,195,516</b>	<b>\$30,303,918</b>

**Table 6: Mailing Online Information Technology Costs**  
*Estimated by Witness Lim*

Volume Variable IT Costs	Notes	Pre-Experiment	Year 1	Year 2	Year 3	Total
<b>57 Systems Development and Implementation</b>	MOL					
58 Hardware	USPS-T-3	\$0	\$0	\$0	\$0	\$0
59 Software	USPS-T-3	\$0	\$0	\$0	\$0	\$0
60 Telecom & Networking	USPS-T-3	\$0	\$432,000	\$432,000	\$432,000	\$1,296,000
61 Services						
62 MOL Cost For Development (To Date)	USPS-T-3	\$0	\$0	\$0	\$0	\$0
63 MOL Application Development	USPS-T-3	\$0	\$0	\$0	\$0	\$0
64 MOL Enhancement	USPS-T-3	\$0	\$0	\$0	\$0	\$0
65 MOL Integration with USPS.com	USPS-T-3	\$0	\$0	\$0	\$0	\$0
<b>66 Total</b>	Sum of L57 through L65	<b>\$0</b>	<b>\$432,000</b>	<b>\$432,000</b>	<b>\$432,000</b>	<b>\$1,296,000</b>
<b>67 Administrative Management &amp; Maintenance</b>	MOL					
68 Software	USPS-T-3	\$0	\$0	\$0	\$0	\$0
69 Personnel	USPS-T-3	\$0	\$0	\$0	\$0	\$0
70 Services	USPS-T-3	\$0	\$0	\$0	\$0	\$0
<b>71 Total</b>	Sum of L68 through L70	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>72 Help Desk</b>	MOL/USPS.com					
73 Hardware	USPS-T-3	\$0	\$0	\$1,500	\$1,500	\$3,000
74 Software	USPS-T-3	\$0	\$2,500	\$4,249	\$4,249	\$10,998
75 Personnel	USPS-T-3	\$0	\$245,000	\$245,000	\$245,000	\$735,000
76 Services	USPS-T-3	\$0	\$599,726	\$960,369	\$1,206,671	\$2,766,767
<b>77 Total</b>	Sum of L73 through L76	<b>\$0</b>	<b>\$847,226</b>	<b>\$1,211,119</b>	<b>\$1,457,420</b>	<b>\$3,515,765</b>
<b>78 Print Sites</b>	MOL					
79 Hardware	USPS-T-3	\$0	\$0	\$0	\$0	\$0
80 Software	USPS-T-3	\$0	\$0	\$0	\$0	\$0
81 Telecom & Network	USPS-T-3	\$0	\$0	\$0	\$0	\$0
82 Services	USPS-T-3	\$0	\$0	\$0	\$0	\$0
<b>83 Total</b>	Sum of L79 through L82	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>84 Grand Total</b>	L66 + L71 + L77 + L83	<b>\$0</b>	<b>\$1,279,226</b>	<b>\$1,643,119</b>	<b>\$1,889,420</b>	<b>\$4,811,765</b>

**Table 6: Mailing Online Information Technology Costs**  
*Estimated by Witness Lim*

<b>Allocation of Costs:</b>		<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Total</b>
<b>Volume Variable Costs</b>					
85 % of B&W 8.5x11 & 8.5x14 impressions	See Table 13	45.57%	45.57%	45.57%	
86 % of B&W 11x17 impressions	Ibid.	12.79%	12.79%	12.79%	
87 % of spot color 8.5x11 & 8.5x14 impressions	Ibid.	41.63%	41.63%	41.63%	
88 Allocated to B&W, 8.5x11 & 8.5x14	L84 * L85	\$582,967	\$748,800	\$861,044	\$2,192,811
89 Allocated to B&W, 11x17	L84 * L86	\$163,656	\$210,210	\$241,721	\$615,587
90 Allocated to spot color, 8.5x11 & 8.5x14	L84 * L87	\$532,603	\$684,108	\$786,655	\$2,003,366
91 <b>Total</b>	Sum of L88 through L90	<b>\$1,279,226</b>	<b>\$1,643,119</b>	<b>\$1,889,420</b>	<b>\$4,811,765</b>

**Table 7: Mailing Online Advertising Costs**

	Notes	Year 1	Year 2	Year 3	Total
<sup>1</sup> Total Advertising Cost	From Internet Business Group	\$725,000	\$725,000	\$725,000	\$2,175,000

**Table 8: Mailing Online Hardware Costs**

	Notes	Year 1	Year 2	Year 3	Total
<b>DocuTech 6180s</b>					
1	Gross number of 6180s leased per year - 8.5x11 & 8.5x14	From Table 10	26	45	70
2	New 6180s leased per year - 8.5x11 & 8.5x14	Gross number of 6180s minus previous year gross 6180s	26	19	25
3	Gross number of 6180s leased per year - 11x17	From Table 10	17	30	46
4	New 6180s leased per year - 11x17	Gross 6180s minus previous year gross 6180s	17	13	16
5	Total number of 6180s leased per year	L1 + L3	43	75	116
6	Total number of new 6180s leased per year	L2 + L4	43	32	41
7	Leasing cost per DocuTech 6180 & Signature Booklet Maker per year	Year 1 from USPS-LR-1/MC2000-2, Tab C, p.14 <sup>1</sup> ; year 2 = year 1, L9; year 3 = year 2, L9	\$159,732	\$159,732	\$163,725
8	Annual inflation rate (CPI)	USPS-LR-1/MC2000-2, Tab A, p.7	0.00%	2.50%	2.50%
9	Inflated leasing cost per DocuTech 6180 & Signature Booklet Maker per year	L7 * (1 + L8)	\$159,732	\$163,725	\$167,818
10	Cost to Lease 6180s - 8.5x11 & 8.5x14	(L2 * L9) + total from previous year	\$4,153,032	\$7,263,813	\$11,459,274
11	Cost to Lease 6180s - 11x17	(L4 * L9) + total from previous year	\$2,715,444	\$4,843,873	\$7,528,968
12	<b>Total cost to lease 6180s &amp; Booklet Makers</b>	L10 + L11	<b>\$6,868,476</b>	<b>\$12,107,686</b>	<b>\$18,988,241</b>
13	Annual 8.5x11 B&W impression volume	From Table 13	622,051,312	1,434,700,263	2,236,874,317
14	Annual 8.5x14 B&W impression volume	ibid.	91,802,156	160,219,411	249,801,784
15	Annual 11x17 B&W impression volume	ibid.	256,546,865	447,741,418	698,083,986
16	Average annual impressions per DocuTech 6180 - 8.5x11 + 8.5x14	(L13 + L14) / L1	35,148,210	35,442,659	35,523,944
17	Average annual impressions per DocuTech 6180 - 11x17	L15 / L3	15,090,933	14,924,714	15,175,739
18	Average monthly impressions per DocuTech 6180 - 8.5x11 + 8.5x14	L16 / 12 months	2,929,018	2,953,555	2,960,329
19	Average monthly impressions per DocuTech 6180 - 11x17	L17 / 12 months	1,257,578	1,243,726	1,264,645
<b>Monthly Maintenance Charge per DocuTech 6180, 8.5x11 &amp; 8.5x14</b>					
20	Base monthly charge for each DocuTech 6180	Year 1 from USPS-LR-1/MC2000-2, Tab C, p.15; year 2 = year 1, L22; year 3 = year 2, L22	\$3,810	\$3,810	\$3,905
21	Annual inflation rate (CPI)	USPS-LR-1/MC2000-2, Tab A, p.7	0.00%	2.50%	2.50%
22	Inflated base monthly charge for each DocuTech 6180	L20 * (1 + L21)	\$3,810	\$3,905	\$4,003
23	Monthly 8.5x11 & 8.5x14 impression volume per machine > 1,200,000 impressions	Portion of L18 > 1,200,000	1,729,018	1,753,555	1,760,329
24	Charge for each impression > 1,200,000	Year 1 from USPS-LR-1/MC2000-2, Tab C, p.15; year 2 = year 1, L26; year 3 = year 2, L26	\$0.0040	\$0.0040	\$0.0041
25	Annual inflation rate (CPI)	USPS-LR-1/MC2000-2, Tab A, p.7	0.00%	2.50%	2.50%
26	Inflated charge for each impression > 1,200,000	L24 * (1 + L25)	\$0.0040	\$0.0041	\$0.0042
27	Inflated monthly charge for impressions > 1,200,000	L23 * L26	\$6,916	\$7,190	\$7,398
28	Total monthly maintenance charge per DocuTech 6180, 8.5x11 & 8.5x14	L22 + L27	\$10,726	\$11,095	\$11,401
29	Total annual maintenance charge per DocuTech 6180, 8.5x11 & 8.5x14	L28 * 12 months	\$128,713	\$133,138	\$136,808
30	<b>Total annual maintenance charge -- all DocuTech 6180s, 8.5x11 + 8.5x14</b>	L29 * L1	<b>\$3,348,534</b>	<b>\$5,991,266</b>	<b>\$9,576,557</b>
<b>Monthly Maintenance Charge per Signature Booklet Maker -- DocuTech 6180, 8.5x11 &amp; 8.5x14</b>					
31	Base monthly 8.5x11 & 8.5x14 maintenance charge	Year 1 from discussion with Xerox Business Services (XBS); year 2 = year 1, L33, year 3 = year 2, L33	\$425	\$425	\$436
32	Annual inflation rate (CPI)	USPS-LR-1/MC2000-2, Tab A, p.7	0.00%	2.50%	2.50%
33	Inflated base monthly 8.5x11 & 8.5x14 maintenance charge	L31 * (1 + L32)	\$425	\$436	\$447
34	Monthly 8.5x11 & 8.5x14 impression volume per machine > 250,000 impressions	Portion of L18 < 250,000	2,679,018	2,703,555	2,710,329
35	Charge per impression for impressions > 250,000	Year 1 from discussion with XBS; year 2 = year 1, L37, year 3 = year 2, L37	\$0.0025	\$0.0025	\$0.0026
36	Annual inflation rate (CPI)	USPS-LR-1/MC2000-2, Tab A, p.7	0.00%	2.50%	2.50%
37	Inflated charge per impression for impressions > 250,000	L35 * (1 + L36)	\$0.0025	\$0.0026	\$0.0026
38	Total charge for impressions > 250,000	L34 * L37	\$6,698	\$6,928	\$7,119
39	Total monthly maintenance charge per Signature Booklet Maker (DT6180 8.5x11 & 8.5x14)	L33 + L38	\$7,123	\$7,363	\$7,565
40	Total annual maintenance charge per Signature Booklet Maker (DT6180 8.5x11 & 8.5x14)	L39 * 12 months	\$85,471	\$88,362	\$90,784
41	<b>Total annual maintenance charge for all Signature Booklet Makers (DT6180 8.5x11 &amp; 8.5x14)</b>	L40 * L1	<b>\$2,222,234</b>	<b>\$3,976,282</b>	<b>\$6,354,905</b>

