

Colorado Courier Cost Comparison Study



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Summary

The Colorado Courier is a cooperative service of the seven regional library systems of Colorado. It provides delivery service for library materials to participating libraries across the state. The statewide courier service is administered by the Central Colorado Library System (CCLS) and funded by the seven regional library service systems. Participating libraries pay to use the service.

CCLS contracted with the Library Research Service (LRS) at the Colorado State Library to study how economical the courier service is for the libraries that use it. LRS surveyed 34 libraries using the courier service in February 2003 to learn how much material was shipped via the courier service during a week. The purpose of the survey was to provide data to compare the costs of transporting library materials throughout the state by the Colorado Courier service to using commercial alternatives like the United States Post Office (USPS), United Parcel Service (UPS), or Federal Express (FedEx).

Analysis of the data shows the courier service saves libraries money when compared to the cost of shipping the materials by commercial services. The cost of alternative delivery services is much more expensive than the amounts libraries in Colorado currently pay to use the statewide courier service. The least expensive alternative examined, USPS Library Mail, was found to cost more than 3 times as much as using the courier service when only weight shipped was considered. However, weight shipped would not account for all the extra costs libraries would bear in shipping by commercial services. Packing materials and labor add even more to the costs for shipping library materials commercially than are now required for the courier service.

“Courier service makes Interlibrary Loan much less expensive and much speedier to process. Many people in remote Cortez have furthered their education by using Interlibrary Loan.” – Joanie Howland, Cortez Public Library Director

Methodology

Public, academic, special, and school libraries of all sizes and in a variety of settings (metropolitan, non-metropolitan, and resort) throughout the state were invited to participate in the survey in an effort to make the results representative of all types and sizes of libraries in Colorado. Table 1 shows the participating libraries broadly divided into large, medium, and small categories. Note that two library districts had multiple branches participate so the table contains only 29 names.

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Table 1: Libraries Participating in Courier Service Cost Comparison Study, Feb. 10-14, 2003

Size	Public	Academic	Special and School
Large (serving population 100,000 and above; student population over 7,000; or general institution size)	<ul style="list-style-type: none"> • Adams Public Library • Arapahoe Public Library District • Aurora Public Library • Denver Public Library • Douglas Public Library District • Fort Collins Public Library • Mesa County Public Library District • Weld Library District 	<ul style="list-style-type: none"> • University of Denver 	<ul style="list-style-type: none"> • Denver Medical Library • Exempla St. Joseph • St. Vrain School District
Medium (serving population between 10,000-99,999; student population between 5,000-6,999; or general institution size)	<ul style="list-style-type: none"> • Durango Public Library • Eagle Valley Library District (2 branches) • Edwin A. Bemis Public Library (Littleton) • Grand County Library District (5 branches, office) • Lafayette Public Library • Louisville Public Library 	<ul style="list-style-type: none"> • University of Colorado at Colorado Springs • Regis University 	<ul style="list-style-type: none"> • US EPA Region 8 Technical Library • Bureau of Reclamation
Small (serving population 10,000 or under; student population under 5,000; or general institution size)	<ul style="list-style-type: none"> • Cortez Public Library • Southern Peaks Public Library (Alamosa) • Wilkinson Public Library • Woodruff Memorial Library (La Junta) • Wray Public Library 	<ul style="list-style-type: none"> • Ft. Lewis College • Mesa State College 	

The participating libraries were asked to keep track of all items being sent on the courier for five consecutive days, February 10-14, 2003. This period was a randomly selected sample week. The data collected may or may not reflect a typical week for any or all of the participating libraries. Some participants felt they shipped less than usual during the week. Others may have shipped more than usual. These differences do not affect the presentation of findings or the overall conclusion of the study.

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The survey was limited to items being sent on the courier service because the costs of using the alternatives studied—the USPS Library Mail, UPS Ground, and FedEx 2Day—are paid by the sender. LRS set out to measure the physical volume of library materials sent through the courier and asked participating libraries to follow these directions:

- Count ALL items being sent via courier—but only those sent.
- Include in the counts all items being sent via courier, whether the item originated at the participating library, at another library for which it serves as a drop-off point, or with an individual patron.
- Count physical units (e.g., book volumes) not bibliographic records (e.g., titles).
- Count audio book cases—and enter in the appropriate column based on the number of cassettes or CDs included. The ranges provided for audio books were intended to encourage estimating their size without actually counting tapes or CDs.
- Count photocopies—e.g., magazine articles, book chapters. Averages of the number of pages in photocopies were given by the libraries.

