

Report on the Rhode Island Statewide Delivery System



Presented by the Delivery Sub-committee of
The Library Board of Rhode Island
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Overview



Figure 1 - Loaded bins

The Rhode Island Inter Library Delivery System is a system of cooperative tasks shared between participating libraries. The system's primary function is to facilitate the physical transfer of items between the collections of participating institutions. The two primary reasons the system exists is to first allow library patrons to request an item from one location and have it delivered to the location of their choosing and secondarily to allow a patron to return a book to a location of their choosing regardless of that item's location of origin.

Goals

- 1 Observe and document the current workflow both at the locations and Central Sort
- 2 Solicit input from stakeholders regarding the current workflow what is working and where there are pain points
- 3 Learn more about other delivery systems in other states – but limit this goal to evaluating certain workflows and best practices and how they might be adopted by the RI system.
- 4 Document best practices within the RI delivery system
- 5 To the extent possible determine a total cost of operation (TCO) shared by the expense responsibilities to each stakeholder. Where it is impractical or impossible to determine exact costs, attempt to define a measurable metric such as time spent.
- 6 Create a list of recommendations for change balanced against the TCO
- 7 Determine how events within a 5-10 year timeframe could impact the delivery system.
- 8 Develop a report and presentation to bring back to the Library Board of Rhode Island

Scope

For the purposes of this report, the committee has focused exclusively on the workflow involving the packaging and shipping of material.

The committee identified the following items as in-scope:

- 1 Packaging material from time of check out to time of vendor pick-up
- 2 Unpacking material from the time of drop-off to the time of check-in
- 3 Vendor methodology including routes, transport, sorting and other workflows
- 4 Care and handling of the items throughout the process
- 5 Deviations from normal delivery (dead item location, lost material)
- 6 Hard supplies such as bins, bags and envelopes

Tasks such as identifying items on the shelves for transport (pull list) and the normal 'check-in' process of materials were considered to be out of scope.

The Delivery system is sometimes utilized to transport items requested and used by the libraries themselves which ranges from reference items not normally circulated to basic supplies. Similarly, OLIS allows certain entities like non-profits to distribute information (pamphlets, brochures and flyers) through the system at a nominal cost. Because these additional items have so little impact on the system they were not considered relevant for the scope of the report.

Lastly, certain library systems transport materials between branches as part of a closed exchange system (such is the case in Cranston and Providence.) These micro-delivery groups are funded and supported

by the systems and are not part of the Delivery cooperative. Despite the fact that these internal delivery mechanisms sometimes transport material that would otherwise move through the Delivery system, this workflow was not examined since they do not utilize the third party vendor.

Statistics

For the past few years OLIS has surveyed the 200+ locations involved with the Delivery system. In the most recent survey conducted during the week of October 18th to the 24th 2009, 181 locations transferred 48,515 items. In the 2008 survey during the survey week of October 19th to October 25th 47,973 items were handled by the system. In a similar survey taken in 2007 the polled locations reported 40,038 items were accommodated.

There are several factors that determine the time it takes an item to move through the Delivery system. The largest factor is the number of times a week a given location is serviced by the Delivery vendor for drop-off and pick-up. Another major factor is the time of day the item is retrieved from the collection. Given these variables, OLIS estimates the average total trip time between an honored hold and the arrival of that item at the requested location to be two to three business days with the majority of materials being delivered in two days.

A current list of locations along with a schedule has been included in the appendix of this report.

Stakeholders

The Delivery system has 5 main stakeholders:

OLIS: The entity that is responsible for the delivery system. Besides oversight they are also charged with securing the Delivery Vendor as well as providing bins, bags and a location for undeliverable materials

Library patrons: Those individuals who benefit from the Delivery by being able to request items from other locations and return items to the location of their choosing.

Participating Libraries: Accommodate the flow of items through the Delivery system. A location must be a member of LORI to participate in the system.

Delivery Vendor: Now Delivery, the current vendor, facilitates the pick-up, drop-off and central sort for delivery items.

Ocean State Libraries (OSL), InRhode¹ and RILINK: These consortiums maintain the various software systems that help manage the catalogue and exchange of items between 35% of the participating delivery locations².

¹ Combines the resources of Brown University's library database, Josiah with those of the HELIN Consortium library database. Also includes holding information of the formerly CRIARL Union List of Serials.

² There are 17 independent libraries that manage their own system. Over all, a range of 3-5 different library systems are used among the 205 LORI member libraries.

