



**NISO RP-12-2012**

# **Physical Delivery of Library Resources**

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*A Recommended Practice of the  
National Information Standards Organization*

Prepared by the  
NISO Physical Delivery of Library Resources Working Group

## Physical Delivery of Library Resources

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## Foreword

### About this Recommended Practice

While much of the focus today is on electronic resources, use of physical library materials is still abundant and the transfer of materials between libraries is increasing. The increased volume and costs of library delivery is creating a demand for more information about how to run efficient and effective delivery operations.

Three recent projects—Moving Mountains, Rethinking Resource Sharing's Physical Delivery Committee, and the American Library Association's ASCLA ICANS' Physical Delivery Discussion Group—have been sharing knowledge and best practices about delivery of library materials and expressed interest in partnering with NISO to further the development of recommended practices for library delivery. The NISO Physical Delivery of Library Resources Working Group was formed in November 2009 to develop this recommended practice.

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### NISO Topic Committee Members

At the time it approved this Recommended Practice, the Discovery to Delivery (D2D) Topic Committee had the following members:

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## Section 1: Introduction

### 1.1 Background and Purpose

The physical delivery of library materials is an integral component of the resource sharing process. The delivery community knows firsthand the power of resource sharing as it handles millions of items that are being shipped between cooperating libraries. Borrowing between libraries is cost effective, and our goal is to make the delivery piece of the process as efficient and inexpensive as possible.

Despite the ever-increasing availability of electronic journals, e-books, and other digital resources, the movement of physical items remains a major concern and a major cost for many libraries. Nationally, interlibrary borrowing traffic increased 41% from 2000–2006.<sup>[12]</sup> In areas with library courier services, the increase is even larger; for example, during the same period ILL borrowing in Colorado increased by 107%.<sup>[12]</sup> An analysis of Massachusetts traffic indicates an increase of 500% over the ten years from 2001–2011. Library courier systems are straining under the need to move this massive amount of materials. In a 2008 study, respondents from different library systems reported moving 5, 10, or even 15 million items a year.<sup>[7]</sup> A recent study showed that the average academic library spends more than \$6,800/year for delivery services, with some libraries paying as high as \$60,000.<sup>[20]</sup> Given such volumes, libraries are struggling to deal with the labor and equipment costs, material wear and tear, and transit and sorting needs.

The physical delivery of items occurs between two locations—whether between branches, systems, regions, states, or countries. From the patron’s perspective, this is the “discovery receiving” function. These functions can be divided into the steps illustrated in the workflow in Figure 1.

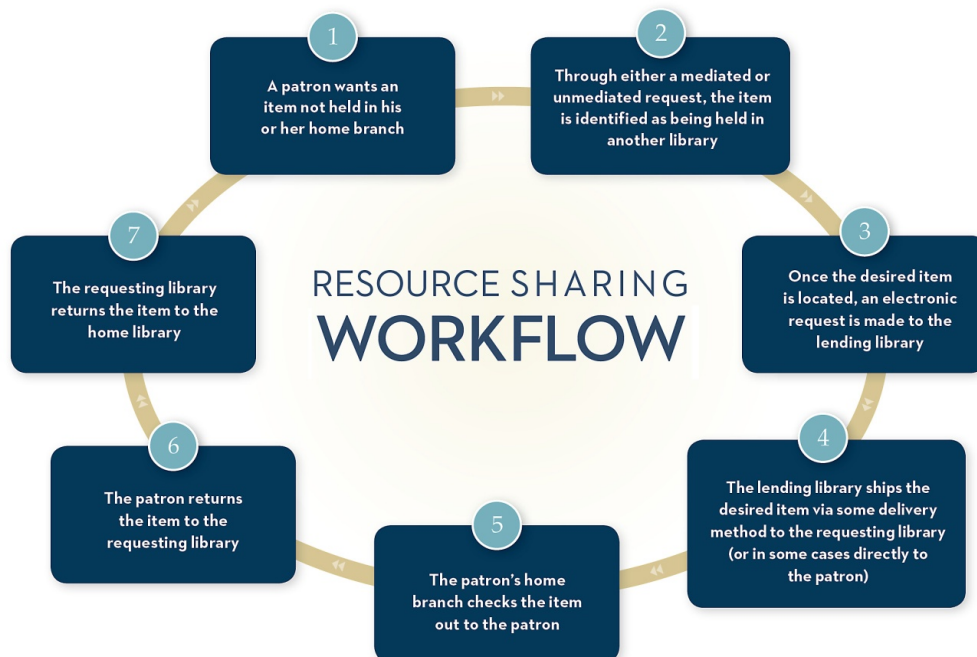


Figure 1: Resource Sharing Workflow

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The purpose of this document is to recommend practices about the physical movement of items as described in steps four and seven in the workflow shown in Figure 1: the delivery of the items to the requesting library and their return to the lending library. The recommendations in this document focus on the movement of the physical items (e.g., books and audiovisual materials) between libraries, and between library and patron. This Recommended Practice focuses on three key areas: the physical move, automation, and the management of physical delivery.

While the primary focus of this document is on the delivery piece in its many aspects, the entire system impacts how the delivery takes place. Within these recommended practices are some suggestions about other steps in the patron request process that can help to ensure the delivery piece works optimally. For example, if the lending library's circulation system also prints a delivery label, then delivery time, materials, and costs can be reduced. However, the specific recommendations are limited to those steps that ensure that the physical delivery of library materials happens in the most cost-effective and time-sensitive manner as possible.

### 1.2 Scope

The NISO Physical Delivery of Library Resources Working Group's interest lies in identifying methods for improving performance and reducing the cost of moving materials between a library that owns an item and another library whose patron wants to use the item.

The scope of this document is limited to the external delivery of items between separately administered libraries, although many of the recommendations could apply to delivery between branches of a single library system, as well. External delivery can be based on consortial delivery within a shared system, a region, a state, or a country. It can also apply to items moving through a standard interlibrary loan request. We do not specifically cover using international carriers such as FedEx or UPS, who have their own systems of packaging that must be followed; however, many of the recommended practices in this document, such as internal labeling, can apply with these carriers.

In developing these recommendations, the working group recognizes that library courier systems operate in various environments without standardized funding mechanisms, geographies, or library participants. Therefore, each library system must consider local needs and conditions when evaluating these recommendations for implementation. Archival, rare, and specialized materials require special handling. These unique requirements are outside the scope of this document, but we recommend the ACRL/RBMS Guidelines for Borrowing and Lending Special Collections Materials Task Force ([http://rbms.info/committees/task\\_force/borrowing/index.shtml](http://rbms.info/committees/task_force/borrowing/index.shtml)) for more information on handling those materials.

### 1.3 Terms and Definitions

Terminology used in delivery varies from standard library usage. The following terms, as used in this recommended practice, have the meanings indicated, which is standard language used by library delivery experts. Italicized terms within a definition refer to another defined term.

<b>Term</b>	<b>Definition</b>
bin	A standard-sized, heavy plastic, rectangular container used to store or to move <i>items</i> , often with covers to prevent weather damage. Also referred to as a <i>tote</i> or <i>tub</i> .