<sup>1</sup> Monthly lease cost multiplied by 12.

Table 8: Mailing Online Hardware Costs

	Notes	Year 1	Year 2	Year 3	Total	
<b>Monthly Maintenance Charge per DocuTech 6180, 11x17</b>						
42	Base monthly charge for each DocuTech 6180	Year 1 from USPS-LR-1/MC2000-2, Tab C, p. 15; year 2 = year 1, L44; year 3 = year 2, L44	\$3,810	\$3,810	\$3,905	
43	Annual inflation rate (CPI)	USPS-LR-1/MC2000-2, Tab A, p.7	0.00%	2.50%	2.50%	
44	Inflated base monthly charge for each DocuTech 6180	L42 * (1 + L43)	\$3,810	\$3,905	\$4,003	
45	Monthly 11x17 impression volume per machine > 1,200,000 impressions	Portion of L19 > 1,200,000	57,578	43,728	64,845	
46	Charge for each impression > 1,200,000	Year 1 from USPS-LR-1/MC2000-2, Tab C, p. 15; year 2 = year 1, L48; year 3 = year 2, L48	\$0.0040	\$0.0040	\$0.0041	
47	Annual inflation rate (CPI)	USPS-LR-1/MC2000-2, Tab A, p.7	0.00%	2.50%	2.50%	
48	Inflated charge for each impression > 1,200,000	L46 * (1 + L47)	\$0.0040	\$0.0041	\$0.0042	
49	Monthly charge for impressions > 1,200,000	L45 * L48	\$230	\$179	\$272	
50	Total monthly maintenance charge per DocuTech 6180, 11x17	L44 + L49	\$4,040	\$4,085	\$4,275	\$12,399
51	Total annual maintenance charge per DocuTech 6180, 11x17	L50 * 12 months	\$48,484	\$49,014	\$51,295	\$148,793
52	Total annual maintenance charge -- All DocuTech 6180s, 11x17	L51 * L3	\$824,223	\$1,470,430	\$2,359,552	\$4,654,206
<b>Monthly Maintenance Charge per Signature Booklet Maker -- DocuTech 6180, 11x17</b>						
53	Base monthly 11x17 maintenance charge	Year 1 from discussion with XBS; year 2 = year 1, L55; year 3 = year 2, L55	\$425	\$425	\$436	
54	Annual inflation rate (CPI)	USPS-LR-1/MC2000-2, Tab A, p.7	0.00%	2.50%	2.50%	
55	Inflated base monthly 11x17 maintenance charge	L53 * (1 + L54)	\$425	\$436	\$447	
56	Monthly 11x17 impression volume per machine > 250,000 impressions	Portion of L19 > 250,000	1,007,578	993,728	1,014,845	
57	Charge per impression for impressions > 250,000	Year 1 from discussion with XBS; year 2 = year 1, L59; year 3 = year 2, L59	\$0.0025	\$0.0025	\$0.0026	
58	Annual inflation rate (CPI)	USPS-LR-1/MC2000-2, Tab A, p.7	0.00%	2.50%	2.50%	
59	Inflated charge per impression for impressions > 250,000	L57 * (1 + L58)	\$0.0025	\$0.0026	\$0.0026	
60	Total charge for impressions > 250,000	L56 * L59	\$2,519	\$2,546	\$2,665	
61	Total monthly maintenance charge per Signature Booklet Maker (DT6180 11x17)	L55 + L60	\$2,944	\$2,982	\$3,112	\$9,038
62	Total annual maintenance charge per Signature Booklet Maker (DT6180 11x17)	L61 * 12 months	\$35,327	\$35,785	\$37,339	\$108,450
63	Total annual maintenance charge for all Signature Booklet Makers (DT6180 11x17)	L62 * L3	\$600,585	\$1,073,537	\$1,717,572	\$3,391,674
<b>DocuTech 92Cs</b>						
64	Total number of 92Cs leased per year	From Table 10	46	81	125	252
65	New 92Cs leased per year	Gross 92Cs minus previous year gross 92Cs	46	35	44	
66	Leasing cost per DocuTech 92C for 1 year	Year 1 from USPS-LR-1/MC2000-2, Tab C, p. 14 <sup>1</sup> ; year 2 = year 1, L68; year 3 = year 2, L68	\$98,160	\$98,160	\$100,614	
67	Annual inflation rate (CPI)	USPS-LR-1/MC2000-2, Tab A, p.7	0.00%	2.50%	2.50%	
68	Inflated leasing cost per DocuTech 92C for 1 year	L66 * (1 + L67)	\$98,160	\$100,614	\$103,129	\$301,903
69	Cost to lease all 92Cs & Signature Booklet Makers	(L65 * L68) + total from previous year	\$4,515,360	\$8,036,850	\$12,574,541	\$25,126,751
70	Annual 8.5x11 Spot Color Impression volume	From Table 15	658,588,659	1,149,414,043	1,792,077,983	3,600,080,686
71	Annual 8.5x14 Spot Color Impression volume	Ibid.	176,313,759	307,714,851	479,785,332	963,793,942
72	Average annual impressions per machine - 8.5x11 + 8.5x14	(L70 + L71) / L64	18,150,053	17,989,246	18,174,747	54,314,045
73	Average monthly impressions per machine - 8.5x11 + 8.5x14	L72 / 12 months	1,512,504	1,499,104	1,514,562	4,526,170
<b>Monthly Maintenance Charge per DocuTech 92C, 8.5x11 &amp; 8.5x14</b>						
74	Base monthly charge for each DocuTech 92C	Year 1 from USPS-LR-1/MC2000-2, Tab C, p. 15; year 2 = year 1, L76; year 3 = year 2, L76	\$4,655	\$4,655	\$4,771	
75	Annual inflation rate (CPI)	USPS-LR-1/MC2000-2, Tab A, p.7	0.00%	2.50%	2.50%	
76	Inflated base monthly charge for each DocuTech 92C	L74 * (1 + L75)	\$4,655	\$4,771	\$4,891	
77	Monthly 8.5x11 & 8.5x14 impression volume per machine > 1,100,000 impressions	Portion of L73 > 1,100,000	412,504	399,104	414,582	
78	Charge for each impression > 1,100,000	Year 1 from USPS-LR-1/MC2000-2, Tab C, p. 15; year 2 = year 1, L80; year 3 = year 2, L80	\$0.0035	\$0.0035	\$0.0036	
79	Annual inflation rate (CPI)	USPS-LR-1/MC2000-2, Tab A, p.7	0.00%	2.50%	2.50%	
80	Inflated charge for each impression > 1,100,000	L78 * (1 + L79)	\$0.0035	\$0.0036	\$0.0037	
81	Monthly charge for impressions > 1,100,000	L77 * L80	\$1,444	\$1,432	\$1,524	
82	Total monthly maintenance charge per DocuTech 6180, 8.5x11 & 8.5x14	L76 + L81	\$6,099	\$6,203	\$6,415	\$18,717
83	Total annual maintenance charge per DocuTech 6180, 8.5x11 & 8.5x14	L82 * 12 months	\$73,185	\$74,438	\$78,981	\$224,604
84	Total annual maintenance charge -- all DocuTech 92Cs, 8.5x11 + 8.5x14	L83 * L64	\$3,386,518	\$6,829,471	\$9,822,824	\$19,018,813

<sup>1</sup> Monthly lease cost multiplied by 12.