“Lost Books are probably the most essential monetary value the state courier offers to CCSD. Our students use many different libraries and often return their school books to public libraries or visa-versa. With the courier, libraries can return material to the rightful owner without paying postage. We receive hundreds (460 June 02-April 03) of “lost” books which if reflected by approximated dollars (\$25.00 average price), would equal \$11,500...Whose budget these days can possibly absorb that kind of loss? – Su Eckhardt, District Library Media Specialist, Cherry Creek Schools

The data collected from all the libraries was consolidated into one spreadsheet. Average weights for the various formats and sizes of library items were determined by visiting the Denver Public Library with a postal scale, weighing a number of that type of item, and calculating averages. These weight estimates were then used to calculate freight costs for shipping of the three alternatives, U.S. Postal Service (USPS) Library Mail, UPS Ground Domestic, and FedEx 2Day. The assumption was that without the Colorado Courier individual libraries would ship materials by commercial alternatives so the standard rates for the various commercial services were used. Inquiries to the sales representatives found that commercial carriers may give discounts based on shipping volume, but such discounts apply to a single shipping location only. Because of the modest volume of items they ship, many Colorado libraries would be unable to take advantage of the volume discounts as they are currently structured. It was determined that for ergonomic reasons no box should weigh over 20 pounds.

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Shipments of over 20 pounds were divided into 20 pound increments and a remainder for pricing purposes.

Commercial shipping methods require different treatment for the library materials being shipped than are required for shipment via the courier. LRS staff researched the cost of packing materials. Staff time for packaging the materials was estimated by timing LRS staff assembling and packing books and other library materials into boxes.

"Our small library receives a huge benefit from having the courier service. Though we are close to large academic libraries it still is a critical part of our Interlibrary Loan service to have the courier. We had one very handicapped student who was able to receive the books he needed to do his research via the courier, whereas it would have been very difficult for him and his mother, who must assist him, to have to round up all of his books. I hope very much that it's not taken away!" – Gayle Gunderson, Reference Librarian, Colorado Christian University Library

Rates compared are for United States Postal Service Library Mail, UPS Ground, and FedEx 2Day. For all of these services any fraction of a pound higher than a given weight rate requires the next higher rate.

The weekly courier costs were calculated by dividing the annual courier expense figures provided by CCLS by 52 for the number of weeks in the year. The courier service runs 52 weeks, taking only eight holidays off. Subsidies given by CCLS to its member libraries were added to the library's costs before the weekly calculation was made.

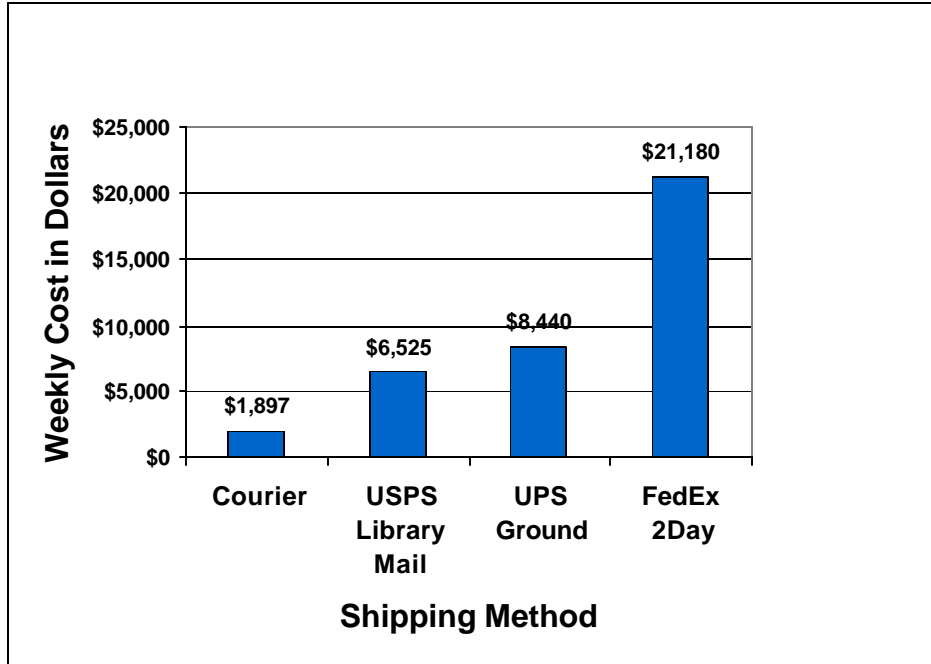
Libraries pay a membership fee to CCLS so adding the subsidy back into the courier cost reflects the actual cost of using the service.