Delivery System Workflow

An item being serviced through the Delivery system can be in any one of five states:

- 1) Awaiting pick-up at a location
- 2) Within active transfer between locations and under the care of the Delivery vendor
- 3) Waiting to be checked in at a location
- 4) An undeliverable or unidentifiable item at OLIS waiting to be identified
- 5) Lost where the location is unknown

State 1: At Point of Origin

There are two core ways an item enters the Delivery system:

- 1) A patron or library staff member places a hold on an item which is removed from the shelf, or set aside after it is returned.
- 2) The item is a foreign drop and has been checked in to a location other than the owner location and needs to be returned to the owner location

When an item is checked in, the circulation system will indicate if a hold has been placed on that item OR if the item is not owned by that location and needs to be returned to the owner location.

Note: Because circulation software is unique to each of the three main consortiums, fulfilling delivery for items between distinct consortia require a manual process.

For holds:

When the hold is fulfilled the item will be readied for the Delivery.

For foreign drops:

The item will be readied for the Delivery

Preparing the items:

Each location has developed their own system for preparing items to enter the Delivery system. That said, there are documented commonalities in the workflow. In general, items enter the system in the following ways:

- 1) During the check-in process the circulation software indicates that there is either a hold on that item or that the item is not native to that location (foreign drop) and should be returned to its location of origin.
- 2) Location staff generates a pull-list from the circulation software. This list indicates items on the shelf of that location with holds for another location. Using the pull-list, location staff will gather each item from the collection and check that item in to indicate that the hold is being processed.

In both of the above workflows a routing slip is usually generated either by a print-out from a dedicated printer interfaced with the circulation software, or by hand using a slip of paper. The routing slip notes the three-letter location code for the location to which that item should be delivered.

The slip is typically placed on the item in a manner that the location code is protruding from the item, and is visible. The item is then placed on a shelf, cart or table.

Packaging the items:

Books:

The next step of the workflow is packaging the items for pick-up. This process often, but not always, involves a preliminary sort.

If there are a large number of items going to a single destination location the items are sometimes packed in a single cardboard box. Once that box is full, it is secured and the location code is marked on the box either by hand or by affixing a delivery slip to the outside of the box.



Figure 2 - Packing supplies

More typically, items are placed in transparent plastic bags. OLIS supplies these bags to the location in both 12"x12" and 16" x 20" sizes. As many items as possible, bound for the same destination location, will be packed into a single bag. Before the bag is closed the routing slip is placed on one of the items and positioned so it is easily readable. Typically, any additional routing slips from items being placed in that same bag are discarded. At this point the bag is closed and placed into a plastic delivery bin (also supplied by OLIS).

In many cases, elastic bands are placed on the outside of the bags to bind items together, an added step to prevent damage and to insure that the items stay together if the plastic bag were to accidentally open or become damaged³. While each bag typically contains more than one item there are cases where only a single item is placed within the bag. This usually occurs when there is only one item going to a certain location, or when items are added to the outgoing sort late in the process.

Packaging Media:

Media such as CDs and DVDs entering the system are treated differently from books.

These items are placed in opaque padded shipping envelopes prior to being inserted into the plastic bags. The reason behind this added workflow is to protect this media from accidental damage and theft.

It should be noted that OLIS does not supply these envelopes or the cardboard boxes used for single location delivery. Most locations simply recycle these from their own inventory or reuse the envelopes and boxes they receive from their own drop-offs. Elastic bands are also reused or recycled.

Once the items have been packaged, the plastic bins and any boxes are moved to a designated pick-up area within the location. When the driver working for the vendor arrives he or she will collect these bins and boxes and drop off any containers bound for that location.

Transition to Vendor

The vendor is responsible for picking up and dropping off the bins and boxes at each location. Unless there is a variance in normal workflow, the vendor will only stop at a location once during the day. The number of days in a week the vendor stops at a location is outlined by OLIS, and agreed on by the vendor and based on the volume of items typically circulating through that location. Most public, branches, and academic libraries receive 5 day per week delivery Monday through Friday. Most hospital libraries receive 5 day per week delivery as well, Monday through Friday, while school libraries typically receive 3 day per week delivery or less. While the vendor commits to making stops during normal operation hours there is no set time for arrival.

³ Although it is against the recommendation of OLIS, some locations will also utilize tape to seal the bags in addition or in lieu of elastic bands.

In Q1 of 2009 the vendor worked with OLIS to better track statistics regarding the transition of materials. Each location was assigned a bar code which was displayed near the pick-up location. The vendor driver is responsible for scanning the code at the time of exchange and noting the number of bins/boxes collected, and number dropped off. This information, along with the timestamp of the scan, is sent wirelessly back to the vendor and tracked in software. It is hoped that this information will aid OLIS and the vendor in managing the overall schedule of exchange and help alleviate variances from normal workflow.