**Table 8: Mailing Online Hardware Costs**

	Notes	Year 1	Year 2	Year 3	Total
<b>Inserters</b>					
85	Total 8 Series leased per year - Letter-Sized documents	10	17	27	
86	New 8 Series leased per year - Letter-Sized documents	10	7	10	
87	Leasing cost per 8 Series per year - Letter-Sized documents	\$217,032	\$217,032	\$222,458	
88	Annual inflation rate (CPI)	0.00%	2.50%	2.50%	
89	Inflated leasing cost per 8 Series per year - Letter-Sized documents	\$217,032	\$222,458	\$228,019	\$667,509
90	Cost to lease all 8 Series - Letter-Sized documents	\$2,170,320	\$3,727,525	\$6,007,717	
91	Maintenance charge per 8 Series per year - Letter-Sized documents	\$52,000	\$52,000	\$53,300	
92	Annual inflation rate (CPI)	0.00%	2.50%	2.50%	
93	Inflated maintenance charge per 8 Series per year - Letter-Sized documents	\$52,000	\$53,300	\$54,633	
94	Total 8 Series maintenance charges - Letter-Sized documents	\$520,000	\$906,100	\$1,475,078	
95	Total Number of 8 Series Leased per year - Flat-Sized documents	3	4	7	
96	New 8 Series leased per year Flat-Sized documents	3	1	3	
97	Leasing cost per 8 Series per year - Flat-Sized documents	\$217,032	\$217,032	\$222,458	
98	Annual inflation rate (CPI)	0.00%	2.50%	2.50%	
99	Inflated leasing cost per 8 Series per year - Flat-Sized documents	\$217,032	\$222,458	\$228,019	\$667,509
100	Cost to Lease all 8 Series - Flat-Sized documents	\$651,096	\$873,554	\$1,557,812	
101	Maintenance charge per 8 Series per year - Flat-Sized documents	\$52,000	\$52,000	\$53,300	
102	Annual inflation rate (CPI)	0.00%	2.50%	2.50%	
103	Inflated maintenance charge per 8 Series per year - Flat-Sized documents	\$52,000	\$53,300	\$54,633	
104	Total 8 Series maintenance charges - Flat-Sized documents	\$156,000	\$213,200	\$382,428	
105	Total Lease Costs (Letter-Sized Inserters + Flat-Sized Inserters)	\$2,821,416	\$4,601,078	\$7,565,329	
106	Total Maintenance Costs (Letter-Sized Inserters + Flat-Sized Inserters)	\$876,000	\$1,119,309	\$1,857,505	
<b>Allocated Costs:</b>					
107	Total 6180, 8.5x11 & 8.5x14 lease costs	\$4,153,032	\$7,263,813	\$11,459,274	\$22,876,118
108	Total 6180, 8.5x11 & 8.5x14 maintenance costs	\$5,568,768	\$9,967,487	\$15,931,462	\$31,467,717
109	TOTAL, 6180 8.5x11 & 8.5x14	\$9,721,800	\$17,231,300	\$27,390,735	\$54,343,835
110	Total 6180, 11x17 lease costs	\$2,715,444	\$4,843,873	\$7,528,968	\$15,086,285
111	Total 6180, 11x17 maintenance costs	\$1,424,788	\$2,543,567	\$4,077,125	\$8,045,880
112	TOTAL, 6180 11x17	\$4,140,232	\$7,387,440	\$11,606,092	\$23,134,165
113	Total 92C lease costs	\$4,515,360	\$8,036,650	\$12,574,541	\$25,126,751
114	Total 92C maintenance costs	\$3,366,518	\$6,029,471	\$9,622,624	\$19,018,613
115	TOTAL, 92C	\$7,881,878	\$14,066,121	\$22,197,165	\$44,145,365
116	Total 8 Series inserter lease costs - Letter-Sized documents	\$2,170,320	\$3,727,525	\$6,007,717	\$11,905,562
117	Total 8 Series maintenance costs - Letter-Sized documents	\$520,000	\$906,100	\$1,475,078	\$2,901,178
118	TOTAL, 8 Series - Letter-Sized documents	\$2,690,320	\$4,633,625	\$7,482,795	\$14,806,739
119	Total 8 Series inserter lease costs - Flat-Sized documents	\$651,096	\$873,554	\$1,557,812	\$3,082,281
120	Total 8 Series maintenance costs - Flat-Sized documents	\$156,000	\$213,200	\$382,428	\$751,628
121	TOTAL, 8 Series - Flat-Sized documents	\$807,096	\$1,086,754	\$1,940,239	\$3,833,889

<sup>1</sup> Monthly lease cost multiplied by 12.

**Table 9: Mailing Online Personnel Costs**

	Notes	Year 1	Year 2	Year 3	Total
<b>Digital Printer Operators</b>					
<b>DocuTech 6180s</b>					
1	Gross number of Docutech 6180 Printers dedicated to 8.5x11 + 8.5x14	From Table 14	26	45	70
2	Gross number of Docutech 6180 Printers dedicated to 11x17	ibid.	17	30	46
3	Number of shifts	From Table 17	2	2	2
4	Hourly wage rate	USPS-LR-1/MC2000-2, Tab D, p.21	\$13.26	\$13.26	\$13.26
5	Annual work hours, 1 shift	From Table 17 * 8	2,424	2,424	2,424
6	Annual wages for 1 operator, excluding benefits	L4 * L5	\$32,142	\$32,142	\$32,142
7	Annual wages for 1 operator, including benefits	L6 plus 30% for benefits. See USPS-LR-1/MC2000-2, Tab E, p.26	\$41,785	\$41,785	\$41,785
8	Annual inflation rate (CPI)	USPS-LR-1/MC2000-2, Tab A, p.7	2.50%	2.50%	2.50%
9	Years to inflate (from 1997)	Base Year (-) 1997	3	4	5
10	Compound inflation rate	Compounded rate	7.69%	10.38%	13.14%
11	Adjusted annual wages for 1 operator	L7 * (1 + L10)	\$44,998	\$46,123	\$47,276
12	DocuTech 6180 operators, 8.5x11 & 8.5x14	L1 * L3 * L11	\$2,339,885	\$4,151,045	\$6,618,611
13	DocuTech 6180 operators, 11x17	L2 * L3 * L11	\$1,529,925	\$2,767,363	\$4,349,373
14	<b>DocuTech 6180 operators, total</b>	L12 + L13	<b>\$3,869,809</b>	<b>\$6,918,409</b>	<b>\$10,967,984</b>
<b>DocuTech 92Cs</b>					
15	Gross number of DocuTech 92Cs	From Table 14	46	81	125
16	Number of shifts	From Table 17	2	2	2
17	Hourly wage rate	USPS-LR-1/MC2000-2, Tab D, p.21	\$13.26	\$13.26	\$13.26
18	Annual work hours, 1 shift	From Table 17 * 8	2,424	2,424	2,424
19	Annual wages for 1 operator, excluding benefits	L17 * L18	\$32,142	\$32,142	\$32,142
20	Annual wages for 1 operator, including benefits	L19 plus 30% for benefits. See USPS-LR-1/MC2000-2, Tab E, p.26	\$41,785	\$41,785	\$41,785
21	Annual inflation rate(CPI)	USPS-LR-1/MC2000-2, Tab A, p.7	2.50%	2.50%	2.50%
22	Years to inflate (from 1997)	Base Year (-) 1997	3	4	5
23	Compound inflation rate	Compounded rate	7.69%	10.38%	13.14%
24	Adjusted annual wages for 1 operator	L20 * (1 + L23)	\$44,998	\$46,123	\$47,276
25	<b>DocuTech 92C operators, total</b>	L15 * L16 * L24	<b>\$4,139,796</b>	<b>\$7,471,881</b>	<b>\$11,818,948</b>
26	<b>Digital printer operators, subtotal</b>	L14 + L25	<b>\$8,009,605</b>	<b>\$14,390,290</b>	<b>\$22,786,932</b>
<b>Contingency Operators</b>					
27	Total months operational - all sites	From Table 12	162	288	300
28	Contingency operators allocated to DocuTech 6180, 8.5x11 & 8.5x14	(L11 / L2) * L27 * (L12 / L26)	\$177,463	\$319,311	\$343,289
29	Contingency operators allocated to DocuTech 6180, 11x17	(L11 / L2) * L27 * (L13 / L26)	\$116,034	\$212,874	\$225,590
30	Contingency operators allocated to DocuTech 92C	(L24 / L2) * L27 * (L25 / L26)	\$313,973	\$574,760	\$613,016
31	<b>Contingency operators, total</b>	Sum of L28 through L30	<b>\$607,470</b>	<b>\$1,106,945</b>	<b>\$1,181,895</b>
32	Total, DocuTech 6180, 8.5x11 & 8.5x14	L12 + L28	\$2,517,348	\$4,470,356	\$6,961,900
33	Total, DocuTech 6180, 11x17	L13 + L29	\$1,645,958	\$2,980,238	\$4,574,963
34	Total, DocuTech 92C	L25 + L30	\$4,453,769	\$8,046,641	\$12,431,964
35	<b>Total digital printer operators, including contingency</b>	Sum of L32 through L34	<b>\$8,617,075</b>	<b>\$15,497,235</b>	<b>\$23,968,827</b>