Findings

The 34 libraries that participated in the survey shipped 11,483 pounds of materials using the courier service during the study week at a cost to them of \$1,897 for the courier service for that week. Using United States Post Office Library Mail would have cost those libraries a total of \$6,525 in mailing costs, 3.44 times the cost to use the courier service. UPS Domestic delivery would have cost \$8,440, or 4.45 times as much. FedEx 2Day would have cost \$21,180, 11.16 times as much. These figures were reached by calculating the shipping costs of the items from each participating library and adding those totals together. Chart 1 summarizes these findings.

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Chart 1: Total Cost Comparison for 34 Participating Libraries for Survey Week (February 10-14, 2003)*

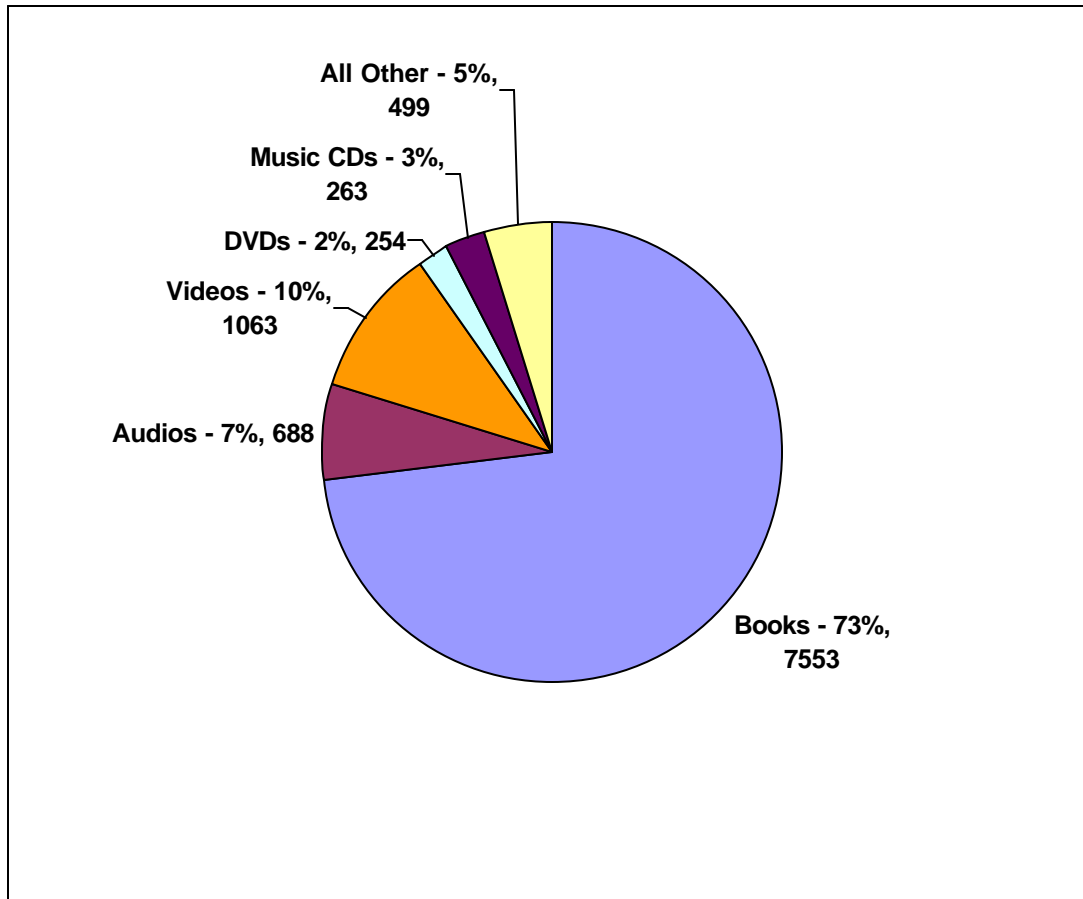


***Note:** The figures in this graph represent only the costs for the 34 participating libraries for the survey week. These figures do not include costs for all libraries in the state using the courier service.

The participating libraries shipped a total of 10,320 items during the week. Books accounted for most of the weight and shipping costs. Chart 2 shows the total number of items shipped by the libraries during the study week by format.