Failure to Collect

There are rare times when the Delivery vendor does not arrive at a location within the usual pick-up timeframe or does not collect all of the bins intended for pick-up. Should either of these events occur, the location should fax a Delivery Bin Report Failure form to OLIS (see example in appendix)

OLIS will contact the vendor and either another vendor employee will come to collect the materials or the normal delivery employee will return to the location.

Notes on Location Workflow

Most location staff members noted that the most time consuming part of the Delivery process was the packaging of the material in plastic bags. There is a large segment of staff involved with the Delivery process who suggests that if the bins were covered that the bagging process could be unnecessary and eliminated.

Facility space plays a huge factor in the efficiency of the workflow. Those locations with ample space often dedicate shelf and table area to the Delivery sorting process. In some cases, locations even have shelves dedicated to each destination location. As items are checked in to the Delivery system the slip is generated, placed in the item and then that item is placed on the dedicated shelf area. Bagging of the items at these locations is greatly expedited because the staff can be assured that all items going to a single location are already grouped together and they do not need to be spread out to be sorted. Locations with limited space will often conduct the packaging process before or after library hours or during extremely low traffic times so they can take advantage of table space without disturbing patrons.

Some locations utilize staff or volunteers dedicated to package Delivery items. This obviously speeds the process as these individuals will not be distracted by patrons or other duties while packaging the items.

A number of staff involved with the packaging process also noted the burden of packing DVD and CD media in the padded envelopes. This was an added step some felt was unnecessary.

Conclusions:

The packaging of the material is the most time intensive part of the Delivery process.

Locations with more space and staff dedicated to the Delivery process accommodate the task most efficiently

The use of padded envelopes for DVD/CD media should be evaluated as a cost vs. risk perspective.

State 2: Within active transfer and under the care of the Delivery vendor

Now Delivery currently manages the central sort facility under a multi-year contract with OLIS.

Each delivery day, vehicles back in to the facility and load up bins and boxes bound to the locations on their fixed route. While the Delivery system is one of their largest clients, it is not the vendor's sole

business so it can be assumed that during each route the vehicles may be transporting materials for non-library clients.

At each delivery stop the driver will unload all bins being delivered to that location. They will drop off these bins and collect any bins or boxes awaiting pickup. As part of this workflow they will use a scanner to read a barcode posted within the location. That process electronically notes the location code and the date and time of the scan. The driver will also input into the scanning device # bins dropped off and # bins picked up at that location. In addition to the barcode scan, drivers are asked to sign a delivery login sheet and note the time the delivery is made.

Once all drops and deliveries of that route have been completed, the driver returns to the central sort location. All bins are unloaded and a separate team of employees begins the process of sorting the items.

Sorting is done in two stages. One or two individuals first divide all items into several large canvas hampers. Some of these hampers represent the largest receiver of items – Warwick Public and Cranston, for example. The remaining hampers represent groups of smaller locations divided alphabetically – i.e. one hamper represents location A-G, a second for locations H-M, etc.



Figure 3 - Bins on sorting shelves

A second set of employees refines the sort by taking the items from these larger hampers and dividing them into individual bins, each representing a delivery location.

These individual bins are well organized, placed along either side of the sorting location on mobile shelving units. Bin positions on these shelves are tagged using a magnetic re-writable label. With the exception of the hampers for the larger delivery locations, each location has a designated spot on these shelves. Besides the name of the location, the magnetic label also indicates the deliver day(s) for that location.

The secondary sort fills bins that are then placed on the shelf area.

Once a bin is filled, it either remains on the shelf or is transferred to a load pallet location in another area of the central sort facility. The determining factor of this step is whether that location will be served the next business day as noted on the label. For example, if it is Tuesday and the Riverside Branch of the East Providence library is on the delivery schedule for Wednesday, bins will be moved from the shelf to the loading pallet. If that branch does not receive Wednesday delivery it will remain on the shelves.

The pallets are strategically grouped by delivery route. Locations served by a single route are grouped together to expedite the loading of the vehicle that serves that area.

As the secondary sort process is taking place, the location-dedicated hampers are divided into smaller bins which are placed directly on the loading pallets.

Once all bins due for delivery have been moved to the pallets the sort is complete. In the morning, the delivery vans will back up to their designated pallet locations and load, repeating the cycle.



Figure 4 - Items waiting for pickup

Notes on Central Sort

The Delivery committee visited the East Providence location on March 18th, 2009 to observe their workflow first hand. In general the facility is clean, orderly and well designed.