**Table 9: Mailing Online Personnel Costs**

	Notes	Year 1	Year 2	Year 3	Total
<b>Inserter Operators</b>					
36	Gross number of 8 Series Inserters (letters)	From Table 14	10	17	27
37	Gross number of 8 Series Inserters (flats)	From Table 14	3	4	7
38	Number of shifts	From Table 17	2	2	2
39	Hourly wage rate	L4	\$13.26	\$13.26	\$13.26
40	Annual work hours, 1 shift	From Table 18 * 8	2,424	2,424	2,424
41	Annual wages for 1 Operator, excluding benefits	L39 * L40	\$32,142	\$32,142	\$32,142
42	Annual wages for 1 Operator, including benefits	L41 plus 30% for benefits. See USPS-LR-1/MC2000-2, Tab E, p.26	\$41,785	\$41,785	\$41,785
43	Annual inflation rate (CPI)	USPS-LR-1/MC2000-2, Tab A, p.7	2.50%	2.50%	2.50%
44	Years to inflate (from 1997)	Base Year (-) 1997	3	4	5
45	Compound inflation rate	Compounded rate	7.69%	10.38%	13.14%
46	Adjusted annual wages for 1 Operator	L42 * (1 + L45)	\$44,998	\$46,123	\$47,276
47	8 Series Operators (letters)	L36 * L38 * L46	\$899,956	\$1,568,173	\$2,552,893
48	8 Series Operators (flats)	L37 * L38 * L46	\$269,987	\$368,982	\$661,861
49	<b>Inserter operators, total</b>	L47 + L48	<b>\$1,169,942</b>	<b>\$1,937,154</b>	<b>\$3,214,754</b>
<b>Sweepers</b>					
50	Total months operational - all sites	L27	162	288	300
51	Number of shifts per site	L38	2	2	2
52	Total shifts - all sites	L50 * L51	324	576	600
53	Total Sweeper salaries	L46 * L52 / 12	\$1,214,940	\$2,213,891	\$2,363,790
54	Sweepers allocated to 8 Series (letters)	L53 * (L47 / L49)	\$934,569	\$1,792,197	\$1,877,127
55	Sweepers allocated to 8 Series (flats)	L53 * (L48 / L49)	\$280,371	\$421,693	\$486,663
56	<b>Sweepers, total</b>	L54 + L55	<b>\$1,214,940</b>	<b>\$2,213,891</b>	<b>\$2,363,790</b>
57	Total 8 Series Inserter Operators, including Sweepers (letters)	L47 + L54	\$1,834,525	\$3,360,370	\$4,430,020
58	Total 8 Series Inserter Operators, including Sweepers (flats)	L48 + L55	\$550,357	\$790,675	\$1,148,524
59	<b>Total inserter operators, including sweepers</b>	L57 + L58	<b>\$2,384,882</b>	<b>\$4,151,045</b>	<b>\$5,578,544</b>
60	<b>Total digital printer + inserter personnel costs</b>	L35 + L59	<b>\$11,001,957</b>	<b>\$19,648,281</b>	<b>\$29,547,370</b>

**Table 9: Mailing Online Personnel Costs**

	Notes	Year 1	Year 2	Year 3	Total
<b>Supervisors</b>					
61	Total months operational - all sites	162	288	300	
62	Number of shifts per site	2	2	2	
63	Hourly wage rate	\$14.59	\$14.59	\$14.59	
64	Annual work hours, 1 shift	2,424	2,424	2,424	
65	Annual wages for 1 Supervisor, excluding benefits	L63 * L64 \$35,366	\$35,366	\$35,366	
66	Annual wages for 1 Supervisor, including benefits	L65 plus 30% for benefits. See USPS-LR-1/MC2000-2, Tab E, p.26 \$45,976	\$45,976	\$45,976	
67	Annual inflation rate (CPI)	USPS-LR-1/MC2000-2, Tab A, p.7 2.50%	2.50%	2.50%	
68	Years to inflate (from 1997)	Base Year (-) 1997 3	4	5	
69	Compound inflation rate	Compounded rate 7.69%	10.38%	13.14%	
70	Adjusted annual wages for 1 Supervisor	L66 * (1 + L69) \$49,511	\$50,749	\$52,018	
71	Supervisors allocated to DocuTech 6180s, 8.5x11& 8.5x14	L61 * L62 * (L70 / 12) * (L32 / L60) \$305,872	\$554,224	\$612,815	\$1,472,912
72	Supervisors allocated to DocuTech 6180s, 11x17	L61 * L62 * (L70 / 12) * (L33 / L60) \$199,993	\$369,483	\$402,707	\$972,183
73	<b>Total supervisors allocated to DocuTech 6180s</b>	L71 + L72 \$505,865	\$923,707	\$1,015,522	\$2,445,095
74	<b>Total supervisors allocated to DocuTech 92Cs</b>	L61 * L62 * (L70 / 12) * (L34 / L60) \$541,158	\$997,604	\$1,094,313	\$2,633,075
75	Supervisors allocated to 8 Series Inserters (letters)	L61 * L62 * (L70 / 12) * (L57 / L60) \$222,905	\$416,611	\$389,949	
76	Supervisors allocated to 8 Series Inserters (flats)	L61 * L62 * (L70 / 12) * (L58 / L60) \$66,872	\$98,026	\$101,098	
77	<b>Total supervisors allocated to Inserters</b>	\$289,777	\$514,637	\$491,046	
78	<b>Copier department supervisors, total</b>	L73 + L74 + L77 \$1,336,801	\$2,435,948	\$2,600,882	\$6,373,630
<b>Allocated Costs:</b>					
79	DocuTech 6180, 8.5x11 & 8.5x14 Subtotal	L32 + L71 \$2,823,220	\$5,024,581	\$7,574,715	\$15,422,516
80	General Sales + Administration (GSA) Costs	42% of L79. See USPS-LR-1/MC2000-2, Tab E, p.26 \$1,185,752	\$2,110,324	\$3,181,380	\$6,477,457
81	<b>Total</b>	L79 + L80 \$4,008,972	\$7,134,905	\$10,756,095	\$21,899,972
82	DocuTech 6180, 11x17 Subtotal	L33 + L72 \$1,845,951	\$3,349,720	\$4,977,670	\$10,173,342
83	GSA Costs	42% of L82. See USPS-LR-1/MC2000-2, Tab E, p.26 \$775,300	\$1,406,883	\$2,090,621	\$4,272,804
84	<b>Total</b>	L82 + L83 \$2,621,251	\$4,756,603	\$7,068,291	\$14,446,145
85	Docutech 92C Subtotal	L34 + L74 \$4,994,927	\$9,044,245	\$13,526,277	\$27,565,450
86	GSA Costs	42% of L85. See USPS-LR-1/MC2000-2, Tab E, p.26 \$2,097,869	\$3,798,583	\$5,681,036	\$11,577,489
87	<b>Total</b>	L85 + L86 \$7,092,797	\$12,842,828	\$19,207,313	\$39,142,938
88	8 Series Operators Subtotal (letters)	L57 + L75 \$2,057,430	\$3,776,981	\$4,819,989	\$10,654,379
89	GSA Costs	42% of L88. See USPS-LR-1/MC2000-2, Tab E, p.26 \$864,121	\$1,586,332	\$2,024,387	\$4,474,839
90	<b>Total</b>	L88 + L89 \$2,921,551	\$5,363,313	\$6,844,355	\$15,129,219
91	8 Series Operators Subtotal (flats)	L58 + L76 \$617,229	\$888,701	\$1,249,621	\$2,755,552
92	GSA Costs	42% of L91. See USPS-LR-1/MC2000-2, Tab E, p.26 \$259,236	\$373,255	\$524,841	\$1,157,332
93	<b>Total</b>	L91 + L92 \$876,465	\$1,261,956	\$1,774,462	\$3,912,884
94	<b>Grand Total</b>	L81 + L84 + L87 + L90 + L93 \$17,521,036	\$31,359,604	\$45,650,518	\$94,531,158