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Chart 2: Number of Items Shipped During the Study Week by the 34 Participating Libraries by Format



Tables 2-5 show the weights shipped during the survey week by the participating libraries and the shipping cost comparisons. There are four tables for different types and sizes of libraries. Tables 2, 3, and 4 show the data for the participating public libraries divided into small, medium, and large categories. The academic libraries are all grouped in Table 5. Each table has a line totaling the weights and costs for the libraries in the table and two lines with mean and median calculations.

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Table 2: Weight and Cost Summary for Week by Library Type – Large Public

Library Name	Weight (lbs.) of Materials Shipped	Courier Cost/Week	USPS Library Mail	UPS Ground	FedEx 2Day
Adams County Public Library	300	\$77	\$236	\$374	\$911
Arapahoe Library District (Englewood)	1,255	\$144	\$574	\$591	\$1,428
Aurora Public Library	1,336	\$104	\$582	\$564	\$1,533
Denver Public Library	1,361	\$198	\$616	\$633	\$1,697
Douglas Public Library District	723	\$90	\$448	\$611	\$1,525
Fort Collins Public Library	393	\$90	\$301	\$471	\$1,135
Mesa County Public Library District	728	\$77	\$413	\$532	\$1,320
Weld Library District	607	\$50	\$451	\$695	\$1,698
Total	6,702	\$830	\$3,620	\$4,471	\$11,246
Average (Mean)	838	\$104	\$452	\$559	\$1,406
Median	725	\$90	\$449	\$577	\$1,477

Table 3: Weight and Cost Summary for Week by Library Type – Medium Public

Library Name	Weight (lbs.) of Materials Shipped	Courier Cost/Week	USPS Library Mail	UPS Ground	FedEx 2Day
Durango Public Library	109	\$51	\$84	\$132	\$319
Eagle Valley Library District	1,033	\$48	\$478	\$507	\$1,360
Edwin A. Bemis Public Library (Littleton)	256	\$63	\$167	\$198	\$505
Grand County Library District	763	\$65	\$498	\$712	\$1,763
Lafayette Public Library	314	\$50	\$173	\$217	\$553
Louisville Public Library	672	\$50	\$294	\$276	\$737
Total	3,147	\$327	\$1,694	\$2,041	\$5,237
Average (Mean)	524	\$55	\$282	\$340	\$873
Median	493	\$51	\$233	\$247	\$645

Table 4: Weight and Cost Summary for Week by Library Type – Small Public

Library Name	Weight (lbs.) of Materials Shipped	Courier Cost/Week	USPS Library Mail	UPS Ground	FedEx 2Day
Cortez Public Library	54	\$21	\$57	\$103	\$247
Southern Peaks Public Library (Alamosa)	21	\$21	\$20	\$35	\$85
Wilkinson Public Library	80	\$51	\$98	\$191	\$457
Woodruff Memorial Library (LaJunta)	45	\$30	\$52	\$98	\$234
Wray Public Library	52	\$20	\$37	\$56	\$137
Total	252	\$143	\$263	\$483	\$1,160
Average (Mean)	50	\$29	\$53	\$97	\$232
Median	52	\$21	\$52	\$98	\$234

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Table 5: Weight and Cost Summary for Week by Library Type – Academic

Library Name	Weight (lbs.) of Materials Shipped	Courier Cost/Week	USPS Library Mail	UPS Ground	FedEx 2Day
University of Denver, Penrose	182	\$131	\$190	\$342	\$817
Regis University, Dayton Memorial Library	420	\$77	\$237	\$300	\$755
University of Colorado at Colorado Springs	354	\$90	\$167	\$179	\$472
Fort Lewis College, Reed Library	233	\$62	\$164	\$237	\$571
Mesa State College Library	95	\$62	\$118	\$226	\$542
Total	1,284	\$422	\$876	\$1,285	\$3,157
Average (Mean)	257	\$84	\$175	\$257	\$631
Median	233	\$77	\$167	\$237	\$571

Data for the five participating school and special libraries can be found in the master file in the appendix. Separate tables for these libraries were not created because of the small number of respondents in each library type.

The Colorado Courier has over 470 stops at all types of libraries throughout the state. Many of these libraries are outside the large metropolitan areas of the Front Range. Smaller rural libraries and big metropolitan libraries alike benefit from the efficiency and economy of the courier service which can deliver materials across the state in several days. Fremont County, for example, has 16 libraries on the courier service; 4 are public libraries and 12 are school libraries.