The employees sorting the items are extremely proficient which is a necessity given the large number of items that need to be sorted each day. While items are not abused it should be noted that at the primary sort point they are often tossed from the arrival bins into the hampers. Our observation noted that it was not unusual for an item to be tossed upwards of 10 feet. This action may reinforce the necessity of padded envelopes for DVD and CD media as it is likely that such items, if unprotected, would risk damage; when the hampers are initially being filled, heavier items are often tossed on top of smaller items.

It should also be noted that the vendor contract is negotiated at a per-stop rate rather than a per-item or per-hour rate. This financial arrangement mandates that the sort be done as quickly as possible as expanding the amount of hours would not be financially attractive to the vendor.

Committee members also expressed concern that in foul weather the bins are often set down in the snow, collecting a layer of moisture at the base of the bin. When these bins are stacked on each other the moisture could damage the items. The vendor reassured the committee members that the employees involved with the process were trained to not ever place the bins directly on wet ground.

Not all items arriving at the central sort facility are in bins. Many items are packaged in boxes and labeled for a specific end-point location. In these cases, the boxes are moved directly to the shelves or dedicated location hoppers.

Conclusions:

The vendor has developed a work-flow which is both efficient and cost effective.

With the exception of tossing the items into the primary sort hampers the items are all carefully handled.

The methodology of labeling the shelving units both speeds the sorting process and provides a degree of flexibility which could enable the system to expand beyond current capacity.

Unless other workflow is adopted for the handling of CD and DVD media additional protection may be necessary to protect these items.

The items which move the fastest through the sort workflow are those items packed in separate boxes and labeled for a single location drop point.

While workers may be trained to not place bins on wet ground, this practice continues to be observed.

State 3: Drop off

When the bins and boxes have been delivered to the destination location staff members un-wrap the items and check them in. At that point the items are considered to have exited from the Delivery system.

Once the item is checked in, the circulation software will accommodate notification to the hold requester that the item is ready for pickup.

State 4: An undeliverable or unidentifiable item at OLIS waiting to be identified

Although it is rare, from time to time an item becomes separated from its routing slip. When this occurs the Delivery Vender will attempt to identify the origination point of the item and place that item into a bin being returned to that location.

Should the Delivery Vendor not be able to identify the location they will deliver the item to the OLIS library at the Department of Administration in Providence. OLIS staff will work with the participating locations to identify the item. Once the owning library is identified the item will be returned to that location by OLIS.

The number of unidentified items that reach OLIS has dropped dramatically from 20-25 items per week to less than 4. The use of printed routing slips has been credited with this decline.

State 5: Lost items

Time has proven the Delivery system to be highly reliable in accommodating the safe transfer of items between locations. There are, however, times that an item is lost. The primary cause of this is an item that is not properly checked into or out from the library. For example, an item may be checked in to honor a hold but accidentally returned to the collection before being sorted and packaged for pick-up. Inversely, an item may be delivered to a destination location but placed in the collection before check in.

Regardless of reason, lost items represent a small fraction of the volume of items being accommodated by the Delivery system.

Delivery Growth

Item Growth

Nearly all participants in the Delivery system agree that the volume of material handled will continue to grow. Based on the OLIS survey, the system has grown 27% over the past four years.

While this rate of expansion is likely to continue, there are a few significant factors that may have a significant impact on growth. Primary among these is the growing use of 'on-demand' and other rapid distribution conduits for motion pictures. Commercial DVDs currently account for a large share of all materials transported through the Delivery system. Lastly, the growth in adoption of E-Books and other electronic document delivery systems may be relevant.

Electronic document delivery commonplace in most academic and research libraries have greatly reduced the volumes of physical delivery. Yet, because public libraries fulfill an extremely limited number of article requests, it is doubtful that this technology would have any significant impact on the system as a whole.

In 2007, Exeter Public Library launched the NETFLIX® services for its registered patrons. The library canceled the service after 6 months. The director said that while she received much kudos for being forward thinking, none but one family in the entire community took advantage of the service.

It will also take time for E-book to make any significant impact on delivery. Digital Right Management is a hurdle, as is interoperability among devices endorsed by publishers.

While electronic distribution may play a significant role in the future of the Delivery system, there is little doubt that the current demand will increase over the next few years. Fortunately, the methodology of the Delivery system should accommodate expansion.

That said, the resources and funding required to support it, primarily staff time needed to package material, will be required to keep pace.

It is felt that unless offsetting workflow improvements are made to create greater efficiencies in the packaging stage of Delivery, the system may scale to a degree that it cannot be supported without a matched increase in the personnel required to accommodate it.

Growth in Scope

There is certainly a case to be made to increase the overall scope of the Delivery system. This scope could range from increasing the speed at which items are delivered to the number of participating locations. It is not out of the realm of possibility to include home delivery of items. Any type of scale change will require careful evaluation of need and costs to determine the overall cost benefit of the change.