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courier service	In library use the term typically refers to the entire delivery service of library materials between libraries. May be referred to simply as courier. Our use of courier service is limited to library-managed delivery services or contracted commercial delivery vendors. This definition does not include international carriers such as UPS and FedEx.
commercial carriers	In this document we are using commercial carriers to refer to larger, international companies, such as FedEx or UPS, who ship individual packages.
destination	The physical location where the <i>item</i> is shipped.
direct delivery	Delivery from the library that has the item directly to the library patron, e.g., to the patron's home, office, medical facility, etc.
floating collection	A single, unified collection that moves freely between branches and where <i>items</i> are shelved in the library where they are returned, regardless of where they originated.
hold	To set aside an <i>item</i> , because it has been requested by another patron or library.
hold shelf slip	A slip created by a requesting library that identifies the requesting patron and that is secured to an item placed on the hold shelf. A hold shelf slip may also include due dates and other <i>routing slip</i> information.
incident	A service problem or a significant deviance from normal operations, such as delayed <i>route</i> , vehicular accident, or damage to library property.
integrated library system ILS	A computer system that integrates several library functions, such as acquisitions, cataloging, serials, circulation, and the patron catalog, into a single system. It often includes functions that support resource sharing.
item	The library resource, e.g., book, DVD, report, or CD, that is shipped.
lending library	The institution that owns the <i>item</i> and is lending and delivering it to the <i>requesting library</i> . Also known as <i>owning institution</i> or <i>originating library</i> .
logistics industry	Business enterprises that deal with the management of inventory and related information from its origin to its final destination, often involved with improving efficiency of delivery.
mediated request	A patron resource sharing request that goes through a library staff member at the requesting library for review or other handling prior to the request being submitted to the <i>lending library</i> . Compare to <i>unmediated request</i> .
mis-labeled	An <i>item</i> that has incorrect information on its <i>routing slip</i> .
mis-sort	To incorrectly arrange <i>items</i> by label and/or destination.

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originating library		See <i>lending library</i> .
owning institution		See <i>lending library</i> .
package		A bundle of <i>items</i> , usually of small or medium size, that have been packed and wrapped or boxed. Also called a <i>parcel</i> .
padded envelope		An envelope that contains a layer of cushioning material to protect products against damage.
parcel		See <i>package</i> .
pick slip		A slip printed by a library system that indicates the <i>item</i> to be retrieved and put into delivery. Pick slips often include the call number, bibliographic information, transaction number, name of the patron who has requested the <i>item</i> , and the date requested. A pick slip may be merged with a <i>routing slip</i> .
requesting library		The library or institution that initiates the resource sharing transaction and receives delivery of the <i>item</i> from the <i>lending library</i> .
route		An identifiable line of travel for delivery of library <i>items</i> that typically includes the same <i>schedule</i> of stops in the same pattern.
routing slip		A slip attached to a library <i>item</i> indicating the destination library where the <i>item</i> is to be delivered. The slip may include destination code, address, date, and transaction number. A routing slip may be merged with a <i>pick slip</i> .
schedule		A plan for delivery of <i>items</i> to libraries on a <i>route</i> , usually including the number of stops per week and a set delivery time or time range.
shipper		The <i>library</i> that is delivering the <i>item</i> to another library.
tote		See <i>bin</i> .
tracking		The process of tracing the movement of a library <i>item</i> from origin to destination. A third-party system may be used, for example the UPS system, to track an <i>item</i> during the delivery. Primarily used to track individual <i>packages</i> ; <i>bin</i> tracking is not as prevalent.
transit		The transportation of an <i>item</i> from the one library to another library. It is also used to describe the status of an <i>item</i> ; e.g., “This item is in transit.”
tub		See <i>bin</i> .
unmediated request		A patron resource sharing request that is sent by an automated system directly to a potential <i>lending library</i> without any review or handling by staff members at the <i>requesting library</i> . Compare to <i>mediated request</i> .

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warehousing		The process of moving <i>items</i> to a separate facility for processing, e.g., central sorting, to complement inbound and outbound transportation services.
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### Section 2: Management

This section discusses management issues of a delivery system including dealing with policy bodies and participating libraries.

#### 2.1 Coordination of Delivery Services

Connecting separate administrative services that are associated with the delivery of library resources is desirable because it can help to reduce costs, increase the speed of delivery, allow for possible government subsidies, and, perhaps most importantly, set up a positive cooperation model between delivery regions and states.

There are several states and regions currently linking courier services at the borders. For instance, Minnetonka and Wisconsin have been linking their courier systems for decades and shipping over 100,000 items a year between the two states. A recent study found that a new delivery service—COKAMO, between Missouri and Kansas courier services—saved participating libraries over \$215,000 in its first year of connecting the two services.<sup>[8]</sup>

Connecting regional delivery systems or connecting statewide systems requires:

- Respect for what the others are doing and have accomplished
- Keeping policies and procedures as simple as possible
- Agreements on packaging (See package recommendations in 4.3.1, *Item Packaging*.)
- Logical connecting partners
- Understanding of how distance and quantity might affect delivery  
(In general, close physical proximity between the two administrative units lessens delivery costs; and further, the more items delivered between any two administrative units the lower per piece charges will be.)

Other areas that need to be coordinated with partner libraries include:

- Routing slips (See label recommendations in 4.1, *Item Labeling*.)
- Turnaround time (Local delivery times might be very different once crossing regions or states; see 2.6, *Delivery Policies*.)
- Procedures for lost and damaged items (See 2.6, *Delivery Policies*.)

#### 2.2 Governing Body and Governance Structure

Governance structure in library delivery is typically a reflection of the library system itself. For instance, several state libraries manage statewide couriers and in those instances state law dictates governance. Some universities fall under the same model, with state laws and rules impacting the services offered. Another example is the consortium model, where delivery is one of the services provided by a consortium to member libraries. In this case, governance typically is managed through the consortium's board or oversight body. Finally, some delivery entities are organized separately from other library roles, so that the delivery of library materials is the only service provided. In these cases, governance is typically provided by an advisory board made up of representatives of participating libraries. No matter which

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governance system is in place, however, it is recommended that a library that uses the delivery service serve on the governing structure to help provide first-hand knowledge wherever possible.

A library's eligibility for joining a delivery service is often determined by the available delivery budget, for both the library and/or the delivery service provider in cost sharing arrangements. Membership fees and/or payment arrangements of participating institutions may be based on a wide range of different models. Participating institutions are typically required to follow a number of policies and procedures, such as: record keeping, allowable/non-allowable shipping rules, sorting or presorting, labeling, and containers or packaging.

The consortium should establish a communication process and system that accommodates:

- Incident reporting – See 2.4, *Recordkeeping Guidelines*, for the information to include in an incident report.
- Reporting statistics – It is recommended that statistics reports are published on the organization's website.
- Planning and/or oversight of group members – To facilitate the participation of the member institutions, efforts should be made to ensure that all library types are equally represented on any oversight committee or governance board. The nominated or elected representatives act as liaisons between the participating institutions and the managing organization.
- Public relations – A combination of e-mail lists, online forums, and in-person meetings should be used to maintain a good working relationship among all parties. At times, it may be necessary to initiate a campaign to ensure the continuity of funding for a delivery service. It is prudent to keep up a positive relationship with stakeholders.