Some smaller library districts pay extra for stops within their districts because the service can provide economical transport for materials within their systems as well as to other libraries in the state. Mesa County Library District, Saguache County Public Library, and Eagle Valley Library District are examples of districts that use the courier to ship library materials both within their jurisdictions and to libraries throughout the state.

For example, Grand County Library District, a participant in this survey, uses the Colorado Courier to transport library materials to its five branches and the administrative offices within the district in addition to libraries outside the district. Analysis of the data supplied for the survey week shows that even if Grand County used the commercial services only for its out-of-district shipping, it would still be more expensive than the current fees for the courier service that include in-district deliveries. Table 6 compares the costs.

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Table 6: Grand County Library District Courier Use Analysis

	Weight (lbs.) of Materials Shipped	Courier Cost/Week*	USPS Library Rate Cost	UPS Domestic Cost	FedEx 2Day Cost
Totals shipped in district	601	\$77	\$325	\$391	\$995
Totals shipped out of district	162	\$77	\$174	\$121	\$768
Totals shipped for week	763	\$77	\$499	\$712	\$1,763

*Courier cost is set and does not vary by weight.

Totals for the state were calculated by extrapolation from survey data collected. These estimated totals serve to illustrate the huge volume of library materials shipped via the Colorado Courier and the savings libraries realize by using the courier rather than commercial alternatives. Table 7 gives estimates of the number of items shipped.

Table 7. Estimated Numbers of Items Sent via Courier by Colorado Academic and Public Libraries, FY 2003

Format	Academic Libraries	Public Libraries
Books	382,096	2,176,200
Audio books	2,288	128,960
Videos/DVDs	16,016	411,060
Music CDs	4,576	80,600
Photocopies, correspondence, other items	25,168	112,840
Packages	16,016	8,060
Total	446,160	2,917,720

The savings to libraries through the use of the courier service are substantial. According to estimates for the whole state made using the survey respondents' data, academic libraries in the state save over \$200,000 by using the courier compared to shipping materials by USPS Library Rate. Estimates for other types of libraries also show big cost savings. Table 8 shows the estimates of total savings for the year for public and academic libraries in the state.

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Table 8. Estimated Statewide Costs of Alternative Delivery Options and Savings to Academic and Public Libraries Beyond Their Current Courier Costs, FY 2003

Library Type (N of libraries/outlets on courier)	USPS Library Rate	UPS Domestic	FedEx 2Day
Academic (44) Total cost	\$400,400	\$588,016	\$1,443,728
Current courier cost	192,896	192,896	192,896
Savings	\$207,504	\$395,120	\$1,250,832
Public (150) Total cost	\$1,762,800	\$2,223,000	\$5,592,600
Current courier cost	532,800	532,800	532,800
Savings	\$1,230,000	\$1,690,200	\$5,059,800
Academic & Public (194) Total cost	\$2,163,200	\$2,811,016	\$7,036,328
Current courier cost	725,696	725,696	725,696
Savings	\$1,437,504	\$2,085,320	\$6,310,632

Additional Costs – Packing Materials and Labor

Libraries shipping materials via the Colorado Courier use plastic bins provided by the courier contractor to hold the materials. Materials are bundled with rubber bands and a label directing the materials to the receiving library is attached to the bundle. The bundles are then placed into the plastic bins and the bin tops are folded shut to ready them for pick-up.

The other delivery methods examined in this survey require more time and materials to package the library materials before shipping. Packing materials were priced and labor costs estimated for packing, sealing, and addressing a box in order to illustrate the additional saving beyond shipping costs that the courier service provides to libraries. Table 9 shows some costs for typical packaging supplies a library needs to ship library materials commercially.

Table 9: Packaging Supply Costs

Packaging Product	Cost
Self-sealing bubble-lined envelope 8-1/2"x11"	\$3.99
Self-sealing bubble-lined envelopes 12-1/2" x 18"	\$6.99
Brown shipping carton 12" x 12" x 6"	\$1.79
Brown shipping carton 20" x 20" x 20"	\$3.99
Tape dispenser	\$6.99
Clear carton sealing tape 2" x 55 yds.	\$3.69
White to-from self-adhesive shipping labels 50/pack	\$3.99
Bubble wrap 12"x175'	\$18.99
Packaging peanuts 4 cubic ft.	\$14.99

Prices obtained from the OfficeMax web site at <http://www.officemax.com/> on April 12, 2003.