TCO (Total Cost of Operation)

There are three major components that contribute to the total costs of the Delivery system:

- 1) Vendor costs
 - a. The amount paid to the vendor for fulfilling the delivery and pick-up of Delivery items
- 2) Material costs
 - b. Cost of plastic bags
 - c. Cost of bins
 - d. Cost of packing envelopes for DVD and CD items
 - e. Cost of routing slips paper and printer maintenance
- 3) Personnel Costs
 - f. Supporting the personnel expenses of preparing items for entrance into the system.

Vendor Costs:

As mentioned earlier in this report, the vendor contract is based on a per-stop basis. Currently, the vendor is being paid on average \$15,000 per month during the school year and on average \$11,000 per month during the summer when schools are not serviced. Based on these figures it is estimated that the yearly total vendor cost for delivery stops is \$172,000⁴.

Materials Cost:

There are three elements that make up this total – the cost of the shipping bins, and plastic bags supplied by OLIS and the costs of the cardboard boxes, elastic bands and other miscellaneous material supplied by each location.

OLIS initially seeded the Delivery system with a large number of bins – many of which are still in use. For the purposes of this report, the costs of those bins as well as replacement units were amortized over their expected life-span. At a single bin cost of \$8.66 it was estimated that 250 bins would enter and exit the system each year at a total annual cost of \$2,165.

It was estimated that the system churns 4,000 12"x12" bags at a cost of \$85/per 1000 each year and 1000 16"x20" bags at a cost of \$222/per 1000. The total cost of bags was determined to be \$562.

Because the materials supplied by the locations (padded envelopes, cardboard boxes and elastics) are typically recycled from existing stock the costs of these supplies was determined to be nearly inconsequential and an approximate flat cost of \$2000 was added to the total to account for those rare instances when a location might purchase these supplies out of pocket.

Based on the above figures, yearly material costs were determined to be \$4,727.

⁴ Based on FY 08-09, average for June through September when schools are in session is \$15,000 per month. Average for July and August is \$11,000 when schools are closed

Personnel Costs

Determining a total cost to attribute to personnel expense was one of the most difficult tasks facing the committee although one of the most vital as this expense was estimated to be the largest.

It was decided that the time needed to package material was the key factor in cost estimation so the following formula was devised:

$$\text{(Average time required per item) x (number of items) x (average employee cost) = Total Cost}$$

$$\text{(Total cost)/(number of items)=Cost Per Item}$$

Several committee members conducted isolated testing to determine the average time per item. These test involved a mix of reading materials (i.e. books) and DVD/CD items. While many factors attributed to variances in time, an average of 50 seconds per item was agreed upon for the purposes of cost estimation.

Actual employee rates also varied greatly between locations. This is especially significant as some locations utilize volunteer labor to package material while other locations rely on management staff.

To better determine costs, a question was added to the annual OLIS survey asking locations to estimate the percentage of labor types used. Survey participants could choose between three types: Volunteer (\$0 per hour), Para-Professional (\$14.42 per hour) and Professional staff (\$24.03 per hour). These supplied percentages were converted to a per-second cost and calculated against the number of items packaged during the survey week. For example, The Cross Mills Public Library responded that packaging was split evenly between the three types of staff. 33% of the total items were multiplied times 50 seconds per item times the per-second employ cost for that staff type. Lastly, the costs were totaled for each staff type and divided by the total number of items package to determine a per item cost.

# Items	x 50 sec.	Volunteer	Para-Prof	Prof.	Costs			Total Cost	Per Item
		34%	33%	33%	Volunteer	Para-Prof	Prof		
576	28,800	9,792	9,504	9,504	\$-	\$38.07	\$63.44	\$101.51	0.176

Figure 5 - Calculation example

Lastly, all cost columns of all locations were totaled and divided against the total number of items transported during the survey week to determine the total personnel cost per week to accommodate the system. Based on the many variables noted, this cost was estimated to be \$9,664 per week or \$502,528.21 per year⁵

Total Cost

Summing the vendor, material and personnel costs together results in a yearly cost of \$679,255.21. Divided by the 2,522,884 items estimated to have been packaged in 2009 the cost per item rate would be \$0.27 per item.

⁵ It should be noted that the annual cost is an extrapolation of the one survey week. As the number of items moving through the system will certainly vary over the course of a year this number is reflective of a hypothetical rather than actual cost.