**Table 10: Mailing Online Facility Costs**

	Notes	Year 1	Year 2	Year 3	Total
<b>Facility Costs Incurred From DocuTech 6180s</b>					
1	Number of B&W Printers dedicated to 8.5x11 & 8.5x14	From Table 14	26	45	70
2	Number of B&W Printers dedicated to 11x17	<i>Ibid.</i>	17	30	46
3	Square footage needed for 1 DocuTech 6180	USPS-LR-1/MC2000-2, Tab F, p.30	606	606	606
4	Annual square footage needed for DocuTech 6180s - 8.5x11 & 8.5x14	L1 * L3	15,756	27,270	42,420
5	Annual square footage needed for DocuTech 6180s - 11x17	L2 * L3	10,302	18,180	27,876
6	Rent and utilities per square foot	USPS-LR-1/MC2000-2, Tab F, p.39	\$8.31	\$8.31	\$8.31
7	Annual Inflation Rate (CPI)	USPS-LR-1/MC2000-2, Tab A, p.7	2.50%	2.50%	2.50%
8	Years to inflate (from 1997)	Base Year (-) 1998	2	3	4
9	Compound inflation rate	Compounded rate	5.06%	7.69%	10.38%
10	Inflated annual rent and utilities per square foot	L6 * (1 + L9)	\$8.73	\$8.95	\$9.17
11	Rent and utilities for DocuTech 6180s - 8.5x11 and 8.5x14	L4 * L10	\$137,561	\$244,038	\$389,105
12	Rent and utilities for DocuTech 6180s - 11x17	L5 * L10	\$89,944	\$162,692	\$255,698
13	<b>Total rent and utilities allocated to DocuTech 6180s</b>	L11 + L12	<b>\$227,504</b>	<b>\$406,730</b>	<b>\$644,803</b>
<b>Facility Costs Incurred From DocuTech 92Cs</b>					
14	Number of 92C's dedicated to 8.5x11 & 8.5x14	From Table 14	46	81	125
15	Square footage needed for 1 DocuTech 92C	USPS-LR-1/MC2000-2, Tab F, p.30	606	606	606
16	Annual square footage needed for Xerox DocuTech 92Cs	L14 * L15	27,876	49,086	75,750
17	Rent and utilities per square foot	USPS-LR-1/MC2000-2, Tab F, p.39	\$8.31	\$8.31	\$8.31
18	Annual Inflation Rate (CPI)	USPS-LR-1/MC2000-2, Tab A, p.7	2.50%	2.50%	2.50%
19	Years to inflate (from 1997)	Base Year (-) 1998	2	3	4
20	Compound inflation rate	Compounded rate	5.06%	7.69%	10.38%
21	Inflated annual rent and utilities per square foot	L17 * (1 + L20)	\$8.73	\$8.95	\$9.17
22	<b>Annual facility rent and utilities for DocuTech 92Cs</b>	L16 * L21	<b>\$243,377</b>	<b>\$439,269</b>	<b>\$694,831</b>
<b>Facility Costs Incurred From Inserters</b>					
23	Number of 8 Series Inserters (letters)	From Table 14	10	17	27
24	Number of 8 Series Inserters (flats)	<i>Ibid.</i>	3	4	7
25	Total number of Inserters	L23 + L24	13	21	34
26	Square footage needed for 8 Series (letters)	USPS-LR-1/MC2000-2, Tab F, p.31	493	493	493
27	Square footage needed for 8 Series (flats)	<i>Ibid.</i>	493	493	493
28	Rent and utilities per square foot	USPS-LR-1/MC2000-2, Tab F, p.39	\$8.31	\$8.31	\$8.31
29	Annual Inflation Rate (CPI)	USPS-LR-1/MC2000-2, Tab A, p.7	2.50%	2.50%	2.50%
30	Years to inflate (from 1997)	Base Year (-) 1998	2	3	4
31	Compound inflation rate	Compounded rate	5.06%	7.69%	10.38%
32	Inflated annual rent and utilities per square foot	L28 * (1 + L31)	\$8.73	\$8.95	\$9.17
33	Rent and utilities for 8 Series (letters)	L23 * L26 * L32	\$43,042	\$75,001	\$122,098
34	Rent and utilities for 8 Series (flats)	L24 * L27 * L32	\$12,913	\$17,647	\$31,655
35	<b>Annual facility rent and utilities for inserters</b>	L33 + L34	<b>\$55,955</b>	<b>\$92,649</b>	<b>\$153,753</b>

**Table 10: Mailing Online Facility Costs**

Allocated Costs:		Notes	Year 1	Year 2	Year 3	Total
36	Total DocuTech 6180 facility costs, 8.5x11 & 8.5x14	L11	\$137,561	\$244,036	\$389,105	\$770,704
37	Total DocuTech 6180 facility costs, 11x17	L12	\$89,944	\$162,692	\$255,698	\$508,333
38	Total DocuTech 92C facility costs	L22	\$243,377	\$439,269	\$694,831	\$1,377,476
39	<b>Total printer facility costs</b>	Sum of L36 through L38	<b>\$470,881</b>	<b>\$845,999</b>	<b>\$1,339,634</b>	<b>\$2,656,514</b>
40	Total 8 Series facility costs (letters)	L33	\$43,042	\$75,001	\$122,098	\$240,141
41	Total 8 Series Facility Costs (flats)	L34	\$12,913	\$17,647	\$31,655	\$62,215
42	<b>Total inserter facility costs</b>	L40 + L41	<b>\$55,955</b>	<b>\$92,649</b>	<b>\$153,753</b>	<b>\$302,356</b>

**Table 11: Mailing Online Consumables Costs**

	Notes	Year 1	Year 2	Year 3	Total
<b>Xerox DocuTech 6180</b>					
<b>Toner</b>					
	Year 1 from USPS-LR-1/MC2000-2, Tab C, p.15; year 2 = year 1, L3; year 3 = year 2, L3				
1	Toner charge per impression	\$0.0013	\$0.0013	\$0.0013	
2	Annual inflation rate	0.00%	2.50%	2.50%	
3	Inflated toner charge per impression	\$0.0013	\$0.0013	\$0.0013	
4	8.5x11 & 8.5x14 B&W impressions	913,853,467	1,594,919,673	2,486,676,101	4,995,449,242
5	11x17 B&W impressions	ibid.	256,545,865	447,741,418	1,402,371,270
6	8.5x11 & 8.5x14 toner cost	L3 * L4	\$1,142,317	\$2,043,491	\$3,265,705
7	11x17 toner cost	L3 * L5	\$320,682	\$573,669	\$916,781
8	<b>Total B&amp;W toner</b>	<b>L6 + L7</b>	<b>\$1,462,999</b>	<b>\$2,617,160</b>	<b>\$4,182,486</b>
<b>Developer</b>					
	Year 1 from USPS-LR-1/MC2000-2, Tab C, p.15; year 2 = year 1, L11; year 3 = year 2, L11				
9	Developer charge per impression	\$0.0004	\$0.0004	\$0.0004	
10	Annual inflation rate	0.00%	2.50%	2.50%	
11	Developer charge per impression	\$0.0004	\$0.0004	\$0.0004	
12	8.5x11& 8.5x14 B&W impressions	913,853,467	1,594,919,673	2,486,676,101	4,995,449,242
13	11x17 B&W impressions	ibid.	256,545,865	447,741,418	1,402,371,270
14	8.5x11& 8.5x14 B&W developer cost	L11 * L12	\$359,449	\$643,018	\$1,027,609
15	11x17 B&W developer cost	L11 * L13	\$100,908	\$180,514	\$288,480
16	<b>Total B&amp;W developer</b>	<b>L14 + L15</b>	<b>\$460,357</b>	<b>\$823,533</b>	<b>\$1,316,089</b>
<b>Fuser Agent</b>					
	Year 1 from USPS-LR-1/MC2000-2, Tab C, p.15; year 2 = year 1, L19; year 3 = year 2, L19				
17	Fuser agent charge per impression	\$0.0002	\$0.0002	\$0.0002	
18	Annual inflation rate	0.00%	2.50%	2.50%	
19	Inflated fuser agent charge per impression	\$0.0002	\$0.0002	\$0.0002	
20	8.5x11& 8.5x14 B&W impressions	913,853,467	1,594,919,673	2,486,676,101	4,995,449,242
21	11x17 B&W impressions	ibid.	256,545,865	447,741,418	1,402,371,270
22	8.5x11& 8.5x14 B&W fuser agent cost	L19 * L20	\$164,494	\$294,263	\$470,262
23	11x17 B&W fuser agent cost	L19 * L21	\$46,178	\$82,608	\$132,016
24	<b>Total B&amp;W fuser agent</b>	<b>L22 + L23</b>	<b>\$210,672</b>	<b>\$376,871</b>	<b>\$602,278</b>
25	<b>Total B&amp;W Consumables</b>	<b>L8 + L16 + L24</b>	<b>\$2,134,028</b>	<b>\$3,817,563</b>	<b>\$6,100,852</b>