### 2.3 Delivery Service Coordinator

Most courier services have at least one person to oversee day-to-day operations. This delivery service coordinator serves as a liaison to the vendor and participating libraries, and may also manage the daily delivery schedule of drivers and vehicles. For larger delivery systems, it is highly recommended that the equivalent of a full-time position be dedicated to courier operations to address any delivery problems, ensure effective communication across all players in the delivery chain, and manage the organizational details that must be maintained and tracked. A second person who can perform these duties during the coordinator's absence is also recommended.

### 2.4 Recordkeeping Guidelines

Records are an essential part of providing a delivery service and cover a variety of aspects of the service. The delivery service coordinator may create and maintain:

- A detailed daily service schedule of participating libraries and stops
- Incident reports
- Monthly and yearly statistics on number of items put in transit
- Records of payment to and credit from the delivery service provider
- A list of participating institutions (ideally, readily available on the organization's website)

Incident reports should detail incidents by type, such as missed stops and missing or lost items. The delivery service provider should provide incident reports to the delivery service coordinator on the same business day as the incident occurs. The report should include:

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- Location
- Time
- Driver's name and vehicle identification (in the case where a vehicle is involved in the incident)
- Library staff person's name (if the incident occurred in the library)

The delivery services coordinator should also provide an easily accessible way for participating institutions to report incidents, such as a delivery hotline, an e-mail address, or a web form.

In order to gather delivery statistics in a timely fashion, libraries should negotiate with their delivery service provider on a regular schedule for receiving the delivery statistics. Some sorting facilities may be able to handle statistics on the item level. If not, it is reasonable to request the number of bins/containers delivered. An interactive online system provided by the service provider is also desirable for the retrieval of information such as daily delivery volume and delivery time and date. To augment the statistics provided by the delivery service provider, the delivery services coordinator may also gather statistics from the participating institutions. Ideally, the statistics should be extracted from the integrated library system (ILS) for easier reporting. If statistics aren't available via the ILS, a system-wide survey for participating institutions should be conducted; this survey frequently asks each library to record every outgoing item put into the system in a given week of the year. The delivery services coordinator can then use the data collected from the sample week to estimate the total volume delivered in a year.

### 2.5 Contracting with Delivery Service Suppliers

Contracting with a third-party delivery service provider brings up unique issues that need to be considered. Before doing so, the library should establish a solicitation and selection process to help make the appropriate decision. Typically, a committee will be designated to carry out the process. Depending on the library or consortium's organizational structure, it is important to make sure that each library type, member region, and interest group is adequately represented. The committee should also establish a manageable timeline for finding and contracting with the delivery service supplier. The timeline is a valuable planning tool that provides guideline for the committee and all parties involved.

It can be useful to first put out a request for information (RFI) or plan for a vendor demonstration day. These optional preludes can help get the solicitation and information gathering process started. The consortium service coordinator and committee can then use information gathered through the RFI or event to develop the request for proposal (RFP). When writing the RFP, it is important that the purpose and scope of the request are clearly stated. The RFP should be published on an official website, and concerted effort should be made to make sure all viable service providers are informed of the opportunity to submit a proposal. The selection committee should document all key steps taken during the proposal evaluation and the selection process.

Not only must the RFP clearly define required services, but reporting relationships among all the library parties involved also need to be clearly established. Contracts among participating institutions will be necessary, and a consortium service coordinator may hold regular membership meeting or other activities (such as annual certification) to make sure that all participating institutions are in agreement on the terms and procedures of the delivery services within the system. Some recommended contractual and informal expectations for participants in a consortium delivery program include:

- Participants should report incidents to the consortium within one business day using the reporting mechanism established for this purpose.

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- In circumstances where no substantial evidence indicates that the delivery vendor is responsible for a lost or damaged item, the consortium ILL code and ALA ILL Code<sup>[4]</sup> should be used to determine which participating institution is responsible.
- Any change of the existing delivery arrangement should be made via the consortium service coordinator.
- Participating libraries should take part in consortium-wide activities, such as volume counts, certification, and meetings.

Once a service provider contract is in place, the contract holder—usually the consortium service coordinator—along with the delivery service vendor should be regularly apprised of any activities that may impact the contract and payment plan. Participating libraries should at all times provide courier services with clearly defined instructions in order to meet library expectations; however, participating institutions should refrain from making special arrangements with the courier without contacting the consortium service coordinator.

Finally, when contracting with service providers, program evaluation is key to ensuring a successful delivery program. Guidelines for defining evaluation processes and timelines should be developed by the delivery coordinator. Delivery evaluations follow standard library assessment practices and may include both quantitative and qualitative tools. For instance, many of the statistics gathered (see 2.4, *Recordkeeping Guidelines*) can be compared longitudinally to see patterns over time. Tools such as surveys (print and online), focus groups, questions at the point of participant queries, trouble tickets, time studies, etc. can all be used. NISO's online *Information Services and Use: Metrics & statistics for libraries and information providers — Data Dictionary*<sup>[13]</sup> describes a number of metrics that can be used for interlibrary loan and document delivery.

### 2.6 Delivery Policies

Delivery policies, as discussed here, are limited to the delivery component and are not intended to replace overall interlibrary lending policies and guidelines. Establishment of the following policies governing library delivery services will allow for smooth operations:

- Labeling/routing slips requirements needed to facilitate sorting and delivery
- Packaging policies needed to protect certain items and to allow for the most efficient processes
- Barcode placement and RFID standards policies, which are required when a barcode or RFID tag is used for item identification with automated materials handling systems (A single barcode/tag location also improves efficiency for other circulation and self-check functions.)
- Scheduling policies to allow the library to meet its workforce and customer service needs
- Claim policies that clarify the appropriate situations for libraries to make a claim for missing or damaged materials

In addition to policies that are focused on operations, delivery policies can also address customer service questions. Policies can help to enhance customer service, particularly those that provide for quick notification of the arrival of requested items, quick processing of incoming items, and customer notification when problems arise. Some examples of communications policies concerning service delay or handling incidents include:

- Delivery service providers should communicate service delays or incidents through pre-determined communication channels. When a route is running late, it is advisable to inform all

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libraries on the route as early as possible to eliminate multiple questions to the delivery coordinator.

- Libraries should inform the service provider of incidents using the same communication channels. In addition, designated forms (faxed, on the Web, or paper) could be made available for certain situations to simplify information gathering.
- Service quality commitments should be included in delivery policies. Service quality may be measured in many areas and delivery service agreements should include the agreed upon standards and methods to measure them. They may also include penalties for failure to meet standards and/or incentives for exceeding standards. Service quality can be tied to various aspects of a delivery service, such as:
  - Turnaround time
  - On-time pick-up and delivery
  - Regular materials pick-up timeframes
  - Sorting accuracy
  - Delivery accuracy (i.e., confirming if the correct containers are delivered)
  - Claims, including volume and timeliness to process and pay legitimate claims (A policy should be in place that defines the means to identify legitimate claims.)
  - Driver and vehicle identification
  - Driver incidents (A policy should be in place that confirms insurability; driver background checks may also be a requirement.)
  - Vehicle capacities vs. volumes transported (If vehicles are regularly filled to capacity or overloaded, this may indicate that materials need to be picked up more often.)