Total Cost of Operation

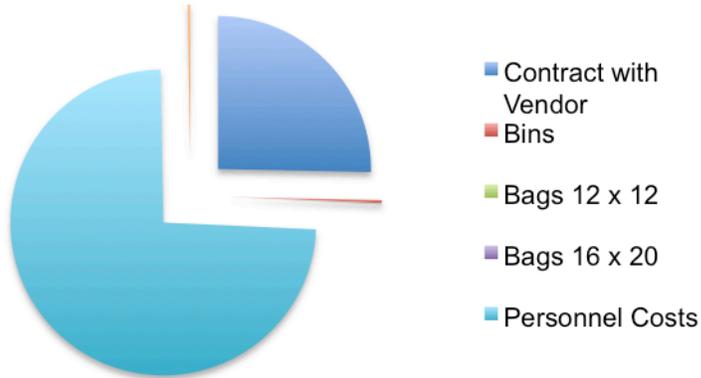


Figure 6 – Total cost by type

Cost Breakdown

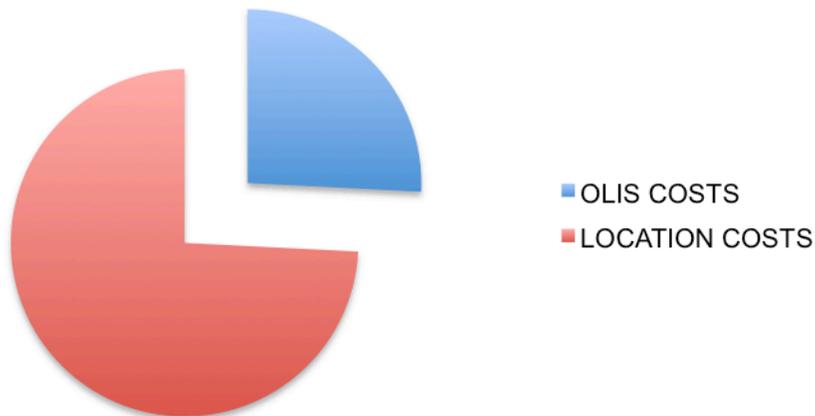


Figure 7 - Cost breakdown

Cost By Location Type

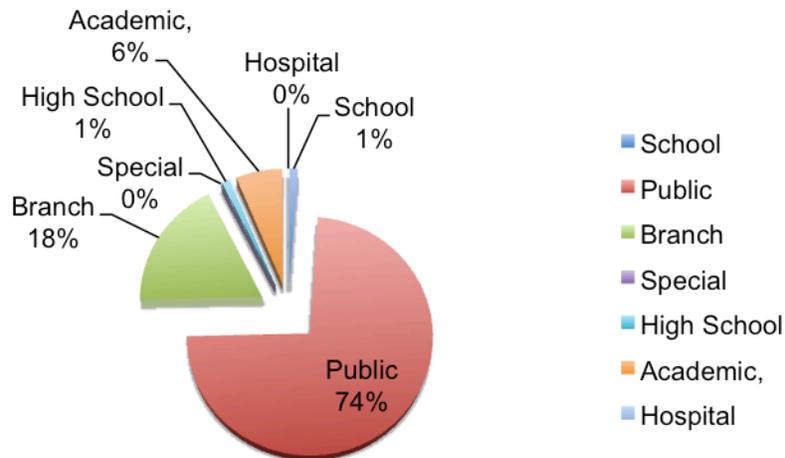


Figure 8 - Cost by location type

Additional Notes

To illustrate the critical impact the time of packaging has on the overall costs, the sub-committee recalculated the data after reducing the time per item from 50 seconds to 30 seconds. The time difference of only 20 seconds resulted in a savings of over \$200,000 annually and reduced the cost per item from \$0.27 to \$0.19.

As part of their research, the sub-committee developed a spreadsheet to illustrate costs based on the constants of time and hourly rates. This exercise creates an easy way to manipulate the data and view the impact these changes would make on total costs.

Other States

While the committee focused attention on the Delivery system in Rhode Island, we did learn about certain practices in other states.

Massachusetts

In September of 2008, Massachusetts issued a final report on their delivery system. The report was created by Lori Bowen Ayre, an MLIS Principal Consultant along with The Galecia Group and Melissa Stockton, MALS Consultant, Quipu Group, LLC.

Unlike Rhode Island, Massachusetts divides its delivery into several regions. The primary goal of the report was to determine the practicality and costs of statewide delivery.