**Table 11: Mailing Online Consumables Costs**

	Notes	Year 1	Year 2	Year 3	Total	
<b>Xerox DocuTech 92C</b>						
<b>Black Toner</b>						
26	Black toner charge per impression	Year 1 from USPS-LR-1/MC2000-2, Tab C, p.15; year 2 = year 1, L28; year 3 = year 2, L28	\$0.0016	\$0.0016	\$0.0016	
27	Annual inflation rate	USPS-LR-1/MC2000-2, Tab A, p.7	0.00%	2.50%	2.50%	
28	Inflated black toner charge per impression	L26 * (1 + L27)	\$0.0016	\$0.0016	\$0.0017	
29	8.5x11& 8.5x14 Spot Color impressions	From Table 13	\$834,902,418	\$1,457,128,894	\$2,271,843,315	\$4,563,874,628
30	<b>Total black toner</b>	L28 * L29	<b>\$1,317,290</b>	<b>\$2,356,501</b>	<b>\$3,765,927</b>	<b>\$7,439,719</b>
<b>Color Toner</b>						
31	Color toner charge per impression	Year 1 from USPS-LR-1/MC2000-2, Tab C, p.15; year 2 = year 1, L33; year 3 = year 2, L33	\$0.0028	\$0.0028	\$0.0029	
32	Annual inflation rate	USPS-LR-1/MC2000-2, Tab A, p.7	0.00%	2.50%	2.50%	
33	Inflated color toner charge per impression	L31 * (1 + L32)	\$0.0028	\$0.0029	\$0.0030	
34	8.5x11& 8.5x14 Spot Color impressions	From Table 13	\$834,902,418	\$1,457,128,894	\$2,271,843,315	\$4,563,874,628
35	<b>Total color toner</b>	L33 * L34	<b>\$2,360,205</b>	<b>\$4,222,171</b>	<b>\$6,747,457</b>	<b>\$13,329,833</b>
36	<b>Total Color Consumables</b>	L30 + L35	<b>\$3,677,495</b>	<b>\$6,578,672</b>	<b>\$10,513,384</b>	<b>\$20,769,552</b>
<b>Allocated Costs:</b>						
<b>Xerox DocuTech 6180</b>						
37	8.5x11 & 8.5x14	L6 + L14 + L22	\$1,666,259	\$2,980,772	\$4,763,575	\$9,410,607
38	11x17	L7 + L15 + L23	\$467,769	\$836,791	\$1,337,277	\$2,641,837
39	<b>Total</b>	L37 + L38	<b>\$2,134,028</b>	<b>\$3,817,563</b>	<b>\$6,100,852</b>	<b>\$12,052,444</b>
<b>Xerox DocuTech 92C</b>						
40	8.5x11& 8.5x14	L30 + L35	\$3,677,495	\$6,578,672	\$10,513,384	\$20,769,552

**Table 12: Mailing Online Print Site Rollout**

Months in Operation by Site		Notes	Year 1	Year 2	Year 3
		All rounded up to the next higher month			
1	Months in operation - Site 1	Start Date - 4/15/00	12	12	12
2	Months in operation - Site 2	Start Date - 4/15/00	12	12	12
3	Months in operation - Site 3	Start Date - 4/15/00	12	12	12
4	Months in operation - Site 4	Start Date - 4/15/00	12	12	12
5	Months in operation - Site 5	Start Date - 5/13/00	12	12	12
6	Months in operation - Site 6	Start Date - 5/27/00	11	12	12
7	Months in operation - Site 7	Start Date - 6/10/00	11	12	12
8	Months in operation - Site 8	Start Date - 7/1/00	10	12	12
9	Months in operation - Site 9	Start Date - 7/15/00	9	12	12
10	Months in operation - Site 10	Start Date - 7/29/00	9	12	12
11	Months in operation - Site 11	Start Date - 8/12/00	9	12	12
12	Months in operation - Site 12	Start Date - 8/19/00	8	12	12
13	Months in operation - Site 13	Start Date - 9/9/00	8	12	12
14	Months in operation - Site 14	Start Date - 10/7/00	7	12	12
15	Months in operation - Site 15	Start Date - 11/4/00	6	12	12
16	Months in operation - Site 16	Start Date - 12/2/00	5	12	12
17	Months in operation - Site 17	Start Date - 12/30/00	4	12	12
18	Months in operation - Site 18	Start Date - 2/3/01	3	12	12
19	Months in operation - Site 19	Start Date - 3/17/01	1	12	12
20	Months in operation - Site 20	Start Date - 4/14/01	1	12	12
21	Months in operation - Site 21	Start Date - 5/12/01	0	12	12
22	Months in operation - Site 22	Start Date - 6/9/01	0	11	12
23	Months in operation - Site 23	Start Date - 7/14/01	0	10	12
24	Months in operation - Site 24	Start Date - 8/18/01	0	8	12
25	Months in operation - Site 25	Start Date - 9/15/01	0	7	12
26	<b>Total months</b>	Sum of L1 through L25	<b>162</b>	<b>288</b>	<b>300</b>

**Table 12: Mailing Online Print Site Rollout**

<b>Days in Operation by Site</b>	<b>Notes</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>
27 Operational days per year	6 day workweek, subtract 10 holidays	303	303	303
28 Days in operation - Site 1	Start Date - 4/15/00	303	303	303
29 Days in operation - Site 2	Start Date - 4/15/00	303	303	303
30 Days in operation - Site 3	Start Date - 4/15/00	303	303	303
31 Days in operation - Site 4	Start Date - 4/15/00	303	303	303
32 Days in operation - Site 5	Start Date - 5/13/00	279	303	303
33 Days in operation - Site 6	Start Date - 5/27/00	267	303	303
34 Days in operation - Site 7	Start Date - 6/10/00	256	303	303
35 Days in operation - Site 8	Start Date - 7/1/00	238	303	303
36 Days in operation - Site 9	Start Date - 7/15/00	227	303	303
37 Days in operation - Site 10	Start Date - 7/29/00	215	303	303
38 Days in operation - Site 11	Start Date - 8/12/00	203	303	303
39 Days in operation - Site 12	Start Date - 8/19/00	197	303	303
40 Days in operation - Site 13	Start Date - 9/9/00	180	303	303
41 Days in operation - Site 14	Start Date - 10/7/00	156	303	303
42 Days in operation - Site 15	Start Date - 11/4/00	133	303	303
43 Days in operation - Site 16	Start Date - 12/2/00	111	303	303
44 Days in operation - Site 17	Start Date - 12/30/00	88	303	303
45 Days in operation - Site 18	Start Date - 2/3/01	60	303	303
46 Days in operation - Site 19	Start Date - 3/17/01	25	303	303
47 Days in operation - Site 20	Start Date - 4/14/01	1	303	303
48 Days in operation - Site 21	Start Date - 5/12/01	0	279	303
49 Days in operation - Site 22	Start Date - 6/9/01	0	256	303
50 Days in operation - Site 23	Start Date - 7/14/01	0	227	303
51 Days in operation - Site 24	Start Date - 8/18/01	0	197	303
52 Days in operation - Site 25	Start Date - 9/15/01	0	174	303
53 Total days	Sum of L28 through L52	3848	7193	7575
54 Total number of new sites per year		20	5	0

**Table 13: Mailing Online Volumes**

All volume projections were developed by National Analysts.

	Notes	Year 1	Year 2	Year 3	Total	
1	<b>Total Pieces</b>	295,665,025	516,014,856	804,530,681	1,616,210,563	
2	<b>Black and White Pieces</b>	<i>Ibid.</i>	286,491,448	446,675,434	897,320,105	
3	<b>Spot Color Pieces</b>	<i>Ibid.</i>	229,523,408	357,855,247	718,890,458	
4	<b>Percentage of Black and White pieces</b>	L2 / L1	55.52%	55.52%	55.52%	
5	<b>Percentage of Spot Color pieces</b>	L3 / L1	44.48%	44.48%	44.48%	
6	<b>First-Class Volume</b>	USPS-LR-2/MC98-1, Section E, Table 15	91,744,857	160,119,410	249,645,870	501,510,138
7	<b>Percentage of First-Class Volume</b>	L6 / L1	31.03%	31.03%	31.03%	
8	<b>Standard Volume</b>	USPS-LR-2/MC98-1, Section E, Table 15	203,920,168	355,895,446	554,884,811	1,114,700,425
9	<b>Percentage of Standard Volume</b>	L8 / L1	68.97%	68.97%	68.97%	
10	<b>Pieces with 1-2 pages</b>	USPS-LR-2/MC98-1, Section E, Table 15	200,490,454	349,909,674	545,552,255	1,095,952,383
11	<b>Percentage with 1-2 pages</b>	L10 / L1	67.81%	67.81%	67.81%	
12	<b>Pieces with 3-4 pages</b>	USPS-LR-2/MC98-1, Section E, Table 15	31,547,458	55,058,785	85,843,424	172,449,667
13	<b>Percentage with 3-4 pages</b>	L12 / L1	10.67%	10.67%	10.67%	
14	<b>Pieces with 5-6 pages</b>	USPS-LR-2/MC98-1, Section E, Table 15	28,058,611	48,969,810	76,349,962	153,378,382
15	<b>Percentage with 5-6 pages</b>	L14 / L1	9.49%	9.49%	9.49%	
16	<b>Pieces with 7-10 pages</b>	USPS-LR-2/MC98-1, Section E, Table 15	9,431,714	16,460,874	25,664,529	51,557,117
17	<b>Percentage with 7-10 pages</b>	L16 / L1	3.19%	3.19%	3.19%	
18	<b>Pieces with 11-15 pages</b>	USPS-LR-2/MC98-1, Section E, Table 15	5,262,837	9,185,064	14,320,646	28,768,548
19	<b>Percentage with 11-15 pages</b>	L18 / L1	1.78%	1.78%	1.78%	
20	<b>Pieces with greater than 15 pages</b>	USPS-LR-2/MC98-1, Section E, Table 15	20,844,384	36,379,047	56,719,413	113,942,845
21	<b>Percentage with greater than 15 pages</b>	L20 / L1	7.05%	7.05%	7.05%	
22	<b>Simplex Pieces (single-sided)</b>	USPS-LR-2/MC98-1, Section E, Table 15	142,067,045	247,945,138	386,576,992	776,589,175
23	<b>Duplex Pieces (double-sided)</b>	<i>Ibid.</i>	153,597,981	268,069,718	417,953,689	839,621,387
24	<b>Percentage of Simplex Pieces</b>	L22 / L1	48.05%	48.05%	48.05%	
25	<b>Percentage of Duplex Pieces</b>	L23 / L1	51.95%	51.95%	51.95%	
26	<b>Pieces printed on 8.5x11 paper</b>	USPS-LR-2/MC98-1, Section E, Table 15	233,250,138	407,084,120	634,694,254	1,275,028,513
27	<b>Pieces printed on 8.5x14 paper</b>	<i>Ibid.</i>	26,048,089	45,460,909	70,879,153	142,388,151
28	<b>Pieces printed on 11x17 paper</b>	<i>Ibid.</i>	36,396,365	63,521,429	99,037,727	198,955,520
29	<b>Percentage of pieces printed on 8.5x11 paper</b>	L26 / L1	78.89%	78.89%	78.89%	
30	<b>Percentage of pieces printed on 8.5x14 paper</b>	L27 / L1	8.81%	8.81%	8.81%	
31	<b>Percentage of pieces printed on 11x17 paper</b>	L28 / L1	12.31%	12.31%	12.31%	