### 2.7 Reduction of Physical Delivery

Reducing the number of items that flow through delivery has several benefits:

- 1) Item availability – Library materials in-transit are not available for patron use.
- 2) Finances – It costs money to ship items.
- 3) Item life – The less an item moves through delivery, the less wear and tear it will experience.
- 4) Item retention – The chance of loss is less likely.
- 5) Response time – Patrons can get items quicker in some instances; there is no delay from shipment.

There are various methods that can be used to reduce overall delivery volume as well as delivery time. Identifying freely available digital content, like public domain material made available from a variety of important projects as well as digitization on-demand based on an individual request, eliminates the need to deliver physical pieces.

Some methods are based on where resources are stored and how they are sorted. Many library or shared ILS systems can be configured to automatically choose among the available copies of a resource based on

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some pre-set criteria, such as load-leveling, attempting to even out the number of borrowed and lent items among participating libraries, or by delivery route.

Delivery time can be speeded up by first fulfilling requests to the physically closest patron in the system, or by giving the item to the patron who has an advantageous spot on a delivery route. Another method is to fulfill items from within a pre-defined cluster of libraries (such as a selective academic libraries group within a multi-type library network). Clustering can help reduce the delivery time by allowing pre-filled bins destined for only one organization to avoid the sorting area and ship directly. Each delivery system must decide whether load-leveling or reducing deliveries is more important.

While libraries typically fill requests in order by when the hold was placed, it is also possible to reduce delivery time by giving the item to the patron physically closest to the place where the item was returned. Filling holds for closest patrons first can eliminate deliveries and reduce the entire hold queue faster than giving the item to the next person in the hold based on when the hold was requested. This process may be most useful for high-demand books with many copies in a system.

Another concept, floating collections<sup>[5][17]</sup>, can also reduce deliveries. The practice of maintaining a single unified collection that “floats” between branches reduces the number of deliveries (at times by as much as half) by keeping items at the location where they are returned, rather than sending them back to the originating library. This approach has become popular in multi-branch libraries within the same system, typically in public libraries where there is shared ownership of library materials.

### 2.8 Direct Delivery to Patrons

When discussing the delivery of library materials, the most frequent type of delivery is from library to library. However, many libraries also offer patrons the option to have library materials sent directly to the patron—typically to a home address.

Other common examples of direct delivery services other than to the home include:

- Delivery to patrons who are **homebound or institution bound** (e.g., nursing homes, hospitals, etc.) – This type of service is very common in public libraries. These self-identified patrons typically receive items through one of three methods:
  - U.S. mail (often with a return envelope)
  - Vehicles maintained by the library system
  - Volunteer drivers
- Delivery to **public library users** – In many of these cases, patrons are required to return the item to the library. A few libraries (Orange County, FL, for example) hire commercial delivery vendors to manage their home delivery system, arguing that for the price of maintaining a medium-sized branch you can offer a very popular service to a population that often will not use a library in person.
- Delivery to **distance education students** – Nearly every academic institution that offers a distance education program will deliver library materials to off-campus students, typically through the U.S. mail or using a commercial carrier, such as FedEx.
- Delivery to the **patron’s office address** – At academic institutions, student employees may be hired as runners to deliver requested materials to faculty or graduate student offices; some will deliver to dorm rooms, as well. Many special libraries deliver to business offices, and some school libraries will deliver materials to a teacher’s classroom or to the school’s administrative units.

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A number of innovative experiments have been undertaken in direct delivery recently. One model uses commercial booksellers, often used bookstores, to mail titles directly to patrons. The patrons can then choose to buy the item or return it to the library. If it is returned to the library, the library can then choose to buy the item or return it to the bookstore. Another approach being tried by several libraries is modeled on Netflix; patrons sign up for a subscription service to have items mailed directly to their home. Several cooperating library systems have instituted direct delivery to patrons of other library organizations. Issues involved in accountability are typically agreed upon before establishing such a system.

Although direct delivery to patrons is typically a service that is very well received, most libraries and studies have found that patrons are unwilling to pay for the full cost of home delivery.

### 2.9 International Delivery

The delivery of library materials may be local—for instance, for a specific county or city—or it may be statewide, cross over several states, or even be international in scope. It is particularly important to understand some of the unique issues that international delivery entails. Two stand out: shipping specifics and currency exchange.

When it comes to selecting a delivery method, shipping via airmail or international priority mail are typically within reason for both the time it takes to deliver an item and the costs for international delivery. Delivered items should be packed well, but economically, and the library should work with the U.S. Postal Service (USPS) or a commercial courier on the best delivery method, especially if there are multiple packages.

When shipping library materials across borders, a customs form will be required to accompany the materials. The customs form should:

- show the item has No Commercial Value (NCV);
- indicate, if the shipper is getting insurance, that: Any Value Stated is for Insurance Purposes Only;
- state that the materials are being shipped between libraries/non-commercial organizations;
- indicate that the item will be returned to the sender and that the sender is willing to pay for the return; and
- include an address that must match the mailing address.

Figure 2 is an example customs form from the U.S. Postal Service.

## Physical Delivery of Library Resources

United States Postal Service®  
**Customs Declaration and Dispatch Note — CP 72**  
**IMPORTANT:** This item may be opened officially. Please print in English, using blue or black ink, and press firmly; you are making multiple copies. See Privacy Notice and Indemnity Coverage on Customer Copy.

CP19362459505

**FROM:** Sender's Last Name, First, MI  
 Business  
 Address (Number, street, suite, apt., P.O. Box, etc. Residents of Puerto Rico include Urbanization Code preceded with URB)  
 City, State, ZIP+4®

**TO:** Addressee's Last Name, First, MI  
 Business  
 Address (Number, street, suite, apt., P.O. Box, etc.)  
 Postcode, City, State/Province, Country

1. Detailed Description of Contents (enter one item per line) 2. Qty. 3. Lbs. Oz. 4. Value (U.S. \$)

5. Check One:  
 Gift  Returned Goods  
 Documents  Commercial Sample  
 Merchandise  Other

6. Check One:  
 Airmail  Surface

7. Other Restrictions: (pertains to No. 12)  
 Quarantine  Sanitary or Phytosanitary Inspection

8. Total Gross Wt. (all items Lbs. & Ozs.) 9. Total Value US \$ (all items)

10. If non-deliverable:  
 Treat as Abandoned  
 Return to Sender (see inst)  
 Redirect to Address Below

11. EEL/PFC 12. Restrictions

13. I certify the particulars given in this customs declaration are correct. This item does not contain any dangerous article, or articles prohibited by legislation or by postal or customs regulations. I have met all applicable export filing requirements under the Foreign Trade Regulations. Sender's Signature and Date Month Day Year

14. Insured Amount (US \$) SCDR Value  
 Insurance Fees (US \$) Total Postage Fees (US \$)

14. Sender's Customs Reference (if any)  
 15. Importer's Reference - Optional (if any)  
 16. Importer's Telephone  Fax  Email  (select one)  
 17. License No.  
 18. Certificate No.  
 19. Invoice No.  
 20. HS Tariff Number 21. Country of Origin of Goods

PS Form 2976-A, January 2009 PSN: 7530-01-000-9834 Do not duplicate this form without USPS® approval. 1 - Manifesting/Scan Copy

“NCV - No commercial value”

If shipper insures package, say “Declared value is for insurance purposes only”

“Items shipped ‘on-loan’ between non-commercial organizations (libraries)”

Figure 2: Customs Form with Noted Information to Include

Finally, International Federation of Library Associations (IFLA) vouchers can be used to pay for international ILL requests in lieu of monetary payment; this can be especially helpful for international libraries where currency exchange can be an issue. They can be used for payment of copies and loans, as well as shipping costs attached to lending. IFLA vouchers are issued in full (8 EUR/\$15 USD) and half (4 EUR/\$7.50 USD) vouchers.<sup>[9]</sup>

### Section 3: Automation

There are many different points in the resource sharing workflow where automation can be applied. This section describes two particular types of automation that are specific to physical delivery: the automated materials handling system and courier management systems.