As with our state, the report outlined very similar challenges – most notably the labor costs of packaging media:

Packaging of AV materials was mentioned as a problem in every region. The majority of comments involved the time and material required for packing and unpacking CDs and DVDs.⁶

At the core of the reports recommendations is to migrate from a mostly manual process to an automated centralized system using bar codes and automated scanning and sorting equipment. The report estimated that in ten years, such an automated system would produce 2.5 million dollars in savings.⁷

The committee strongly encourages interested parties to read the Massachusetts report which is available online at: <http://www.nmrls.org/msdc/consultants-report.pdf>

Maine

On vacation to the 'pine tree state,' committee member Pat Redfearn noted that the libraries utilized a small canvas style tote bag for delivery. Maine currently operates a statewide delivery system servicing 119 locations with an estimated 14,500 stops per year transporting 1,000,000 items. Like Rhode Island, Maine utilizes a third party vendor to accommodate delivery between locations. Unlike RI, the totes are supplied by the vendor as part of their overall contract with the state.⁸ Locations are charged a per-stop rate set by the number of stops per week - \$8.50 for one, \$42.50 for five.

More information is available here: <http://www.maine.gov/msl/lib/interlib/faq.htm>

Other

An interesting delivery concept was adopted by the San Jose library system. This methodology is dubbed a "floating collection." A book sent from library A to library B for a patron initiated request. When the patron returns the book to library B, the book stays in library B until the next request call for the item from any library within the system. This way, the delivery system does not bear the burden of returning the books to the owning library. The approach certainly calls for additional research to determine the real savings of implementation as well as the impact of locations that are net lenders into the current system.

Issues and Recommendations

Through their own experience, as well as interview with librarians across the state, the sub-committee identified the following issues with the current system and noted possible recommendations to improve the system:

Sorting Issues:

Too much time spent placing items in plastic bags

Several locations should volunteer to pilot a program where bags are only utilized for those items requiring extra protection. It was agreed that this experiment should only be done for those items owned by the testing library and that 'shower cap' covers on the bins would be required. It was also recommended that the vendor be alerted to the pilot.

Too much time spent placing DVD/CD media in padded envelopes

Locations should continue using the padded envelopes until such time as they can place each disk in a more durable container. It was also suggested that if DVD/CD media was packaged in a separate bin (or box) that padding might not be as needed. As a policy, once a case became damaged it should be replaced as soon as possible.

⁶ Massachusetts Library Delivery Services Final Report – Revised April 2009 Page 21

⁷ Massachusetts Library Delivery Services Final Report – Revised April 2009 Page 76

⁸ RFP for Delivery Vendor: <http://www.clicweb.org/movingmountains/Maine%20State%20Library%20RFP.html>

Not all locations have routing slip printers

OLIS should strongly recommend the use of printers. Eligible locations should be notified of possible support for printer purchase through the Champlin Foundation⁹.

Not all locations have adequate space to accommodate a time efficient sort

All new library construction, or major renovation, should strongly suggest accommodation for adequate sorting space to ensure efficient Delivery preparation¹⁰.

Restrictions caused by separated circulation systems

As noted previously, different consortiums utilize different circulation software. For that reason, materials that are requested between separate consortium members must be accommodated through a more manual process.

Material Issues:

Locations run out of bins

It was felt that this was simply an education/communication issue. OLIS has plenty of bins that can be easily distributed by the vendor. Delivery notices are posted on the OSL Circulation Heads message board and an additional action item on this issue was to ensure that the email distribution list be expanded to ensure that those actually accommodating the packaging of material receive news and updates from OLIS regarding Delivery policies.

Locations run out of bags, or bags too worn for practical use

OLIS will order more bags and has supplied the pricing difference between open, standard Ziploc and 'tabbed' Ziploc (preferable). Locations should be educated not to 'horde' bags or use lightweight bags. Damaged bags should be sent back to OLIS.

Locations need to supply their own elastics, padded envelopes and boxes for same location delivery

It was determined that this was not a major issue

Locations sometime feel that certain items should be bubble wrapped which they supply

The group recommended that this practice be continued where necessary. It was suggested that more fragile media such as CDs could be sandwiched between two books when going to the same destination to offer further protection.

Expense of routing slip thermal paper (\$50 for box of 50)

As with the printers themselves and other supplies it was suggested that when available, locations leverage statewide pricing for paper supplies. If such pricing is not available on a statewide contract, locations should seek cooperative purchasing to minimize cost.

Current bins are not covered

Members of the sub-committee representing public libraries strongly advocate for covered bins such as <http://www.uline.com/Product/ProductDetail.aspx?model=S-9744&ref=312> be considered after a cost analysis. In the interim, and especially for those locations piloting the practice of discontinuing bags, 'shower cap' covers for the current bins should be used if the costs of these caps can be supported.

Desire for tab style zip lock vs. open or standard zip lock bags

Tabbed Ziploc seemed to be the preferred bag type.

⁹ The functionality of the routing slip printing and the generosity of the Champlin Foundation only apply to the public libraries. Although HELIN uses the same system as OSL, this feature will not be available to them until after the next upgrade.