**Table 13: Mailing Online Volumes**  
*All volume projections were developed by National Analysts.*

<b>B&amp;W breakdown of pages and impressions</b>		<b>Notes</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Total</b>
32	Black and White pieces with 1-2 pages	L4 * L10	111,312,300	194,269,851	302,890,612	608,472,763
33	Black and White pieces with 3-4 pages	L4 * L12	17,515,149	30,568,638	47,660,269	95,744,055
34	Black and White pieces with 5-6 pages	L4 * L14	15,578,141	27,188,038	42,389,499	85,155,678
35	Black and White pieces with 7-10 pages	L4 * L16	5,238,488	9,139,077	14,248,946	28,624,511
36	Black and White pieces with 11-15 pages	L4 * L18	2,921,927	5,099,548	7,950,823	15,972,298
37	Black and White pieces with greater than 15 pages	L4 * L20	11,572,802	20,197,647	31,490,618	63,261,067
38	1.5 pages	L32 * 1.5	166,968,450	291,404,777	454,335,918	912,709,144
39	3.5 pages	L33 * 3.5	61,303,021	106,990,231	166,810,941	335,104,193
40	5.5 pages	L34 * 5.5	85,679,774	149,534,211	233,142,243	468,356,229
41	8.5 pages	L35 * 8.5	44,510,146	77,682,156	121,116,044	243,308,346
42	13 pages	L36 * 13	37,985,058	66,294,121	103,360,695	207,639,872
43	25 pages	L37 * 25	289,320,054	504,941,178	787,265,453	1,581,526,684
44	<b>Total B&amp;W pages</b>	Sum of L38 through L43	<b>685,766,501</b>	<b>1,196,846,674</b>	<b>1,866,031,294</b>	<b>3,748,644,469</b>
45	8.5x11 B&W pages	L44 * L29	541,001,192	944,192,341	1,472,112,088	2,957,305,621
46	8.5x11 B&W impressions from simplex printing	L45 * L24	259,951,073	453,684,420	707,349,858	1,420,985,351
47	8.5x11 B&W impressions from duplex printing	L45 * L25 * 2	562,100,239	981,015,843	1,529,524,459	3,072,640,541
48	<b>Total 8.5x11 B&amp;W impressions</b>	L46 + L47	<b>822,051,312</b>	<b>1,434,700,263</b>	<b>2,236,874,317</b>	<b>4,493,625,892</b>
49	8.5x14 B&W pages	L44 * L30	60,416,029	105,442,192	164,397,357	330,255,578
50	8.5x14 B&W impressions from simplex printing	L49 * L24	29,029,902	50,664,973	78,992,930	158,687,805
51	8.5x14 B&W impressions from duplex printing	L49 * L25 * 2	62,772,254	109,554,437	170,808,854	343,135,545
52	<b>Total 8.5x14 B&amp;W impressions</b>	L50 + L51	<b>91,802,156</b>	<b>160,219,411</b>	<b>249,801,784</b>	<b>501,823,350</b>
53	11x17 B&W pages	L44 * L31	84,417,856	147,331,826	229,708,452	461,458,134
54	11x17 B&W impressions from simplex printing	L53 * L24 * 2	81,125,560	141,585,884	220,749,823	443,461,267
55	11x17 B&W impressions from duplex printing	L53 * L25 * 4	175,420,305	306,155,534	477,334,164	958,910,003
56	<b>Total 11x17 B&amp;W impressions</b>	L54 + L55	<b>256,545,865</b>	<b>447,741,418</b>	<b>698,083,986</b>	<b>1,402,371,270</b>
57	<b>Total B&amp;W impressions</b>	L48 + L52 + L56	<b>1,170,399,332</b>	<b>2,042,661,091</b>	<b>3,184,760,088</b>	<b>6,397,820,512</b>

**Table 13: Mailing Online Volumes**

All volume projections were developed by National Analysts.

Spot Color breakdown of pages and impressions		Notes	Year 1	Year 2	Year 3	Total
58	Spot Color 1-2 pages	L5 * L10	89,178,154	155,639,823	242,661,643	487,479,620
59	Spot Color 3-4 pages	L5 * L12	14,032,309	24,490,148	38,183,155	76,705,612
60	Spot Color 5-6 pages	L5 * L14	12,480,470	21,781,771	33,960,463	68,222,705
61	Spot Color 7-10 pages	L5 * L16	4,195,227	7,321,797	11,415,582	22,932,606
62	Spot Color 11-15 pages	L5 * L18	2,340,910	4,085,517	6,389,823	12,796,250
63	Spot Color Greater than 15 pages	L5 * L20	9,271,582	16,181,400	25,228,795	50,681,777
64	1.5 pages	L58 * 1.5	133,767,231	233,459,735	363,992,464	731,219,430
65	3.5 pages	L59 * 3.5	49,113,083	85,715,517	133,641,042	268,469,642
66	5.5 pages	L60 * 5.5	68,642,586	119,799,743	186,782,546	375,224,875
67	8.5 pages	L61 * 8.5	35,659,425	62,235,272	97,032,450	194,927,148
68	13 pages	L62 * 13	30,431,831	53,111,717	82,807,704	166,351,252
69	25 pages	L63 * 25	231,789,553	404,535,007	630,719,873	1,267,044,433
70	<b>Total Spot Color pages</b>	Sum of L64 through L69	<b>549,403,709</b>	<b>958,858,990</b>	<b>1,484,978,880</b>	<b>3,003,236,779</b>
71	8.5x11 Spot Color pages	L70 * L29	433,424,586	756,442,279	1,179,388,629	2,369,253,495
72	8.5x11 Spot Color impressions from simplex printing	L71 * L24	208,260,514	363,470,515	568,695,275	1,138,426,304
73	8.5x11 Spot Color impressions from duplex printing	L71 * L25 * 2	450,328,145	785,943,528	1,225,382,708	2,461,654,381
74	<b>Total 8.5x11 Spot Color impressions</b>	L72 + L73	<b>658,588,659</b>	<b>1,149,414,043</b>	<b>1,792,077,983</b>	<b>3,600,080,686</b>
75	8.5x14 Spot Color pages	L70 * L30	48,402,467	84,475,301	131,707,393	264,585,160
76	8.5x14 Spot Color impressions from simplex printing	L75 * L24	23,257,385	40,590,382	63,285,402	127,133,169
77	8.5x14 Spot Color impressions from duplex printing	L75 * L25 * 2	50,290,163	87,769,838	136,843,981	274,903,981
78	<b>Total 8.5x14 Spot Color impressions</b>	L76 + L77	<b>73,547,548</b>	<b>128,360,220</b>	<b>200,129,383</b>	<b>402,037,151</b>
79	11x17 Spot Color pages (convert to 8.5x14)	L70 * L31	67,631,597	118,035,295	184,031,555	369,698,447
80	11x17 Spot Color impressions from simplex printing	L79 * L24	32,496,982	56,715,959	88,427,162	177,640,104
81	11x17 Spot Color impressions from duplex printing	L79 * L25 * 2	70,269,229	122,638,672	191,208,786	384,116,687
82	<b>Total 11x17 Spot Color impressions (convert to 8.5x14)</b>	L80 + L81	<b>102,766,211</b>	<b>179,354,631</b>	<b>279,635,948</b>	<b>561,756,791</b>
83	<b>Total Spot Color impressions</b>	L74 + L78 + L82	<b>834,902,418</b>	<b>1,457,128,894</b>	<b>2,271,843,315</b>	<b>4,563,874,628</b>
84	<b>Total impressions</b>	L67 + L83	<b>2,005,301,751</b>	<b>3,499,789,986</b>	<b>5,456,603,403</b>	<b>10,961,695,139</b>
<b>Summary of Impressions</b>						
85	B&W 8.5x11 & 8.5x14	L48 + L52	913,853,467	1,594,919,673	2,488,676,101	4,995,449,242
86	% B&W, 8.5x11 & 8.5x14	L85 / L84	45.57%	45.57%	45.57%	
87	B&W 11x17	Equals L56	256,545,865	447,741,418	698,083,986	1,402,371,270
88	% B&W, 11x17	L87 / L84	12.79%	12.79%	12.79%	
89	S.C. 8.5x11 & 8.5x14	L74 + L78 + L82	834,902,418	1,457,128,894	2,271,843,315	4,563,874,628
90	% S.C., 8.5x11 & 8.5x14	L89 / L84	41.63%	41.63%	41.63%	
91	<b>Total</b>	L85 + 87 + 89	<b>2,005,301,751</b>	<b>3,499,789,986</b>	<b>5,456,603,403</b>	<b>10,961,695,139</b>