#### 3.1 Automated Materials Handling Systems (AMHS)

##### 3.1.1 Description

A variety of automation and automated materials handling systems (AMHS) are used by libraries for sorting and transporting library materials within a building or by library delivery services. Automated systems are able to sort by using a barcode scanner or RFID antenna to identify an item and then transmitting a request to the ILS to ascertain the destination of the item in order to automatically deposit it in the proper location.

Speed of sorting can range from the speed of manual sorting for systems, which at best can handle 500-600 items an hour, to high-speed systems that can sort up to 10,000 items per hour.

Different systems provide a range of loading options. Some systems must be loaded by an operator one item at a time. Some systems are self loading and do not require significant operator participation in loading. Other systems provide semi-automatic loading that allows an operator to load multiple items simultaneously.

The size of any system may vary from three or four destinations to hundreds of destinations. The destinations may be static or dynamic. A dynamic configuration allows changes on the fly to accommodate incoming or anticipated volume.

The containers used by systems vary considerably and may be simple totes, hamper type containers, or larger containers with special springs or motorized floors to allow easier loading and unloading. The type of containers may dictate the type of vehicle that is used for delivery.

##### 3.1.2 AMHS Benefits

The primary benefits of using an AMHS for central sorting when compared with manual sorting are:

- faster processing,
- better sorting accuracy, and
- reduced labor costs.

Additional benefits include:

- the ability to perform batch check-in and check-out based on the system having a record of the contents of containers;
- eliminating the need to label outgoing items;
- improved ability to track items and containers within the system;
- increased sorting granularity based on information available from the ILS, e.g., item status, item on hold, item to return to shelf, media, book, children's department, etc.; and
- the ability to notify the system operator of certain item status types.

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### 3.1.3 AMHS Costs

The costs for implementing an AMHS include one-time capital expenditures, start-up costs, and ongoing expenses.

Initial capital costs are for the equipment, software, shipping containers, and infrastructure upgrades to electrical service, HVAC, and telecommunications.

In addition to installation and software configuration, start-up costs may include retrospective application of barcodes or RFID tags, and software customization to interoperate with the ILS. Most current systems rely on SIP2<sup>[2]</sup> messaging to communicate with the ILS, which may require a separate SIP2 license with the ILS vendor. It is also possible to use RFID tags for sorting, but the SIP2 connection may still be required, especially for holds. Staff training will also be needed as part of start-up.

Ongoing costs include a maintenance contract and/or spare parts and labor costs for upkeep, and utilities and rent or mortgage on any separate or additional facilities needed. All delivery systems will require management and operators; labor costs will vary based on the size of the system and the level of automation. While this section describes AMHSs, automation can be implemented on a less intense scale in the form of “sort to light,” a semi-automated sorting technology with higher labor costs and lower capital and ongoing costs. One intangible cost of automated sorting is the loss of productivity due to power or telecommunications outages. A system recovery after lengthy periods of no productivity may be difficult.

When a library seeks to cost justify an AMHS, there may be more than a single budget center involved, which can create complexity in computing savings or return on investment. Library delivery services exist that provide a very high level of sorting efficiency with manual sorting. However, this efficiency is sometimes made possible by presorting at the libraries, which could be desirable for libraries that are paying for delivery service. It is no surprise that the major central sorting operations are in large libraries with large numbers of branches where automation’s benefits are provided to a single organization with a single budget thereby justifying a large investment with labor savings throughout the system.

## 3.2 Courier Management Systems

Larger library delivery systems with hundreds of stops each day or week often need a sophisticated management system to handle the complexity of delivery. Both homegrown and commercial systems are available to automate a courier service’s routing, communication, and billing functions. Route management software systems are available from a number of logistics industry suppliers. Billing systems can be standalone, like QuickBooks®, or part of a multi-functioning software package. Many courier management services have developed their own databases and web forms to manage their system.

Part of courier management systems is an online communications tools. Most library couriers maintain a website to inform participants and to solicit new members. These sites often include information on pricing, delivery schedules, participating libraries, correct labeling and packaging, training videos, manuals, etc. Most systems also have some form of e-mail messaging service for notifications about courier delays, library closings, or similar situations that can affect delivery.

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### Section 4: The Physical Move

This section covers the details in identifying, preparing, and shipping an item between libraries—from the lending library to the requesting library and its return from the requesting library back to the lending library. Specific aspects of the physical move that are covered include: item labeling, item packaging and package labeling, transportation containers, package tracking, and transportation.

#### 4.1 Item Labeling


The first step in the delivery process links a patron's request for an item to the ILL/ILS system, which produces a pick slip, routing slip (see Figure 3), or combination of both slips. In addition, a requesting library may also produce a hold shelf slip in cases where hold shelves are in use. Figure 4 illustrates a combination pick and hold slip.

It is recommended that the labeling of routine library items—books, CDs, DVDs, or journals—be kept very simple to facilitate quick and easy transfer of materials between locations. Below are recommendations of what each item's label should include.

- 1) Pick Slip
  - a. Destination Identifier for where the item is going (e.g., address/code)
  - b. Event Transaction Number (e.g., OCLC request number)
  - c. Date of request
  - d. Item Identifier (e.g., item title, call number, barcode)
  
- 2) Routing Slip
  - a. Destination and/or Sorting Code that identifies where the item is going (e.g., address/code) (If there are a limited number of delivery destinations for the system, then preprinted destination codes on the label could be used, where the correct destination code would be marked, e.g., circled.)
  - b. Date of request
  - c. Home Location Identifier (for the item)

**Destination Location:**

**Date Due:**

  
**Do Not Remove**

**Owned By: The Ohio State University  
Thompson Library  
1858 Neil Avenue**

**#212 (THO)**


Figure 3: Routing Slip used by OhioLink

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- 3) Combination Pick/Routing Slip
  - a. Destination Code that identifies where the item is going (e.g., address/code)
  - b. Event Transaction Number (e.g., OCLC request number)
  - c. Date of request
  - d. Item Identifier (e.g., item title, call number, barcode)
  - e. Home Location Identifier (for the item)
- 4) Hold Shelf Slip
  - a. Patron Name
  - b. Date item is placed on hold shelf

05/12/2011 7:31 AM



OhioLink Paging Slip

0511 \_\_\_\_\_ First Search 05111 \_\_\_\_\_

0511 \_\_\_\_\_ Second Search 05111 \_\_\_\_\_

A hold has been placed on the following item by the patron listed below. Please pull this item and forward it to the library location given below.