Packing time for different kinds of packages can be expected to vary depending on the number of materials to ship. The cost to the shipping library will depend on the hourly cost of the staff members whose job duties include shipping in addition

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to the cost of packaging material. Table 10 shows the time involved in packing three different packages for shipping. The times given assume all packing materials are easily available and that all items to be shipped have already been pulled from the shelves and sorted by requesting party.

Table 10: Packing Times

Packaging	Contents	Time to Pack*
12-1/2"x18" envelope	3 DVDs, 1 VHS	3 minutes
12"x12"x6" box	4 books	5 minutes
20"x20"x20" box	6 picture books, 7 paperbacks, 3 VHS, 3 DVD	6 minutes

*Packing steps: Assemble box, fit contents, wrap with bubble or pour packing peanuts, seal, address, affix label.

In addition, the weight calculations used for comparison may not reflect the full cost to libraries of commercial shipping. Some participating libraries sent small numbers of items to many sites during the week. In cases like this, the commercial shipping costs will be even higher than those calculated in the study estimates because the shippers' pricing structures are constructed so that several small packages cost more to ship than one big one even if the weights are equal. In other words, four 5-pound packages total 20 pounds, but cost more to ship than one 20-pound box.

Conclusion

Funding for the regional library service systems is likely to be substantially reduced and may even be completely cut in the current state budget process, threatening the continued existence of the Colorado Courier service. As noted above, any cut in the courier service will affect more than 470 libraries of all types and sizes throughout the state. Many Colorado librarians have expressed their concern.

Budgets for libraries all over the state are tight. Loss of the courier service will mean a much bigger piece of library budgets must be devoted to shipping materials if resource-sharing among libraries is to continue at its present level in Colorado. If libraries cannot find the extra funds required, it is their patrons who will suffer when they cannot obtain the materials they want.

"We hope the courier system will remain in effect. Our postal service is not reliable and is very slow. According to a quick calculation the postal service would have cost us...more just in postage - not including packaging and time involved." – Jan Reineke, Dolores Public Library, Montezuma County

This study demonstrates conclusively that the Colorado Courier service is an economical shipping service for library materials in the state. It allows libraries of all sizes to share materials so that library patrons from all types of communities—metropolitan and rural, public and academic—can enjoy access to the information resources they seek and need to enrich their lives.

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Appendix: Weight and Cost Summary for Week – All Participating Libraries, Alphabetical Order

Participating Library	Weight (lbs.) or Materials Shipped	Courier Cost/Week	USPS Library Mail Cost	UPS Domestic Cost	FedEx 2Day Cost
Adams County Public Library	300	\$77	\$236	\$374	\$911
Arapahoe Library District	1,255	\$144	\$574	\$591	\$1,428
Aurora Public Library	1,336	\$104	\$582	\$564	\$1,533
Avon Public Library	306	\$24	\$173	\$226	\$581
Bureau of Reclamation	8	\$30	\$16	\$34	\$82
Cortez Public Library	54	\$21	\$57	\$103	\$247
Denver Medical Library	10	\$50	\$28	\$65	\$153
Denver Public Library	1,361	\$198	\$616	\$633	\$1,697
Douglas Public Library District	723	\$90	\$448	\$611	\$1,525
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Exempla Saint Joseph Hospital	6	\$50	\$17	\$41	\$97
Fort Collins Public Library	393	\$90	\$301	\$471	\$1,135
Fort Lewis College, Reed Library	233	\$62	\$164	\$237	\$571
Fraser Valley Branch Library	182	\$13	\$128	\$191	\$461
Granby Branch Library	167	\$13	\$113	\$169	\$417
Grand County Library District (Administrative)	241	\$13	\$111	\$112	\$307
Juniper Library at Grand Lake	106	\$13	\$78	\$119	\$290
Kremmling Branch Library	67	\$13	\$68	\$120	\$287
Lafayette Public Library	314	\$50	\$173	\$217	\$553
Louisville Public Library	672	\$50	\$294	\$276	\$737
Mesa County Public Library District	728	\$77	\$413	\$532	\$1,320
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Weld Library District	607	\$50	\$451	\$695	\$1,698
Wilkinson Public Library	80	\$51	\$98	\$191	\$457
Woodruff Memorial LaJunta	45	\$30	\$52	\$98	\$234
Wray Public Library	52	\$20	\$37	\$56	\$137
Total	11,417	\$1,897	\$6,525	\$8,440	\$21,180
Average (Mean)	336	\$56	\$192	\$248	\$623
Median	208	\$50	\$146	\$195	\$489