**Table 14: Mailing Online Hardware Requirements Summary**

	Notes	Year 1	Year 2	Year 3
1 <b>Total Sites per Year</b>	From Table 12	20	25	25
2 6180s - 8.5x11 & 8.5x14	From Table 15	26	45	70
3 6180s - 11x17	Ibid.	17	30	46
4 <b>Total 6180s required per year</b>	L2 + L3	43	75	116
5 <b>Total 92Cs required per year</b>	From Table 15	46	81	125
6 <b>8 Series inserters required annually - letter-sized documents</b>	From Table 16	10	17	27
7 <b>8 Series Inserters required annually - flat-sized documents</b>	From Table 16	3	4	7

**Table 15: Mailing Online Printers Required**

	Notes	Year 1	Year 2	Year 3	
<b>Xerox DocuTech 6180's</b>					
1	B&W 8.5x11 impressions	From Table 13	822,051,312	1,434,700,263	2,236,874,317
2	B&W 8.5x14 impressions	Ibid.	91,802,156	160,219,411	249,801,784
3	Total B&W 8.5x11 and 8.5x14 impressions	L1 + L2	913,853,467	1,594,919,673	2,486,676,101
4	Xerox DocuTech 6180 annual productivity, 8.5x11 and 8.5x14	From Table 17	35,603,712	35,603,712	35,603,712
5	Xerox DocuTech 6180s required for B&W 8.5x11 & 8.5x14	L3 / L4	25.67	44.80	69.84
6	<b>Total Xerox DocuTech 6180s required for B&amp;W 8.5x11 &amp; 8.5x14</b>	L5 rounded up to the next machine	<b>26</b>	<b>45</b>	<b>70</b>
7	B&W 11x17 impressions	From Table 13	256,545,865	447,741,418	698,083,986
8	Xerox DocuTech 6180 annual productivity, 11x17	From Table 17	15,230,477	15,230,477	15,230,477
9	Xerox DocuTech 6180s required for B&W 11x17	L7 / L8	16.84	29.40	45.83
10	<b>Total Xerox DocuTech 6180s required for B&amp;W 11x17</b>	L9 rounded up to the next machine	<b>17</b>	<b>30</b>	<b>46</b>
11	<b>Total Xerox DocuTech 6180s Required</b>	L6 + L10	<b>43</b>	<b>75</b>	<b>116</b>
<b>DocuTech 92Cs</b>					
12	Spot Color 8.5x11 impressions	From Table 13	658,588,659	1,149,414,043	1,792,077,983
13	Spot Color 8.5x14 impressions	Ibid.	73,547,548	128,360,220	200,129,383
14	Spot Color 8.5x14 impressions, converted from 11x17	Ibid.	102,766,211	179,354,631	279,635,948
15	Total Spot Color 8.5x11 and 8.5x14 impressions	Sum of L12 through L14	834,902,418	1,457,128,894	2,271,843,315
16	Xerox DocuTech 92C annual productivity, 8.5x11 and 8.5x14	From Table 17	18,197,453	18,197,453	18,197,453
17	Xerox DocuTech 92Cs required for Spot Color 8.5x11 & 8.5x14	L15 / L16	45.880	80.073	124.844
18	<b>Total Xerox DocuTech 92Cs required</b>	L17 rounded up to the next machine	<b>46</b>	<b>81</b>	<b>125</b>

**Table 16: Mailing Online Inserters Required**

		Notes	Year 1	Year 2	Year 3
<b>Total Annual Volume Breakout -- All Sites</b>					
1	First-Class Letters	From Table 4	74,237,830	129,564,946	202,007,700
2	First-Class Flats	Ibid.	17,507,027	30,554,462	47,638,168
3	Standard Mail (A) Letters	Ibid.	165,007,513	287,982,415	449,000,035
4	Standard Mail (A) Flats	Ibid.	38,912,653	67,913,028	105,884,770
5	<b>Total</b>	Sum of L1 through L4	<b>295,665,022</b>	<b>516,014,851</b>	<b>804,530,673</b>
<b>Pitney Bowes 8 Series Inserter - Letter-Sized Documents</b>					
6	Total Letter-Sized documents	L1 + L3	239,245,343	417,547,361	651,007,735
7	Annual 8 Series productivity	From Table 18	24,821,760	24,821,760	24,821,760
8	Total number of 8 Series required annually	L6 / L7	9.64	16.82	26.23
9	<b>Total 8 Series required for Letter-Sized documents</b>	L8 rounded up to the next machine	<b>10</b>	<b>17</b>	<b>27</b>
<b>Pitney Bowes 8 Series Inserter - Flat-Sized Documents</b>					
10	Total Flat-Sized documents	L2 + L4	56,419,680	98,467,490	153,522,938
11	Annual 8 Series productivity	From Table 18	24,821,760	24,821,760	24,821,760
12	Total number of 8 Series required annually	L10 / L11	2.27	3.97	6.19
13	<b>Total 8 Series required for Flat-Sized documents</b>	L12 rounded up to the next machine	<b>3</b>	<b>4</b>	<b>7</b>

**Table 17: Mailing Online Printer Productivities**

	Notes	Year 1	Year 2	Year 3
1	Shifts per day	2	2	2
2	Business days per year	303	303	303
<b>Xerox DocuTech 6180</b>				
<b>8.5x11 &amp; 8.5x14 paper sizes</b>				
3	Impressions per minute	180	180	180
4	Minutes per shift	480	480	480
5	Maximum 8.5x11 and 8.5x14 impressions per day (2 shifts)	172,800	172,800	172,800
6	Productivity adjustment factor	68%	68%	68%
7	Adjusted maximum 8.5x11 & 8.5x14 impressions per day	117,504	117,504	117,504
8	Maximum 8.5x11 and 8.5x14 impressions per year	35,603,712	35,603,712	35,603,712
<b>11x17 paper size</b>				
9	Impressions per minute	77	77	77
10	Minutes per shift	480	480	480
11	Maximum 11x17 impressions per day	73,920	73,920	73,920
12	Productivity adjustment factor	68%	68%	68%
13	Adjusted maximum 11x17 impressions per day	50,266	50,266	50,266
14	Maximum 11x17 impressions per year	15,230,477	15,230,477	15,230,477
<b>Xerox DocuTech 92C</b>				
<b>8.5x11 and 8.5x14 paper sizes</b>				
15	Impressions per minute	92	92	92
16	Minutes per shift	480	480	480
17	Maximum 8.5x11 and 8.5x14 impressions per day	88,320	88,320	88,320
18	Productivity adjustment factor	68%	68%	68%
19	Adjusted maximum 8.5x11 & 8.5x14 impressions per day	60,058	60,058	60,058
20	Maximum 8.5x11 and 8.5x14 impressions per year	18,197,453	18,197,453	18,197,453

**Table 18: Mailing Online Inserter Productivities**

	Notes	Year 1	Year 2	Year 3
1	Shifts per day	2	2	2
2	Business days per year	303	303	303
<b>Pitney Bowes 8-Series Inserter - Letter-Sized Documents</b>				
3	Pieces per hour	5120	5120	5120
4	Hours per shift	8	8	8
5	Maximum letter-sized pieces per day (2 shifts)	81,920	81,920	81,920
6	Maximum letter-sized pieces per year	24,821,760	24,821,760	24,821,760
<b>Pitney Bowes 8-Series Inserter - Flat-Sized Documents</b>				
7	Pieces per hour	5120	5120	5120
8	Hours per shift	8	8	8
9	Maximum flat-sized pieces per day (2 shifts)	81,920	81,920	81,920
10	Maximum flat-sized pieces per year	24,821,760	24,821,760	24,821,760