<p>OSU Libraries – Circulation Desk 1858 Neil Avenue Columbus OH 43210-1286</p>	<p>Thompson Library Stacks 6th Floor CALL NO: <b>G27 .S67</b> AUTHOR: Sociedad Geográfica de Madrid TITLE: Boletín de la Sociedad Geográfica de Madrid BARCODE: 32435031052491 RECORD: NO: i46711156 PICKUP AT: <b>King Lib. circulation desk</b> DUE DATE:</p>
<p><b>REQUESTED BY:</b> Doe, John</p>	
<p>INSTITUTION: Miami University LOCATION: PATRON TYPE: OhioLINK faculty</p>	

---

05/12/2011 7:31 AM

The item below is now available for pickup at the designated location:

<p><b>Miami University</b> <b>Main Library/Oxford OH 210</b></p>	<p>Thompson Library Stacks 6th Floor CALL NO: <b>G27 .S67 V. 21</b> AUTHOR: Sociedad Geográfica de Madrid TITLE: Boletín de la Sociedad Geográfica de Madrid BARCODE: 32435031052491 RECORD: NO: i46711156 PICKUP AT: <b>King Lib. circulation desk</b></p>
<p>DOE, JOHN</p>	

*fm*

DOE, JOHN

**Figure 4: Sample Combination Pick and Hold Slip used by OhioLink**

### 4.2 Connecting the Routing Slip to the Packaged Item

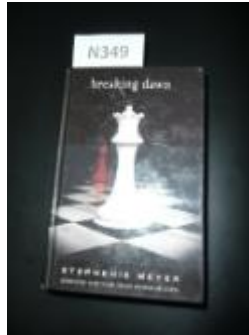
Routing slips or labels provide directions to the receiving library. There a number of ways labels (typically small pieces of paper) can be attached to the shipped item and the packaging can influence what type of label is used. In general, it is recommended that the least amount of materials and work be used to

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create a label. The following four methods—listed in order of least work and materials per shipment to most work and materials—are all workable, depending on the packaging used; each has pros and cons identified.

- 1) Label Sticking Out of the Top
  - a. Labels must have the destination (or code) printed near the top of the slip.
  - b. The slip must be long enough to be held in a secure manner when placed inside the cover of a book (see Figure 5).
  - c. Media cases are often incompatible to holding the label securely. Rubber bands or other methods (see #2 below) must be used for such incompatible items.



**Figure 5: Label Sticking Out of the Top**

- 2) Rubber Bands Used to Secure Label
  - a. Labels should be secured to an item (or small bundle of items) by placing two sturdy rubber bands—one vertically and one horizontally—on the item or bundle. Size 64 (3-1/2 " x 1/4") or 117B (7" x 1/8") rubber bands are recommended.
  - b. The routing slip should be folded in half and stapled around the intersection of the two rubber bands (see Figure 6).
  - c. Rubber bands can be reused multiple times.
  - d. On very rare occasions, minor damage to the item can occur where the rubber band connects to the item. The type and durability of the material should be considered when using rubber bands.



**Figure 6: Using Rubber Bands to Secure Label**

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### 3) Paper Banding around the Front of the Book

- a. A strip of paper is affixed around the cover of the book; these strips may be self-adhesive or secured with tape (see Figure 7).
- b. The paper-banded method tends to be labor intensive and can cause damage to less durable materials when being added to or removed from a shipped item.



**Figure 7: Paper Banding**

### 4) Adhesive Removable Labels

- a. A sticky note (e.g., Post-it® note) or other adhesive removable label with the destination (or code) is placed on the front of each item shipped (see Figure 8).
- b. Removable labels should not be used on any item that might be damaged by the adhesive. Not all libraries use truly removable barcodes or labels; adhesives can leave residue. Check the specific library's borrowing policy for details as some libraries would prefer you do not use sticky labels on their materials.
- c. Some removable labels do not stick as well as others and might fall off.



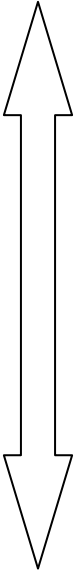
**Figure 8: Adhesive Removable Labels**

Per US ILL Code 4.9<sup>[4]</sup>, borrowed items should be returned in the condition in which they were received at the requesting library. In particular, adhesive labels or tape should not be affixed directly to any borrowed item unless local agreement allows for adhesive removable labels. Further, US ILL Code 4.13<sup>[4]</sup> states, “The requesting library should package material to prevent damage in shipping and should comply with any special instructions stated by the supplying library.”

Table 1 identifies means of fixing a label to an item in order of recommended preferences.

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**Table 1: Methods for Affixing Labels**

Order of Preference	Label	Product Examples	Direct Cost per Unit	Workflow Impact	Environmental Impact
<div style="display: flex; flex-direction: column; align-items: center;"> <div style="margin-bottom: 10px;">Most recommended</div>  <div style="margin-top: 10px;">Least recommended</div> </div>	Label sticking out of the top of the item	Any paper	Low	Low	Low
	Label sticking out of the top of the item	Thermal paper	Medium	Low-Medium	High
	Rubber banded	Any heavier/wider rubber band: size 64 (3-1/2" x 1/4") or 117B (7" x 1/8")	Low	Low	Low
	Paper banded	Any paper; regular adhesive tape	Low	High	Medium <sup>1</sup>
	Sticky notes	3M brand Post-It <sup>®</sup> notes 1.5" x 2.5"	Low	Low	High <sup>2</sup>
	Adhesive removable labels	Avery <sup>®</sup> 5164 <sup>™</sup> (4" x 3.3") or similar generic label	Medium	Low	High

*Notes:*  
 1 Medium rank assumes adhesive is removed.  
 2 See: <http://www.calrecycle.ca.gov/ReduceWaste/Business/officepaper/PSAFacts.htm>

### 4.3 Item Packaging and Package Labeling

#### 4.3.1 Item Packaging

To stay efficient and keep costs low, item packaging should be minimized and the item should be handled as little as possible. Further, packaging material should be able to be reused multiple times—even hundreds or thousands of times. In cases where disposable packing is used, the smallest size of packaging material available should be employed and it is further recommended that the packaging material be made of recycled components. The less material used, the greener the process and the fewer workflow steps needed; therefore less repetitive work is done by staff.

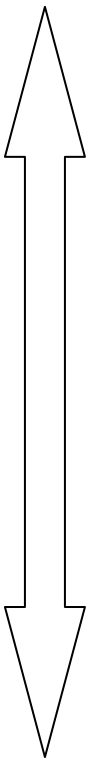
Packaging should be appropriate to the fragility and rarity of the item. Additional or specialized packaging will often be required as an item's value and fragility increase in order to better protect against loss or damage. Special collections and archival materials will have their own unique packaging requirements; these are outside of the scope of this document. For more information about archives and

## Physical Delivery of Library Resources

special collections packaging, see the ACRL Rare Book & Manuscript Section's *Guidelines for Borrowing and Lending Special Collections Materials for Research Use and Exhibition*.<sup>[3]</sup>

Table 2 lists packaging alternatives in order of recommendation (from high to low) based on cost, workflow impact, and environmental impact.

**Table 2: Types of Item Packaging**

Order of Preference	Packaging	Product Examples	Direct Cost per Unit	Workflow Impact	Environmental Impact
Most Recommended    Least Recommended	Unpackaged	Placing items in destination containers with no labeling or packaging on the item	None	Low	Least impact
	Rubber banded	Alliance® Pale Crepe Gold™ rubber bands in 1 lb. box, #117B, 7" x 1/8"	Low	Minimal	Low impact
	Reusable plastic/nylon bags	Multiple vendor options	High	Minimal	Low impact
	Reusable padded envelopes	Bubble padded recycled mailers, 14-1/4" x 18-1/2"	Medium	Minimal	High impact
	Paper banded	Regular copy paper	Varies	High	Medium impact
	Single use packaging	Commercial packing materials	Varies	Minimal	Not recommended

CDs and DVDs follow the same packaging recommendations as outlined in Table 2 above. However, one additional change can help reduce damage to the CD or DVD container. Many libraries have substituted the brittle, plastic containers that are typically sold with DVDs and CDs with more flexible, durable plastic cases. If durable cases are not available, a protective envelope should be considered. Figure 9, below, shows a soft DVD case and a hard CD case (also known as a "jewel case").

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**Figure 9: CD/DVD Containers**

The above figure shows the more flexible container on the left, with the more rigid (and thus more likely to be damaged in shipping) container on the right.

### 4.3.2 Package Labeling

Once an item is packaged, an external routing slip is typically added to indicate destination. Printing routing slips on demand or using pre-printed routing slips is recommended over handwritten slips, which can be more difficult to read.

There are three different methods that can be used to label a package:

- 1) **Library Name** – A commonly used method is to place the library name on the routing slip. This may, however, cause confusion with similarly named libraries. Library names may also be given as:
  - Abbreviated institution names
  - Town names
- 2) **Postal Address**
- 3) **Codes** – Codes reduce local name sorting confusion. Short codes (3-4 characters) lessen the chance of mis-sorting compared to longer strings of text.<sup>[1]</sup> Codes may be:
  - Alphanumeric
  - Numeric
  - Alphabetic only (e.g., OCLC codes)

In a regional delivery system where numeric codes were implemented and workflow stabilized, a 0.1% improvement in sorting accuracy was observed in a one-week sample period.<sup>[1]</sup> Although this number might seem small, the improvement was in fact significant. It meant that 2,500 of 2.5 million items shipped per year were not mis-sorted. This increase in accuracy translates to savings that include: the cost of shipping the item to and from the wrong destination; the labor cost for library personnel to process the received item and ship it to the correct destination; and the time spent in transit to and from the wrong destination, thereby providing faster delivery time for a patron.

### 4.4 Transportation Containers

#### 4.4.1 Ergonomic Considerations

The logistics industry pays attention to ergonomic issues as it reduces costs by reducing delivery personnel injuries. Libraries should also pay attention to issues impacting health and safety of workers. Care should be taken to keep weight limits low to reduce lifting injuries. Lifting can be thought of as an equation that considers how much a healthy worker can lift over an eight-hour period without increased risk of injury. Summarizing one NIOSH study for beverage workers, a healthy worker should lift no more than 51 pounds at a time over an eight-hour period of non-repetitive lifting and carrying.<sup>[14]</sup> The formulas used to determine lifting guidelines for specific situations can be quite complex and include consideration of number of lifts, distance carried, weight of objects, etc. The *Applications Manual for the Revised NIOSH Lifting Equation*<sup>[21]</sup> can help a library system determine the correct weight for its circumstances. However, many library delivery systems have chosen to simplify the process by limiting frequently lifted container weights to between 25-35 pounds each, and for less repetitive lifting of containers using a range from 35-40 pounds.

#### 4.4.2 Transport Container Types

In many cases, smaller containers work better as they, by virtue of their size, minimize weight and limit shifting of items inside the container. Figure 10 shows examples of large and smaller (half-sized) containers.



Large tote



Smaller totes

**Figure 10: Large vs. Small Containers**

Many library delivery systems place smaller packages into larger containers, as bundling many small containers makes it easier to move a large quantity of items and enclosed totes, bins, and/or bags can provide protection from the weather. Examples are illustrated in Figure 11, below.

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Grouping nylon bags in plastic bags



Bags combined in cloth bins

**Figure 11: Placing Small Containers in Larger Containers**

It is recommended that a system of “destination” bins be implemented at each location so that items can just be dropped into the bin going to a specific location, in cases where a lending library normally fills a bin for a given destination. No additional bundling or labeling of the library items would be needed. The bin is the only object that would need to have the destination noted. This recommended practice would save on time and staff since materials would be presorted by staff into destination bins ready to be delivered.

Each container type has different advantages and disadvantages based on the circumstances of the delivery operation; therefore we are not providing a ranking in this section. For instance, heavy-duty containers tend to hold up longer with frequent usage. Some containers limit exposure to weather; in other delivery circumstances, items are never exposed to the elements, so open bins work adequately (see Figure 12).



**Figure 12: Open Bins**

It is important to carefully pack transportation containers. Incorrect packing during shipping commonly causes material damage. Figure 12 shows haphazardly stacked and loaded containers (left photo). The blue crates (right photo) show the correct method of packing containers to reduce shifting during transport.

### 4.5 Transportation

#### 4.5.1 Transportation Vehicles

Library systems use a variety of transportation vehicles to deliver items. There are two primary methods of organizing transportation: 1) using an in-house fleet, and 2) outsourcing to a delivery vendor. Both methods are used extensively, and each has inherent advantages and disadvantages.

In-house fleets are most commonly used in library systems with branch delivery services. Using one's own fleet has the significant advantage of allowing the library to set delivery times and schedules. This system allows the most control over processes. However, there are significant cost requirements with owning a fleet, including space to house vehicles, acquiring and maintaining a fleet, and managing drivers.

The advantages of outsourcing to a commercial vendor are that the library system does not have to manage a fleet of trucks and drivers and costs may be lower overall. Outsourcing to a commercial vendor tends to reduce costs beyond the management of a fleet, too, as delivery schedules may be shared with other organizations, such as banks, pharmacies, film processors, etc. However, library systems that use commercial vendors have less control over routes, delivery times, and other logistics because the commercial firm will likely be managing many clients on any given route.

In choosing whether to outsource or manage a delivery fleet, each library system must decide what factors are most critical to its circumstances and match the transportation system to its particular circumstances.

#### 4.5.2 Delivery Logistics

When establishing either an internal or courier-based library delivery service, some initial delivery logistics need to be determined, as discussed in the next two subsections. Note that these logistics do not apply to package delivery services or the U.S. Postal Service.

##### 4.5.2.1 Central Sorting vs. Presorting

There are two primary sorting types:

- 1) **Central Sorting** – Central sorting moves sorting from individual libraries to a central facility. Central sorting can take place at a main location or a warehouse. All materials are sent to the central hub for sorting. Central sorting allows for delivery on the next scheduled delivery at the requesting library in cases where the sorting takes place after daily pick-ups and the sort site is emptied daily. This next delivery day turnaround time can be lengthened in cases where sorting takes place after vehicles have departed and in cases where the sort site is not emptied daily.
- 2) **On-board Sorting** – Courier personnel sort materials “on the fly” allowing for same day delivery for requesting locations that fall later on a given route. In other cases, next day delivery is the optimum.
- 3) **Presorting** – Libraries presort materials for couriers into separate bins or bags. This allows for same day delivery for requesting locations that fall later on a given route. In other cases, next day delivery is the optimum.

When reviewing these options, one thing that libraries must take into consideration is workload factors. Libraries that have the staff and facility space needed to take on sorting, presorting, and bundling of items may be willing to do so in order to eliminate work at the sort site or by delivery drivers. Two primary reasons why a library may choose to presort delivery materials may be: 1) to allow for more frequent stops on a given route, or 2) to contain costs. It must be noted, however, that the cost of delivery/sorting is not eliminated entirely in presorting. It has merely been shifted from the courier to the library that has

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taken on some of the labor and overhead for the service and may, in fact, cost more to have libraries using their own labor and facilities to do this work instead of moving it to a warehouse environment.

### 4.5.2.2 Delivery Stops and Times

There are three types of stops that can be used in delivery: 1) stops per week, which are scheduled stops, 2) on-call stops, and 3) drop boxes.

Determining the number of scheduled stops per week is normally governed by the volume of shipping and receiving per a given library, the delivery budget, and the capacity of delivery vehicles. Libraries with heavier shipping/receiving are likely to have more scheduled stops, which help to improve turnaround time. Eliminating a stop at a busy library can slow the delivery of items coming and going from the library. It is recommended to have as many stops per week as possible to move items quickly. Some delivery systems require larger libraries to have five-days-a-week stops.

A library may also consider using on-call stops. Pick-up services to very low-volume stops are often provided on an on-call basis, i.e., the library contacts the delivery service provider when an item or items are ready to be picked up. The delivery service provider will then dispatch a pick-up. It is also incumbent on the delivery service provider to dispatch a delivery when items are designated to be sent to an on-call stop. This could be on an as-needed basis, weekly, or on some other pre-determined schedule. The policy for making such on-call deliveries and pick-ups must be clear.

Drop boxes are another delivery stop method, providing a delivery site outside of the library's physical building. The library leaves materials within the secure box for the courier and the courier leaves materials for the library. The advantage of the drop box is that the courier does not need to arrive within the library's open hours or enter secure locations. When keys are provided to drop boxes, a high level of trust and appropriate bonding and insurance may be required. For a drop box to properly protect materials, the following is needed:

- Lid to extend over drop box to protect items from weather during transitions
- Hefty lock placed in a highly visible location to ensure security
- Weather proofing of box itself to prevent moisture from entering

In addition to establishing the type and frequency of delivery stops that will be made, it is important to also define times for the delivery service. Most libraries prefer that deliveries/pick-ups take place at predictable times, particularly to enable the library staff to process the incoming and outgoing materials during regular work and library hours. Delivery times are often referred to as "windows" to allow a service provider a specific time range (window) for delivery, for example, a one-hour window. A window of time allows for fluctuations in traffic, higher or lower volumes at other stops, and route variations on a given day.

## 4.6 Package Tracking

### 4.6.1 Overview of Tracking

Tracking is used to follow the journey of any given item during each stage of shipment. Tracking tends to be limited to those library systems using commercial carriers, such as FedEx and UPS. While package tracking provides great security and often includes financial recovery of lost items, there are associated drawbacks. Staff time, one-time-use packaging materials, and the cost of the delivery service can make these services prohibitively expensive. In the future, as technologies evolve and costs come down, package tracking may be considered more broadly by libraries offering delivery services. However, while implementation of local tracking systems is currently rare, there are some systems in place to help track

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packages in the delivery process that should be noted. The two main ways that packages are currently tracked are by barcodes or RFID tags, and by monitoring and periodic reports.

### 4.6.2 Barcodes and RFID Tags

For item-level tracking to be effective, barcodes or RFID (radio frequency identification) tags must be connected to a specific item. Because of the costs when dealing with millions of items shipped a year, only libraries that are low-volume shippers or have high-value materials tend to use carriers that provide tracking.

When considering individual package tracking, libraries must consider:

- **Labor and Costs** – When tracking individual items, additional handling is required of both the courier and the library. If the item does not already have a barcode that can be used, library staff must generate barcodes and link the barcode to the individual item. Couriers must scan items at multiple points in transit to record status. If individual items with barcodes are transported in totes, bins, or other transport containers, a courier would need to remove each item in order to scan the barcode for each item. This can add significant staff and courier time, material costs, and delays in transportation that needs to be weighed against the benefits of tracking.
- **Potential Loss** – Tracking is often done to prevent material loss (or find lost items). Most courier managers have found the overall loss ratio to be far less than 1%. As a result, many high-volume library delivery systems have decided that tracking individual items is not cost effective as it can far outweigh the costs of replacing any losses.

While RFID is currently used primarily for local circulation purposes, libraries may be able to use RFID to track packages in the future. One significant benefit of RFID tags over barcodes is the ability to scan items without removing items from the container (depending on the type of RFID tag/scanner and the number of items in a container). A new three-part ISO standard, *Information and documentation – RFID in Libraries* (ISO 28560)<sup>[10]</sup> was issued in March 2011. Following this publication, NISO began an effort to revise its Recommended Practice, *RFID in U.S. Libraries*<sup>[19]</sup> to conform to this new standard and also be a U.S. profile to ensure common practices in U.S. implementations of RFID. Implementation of the ISO standard and the NISO Recommended Practice will ensure the kind of cross-library interoperability that is needed in a resource sharing environment.

### 4.6.3 Monitoring & Periodic Reports

In lieu of tracking individual items or packages, sampling and periodic reports can be used to monitor delivery performance.

- **Random and Target Route Monitoring** – In the case of sampling, GPS trackers are enclosed with materials to enable monitoring of items in delivery.
- **Periodic Reports** – In-transit reports created from integrated library systems by system administrators can be used to detect lost items and identify and troubleshoot problems. The reports can contain titles, estimated ship dates, and other vital routing information.

### Section 5: Taking the Next Step

Delivery services are always impacted by the conditions of the participating libraries. Snowstorms, bad roads, mountain passes, and city traffic all impact delivery of library materials. There is no perfection possible in the logistics industry. As a result, ingenuity, patience, and hard work are the best tools for delivery managers.

In developing this Recommended Practice, the NISO Physical Delivery of Library Resources Working Group has tried to give more than one option when choosing how to label, package, ship, etc. We believe firmly that with delivery “less is always better,” so in general we recommend less packaging, reducing deliveries, limiting paperwork, and the use of floating collections as a few examples. We hope this document will give the reader new ideas for improving services when selecting among the options presented.

We have found that visiting a similar or nearby library that utilizes a delivery system can be helpful. We strongly recommend readers join the Moving Mountains LISTSERV maintained by the SWON consortium.<sup>[15]</sup> This is the one place where announcements about library delivery generally get posted. The Moving Mountains website also contains information about delivery and includes a blog.<sup>[16]</sup>

Two other organizations where readers can get involved and learn more are: 1) the American Library Association’s ASCLA ICAN Physical Delivery Group, and 2) Rethinking Resource Sharing.

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