¹⁰ OLIS can impose on ADA and other critical standards compliance but is not prescriptive to dictate what's required for a certain service within the library.

Some locations have reported that they do not see the need for two bag sizes (16x20 and 12x12)
The committee felt that a strong case can be made to have both bag sizes available.

Locations sometimes substitute their own bags that are not durable enough

This is an education issue. Locations should be encouraged to recycle bags but not use substandard (less durable bags) and to return damaged bags to OLIS.

Materials Handling:

If not protected, jewel cases on DVD/CD media are easily damaged

Besides the above noted items it was also recommended that a representative from the sorting vendor be available to address possible changes to the packaging of the materials and how any such changes might positively or adversely affect the safe handling of items during the sorting process.

Bins are often very heavy to move when fully loaded

This is not a current issue but locations should be educated not to overload bins or and especially keep single location bound boxes to a reasonable weight. Total weight should also be a consideration should the system utilize a new covered box.

Concern that DVD/CD media may get stolen if not concealed

It was decided that this was an unfounded concern

Bins are sometimes set down in snow or other wet conditions and that moisture has the potential of damaging items when the bins are stacked (the wet base of one coming in contact with the contents of the one beneath)

The vendor should be warned of this possibility. Bags should still be used for material until such time as shower caps or covered boxes replace the current bins.

Vendor Issues:

Vehicles too small to accommodate all bins

This is a common problem. Because drivers use their own vehicle they often are not driving a car with the capacity to handle certain routes. This means that they cannot take all of the bins. While the vendor is penalized for this as a missed stop, it does mean that materials are sometimes delayed.

Drivers sometime repack materials resulting in a redundancy of effort

It was agreed that this was a non-issue. If the drivers wish to arrange material for their own system that is not a problem.

An innovative idea that came out of this action item involved a method to differentiate outgoing bins from incoming bins through the use of a color (bin or cover) or even a reversible label that could identify a bin as outgoing or incoming.

As with many of the suggestions, the group determined that a meeting should be set up with the vendor to see if any of these ideas could produce better results.

Pick-up/drop off times not ideal for all locations (most locations request an earlier time)

The group agreed that finding an ideal time for all locations was utopian. That said, the new bar code 'in and out' system the vendor is using to track stops should be valuable in better mapping the current system of routes and schedule of stops. This issue item sparked to a variety of ideas and discussions surrounding the drop-off and pick-up of items. One concept was to encourage overnight pick-up and delivery utilizing locked holding areas outside of the locations. The general thinking is that this would eliminate parking issues and save the vendor on gas and time given the volume of traffic. The group understands that this might not be practical as the vendor does other delivery work on the same routes used for Delivery but we agreed it was worth including this innovative concept in our report.

Bar code scanners require wireless connectivity to Sprint network, which is not available in all areas.

This was a non-issue as the vendor already has a system for noting stops when connectivity is unavailable.

Skipped delivery or failure of vendor to take all bins

This also was felt to be a non-issue as it was a very infrequent occurrence. One point brought up by OLIS was that the location sometime contacted the vendor directly noting that there was no need to do a pick-up and that these contacts should be coordinated through OLIS.

Other Issues:

Not enough education – staff not following set procedures because they are not trained

Much of these issues can be solved by a better listserv and through training at the RILA meeting.

Overall expense for materials and time dedicated to delivery

This could be reduced through several workflow adaptations:

1. Look at bins dedicated to safely move DVD and CD materials
2. Replace plastic bags with new bins or bin 'shower caps'
3. Many of the other recommendations outlined above address this issue.

Identifying 'home' location of item is sometimes difficult

Libraries currently mark their own items with identifying labels and barcodes in highly individualized ways. Media items, especially, which do not show ownership information on the outside, can require extra time in the packing process as they must be opened and ownership identified before a delivery slip can be written. A statewide standard for ownership information to be immediately visible on all items could save considerable packing time.

Items 'lost' in the system (note that this is perceived more of a general problem than a delivery issue)

No longer a major issue although standardizing the placement of bar code labels on the face or spine of material will help lessen this issue even more.

Location staff members are sometimes reluctant to report vendor issues to OLIS out of concern that they will alienate their assigned delivery person

Will solve through better education

Overall Concerns:

The system is growing and location (and OLIS) budgets and personnel are shrinking

Tangible data as to cost, benefit and potential growth of the system must be developed to show ROI on all funding levels and stakeholders in order to ensure that the growth of the program is sufficiently funded and staffed.

Glossary

For the purposes of this report the following terms are utilized:

Bin: A plastic container used to carry items throughout the delivery process

Central Sort: Currently operated by Now Delivery, this is the single hub location where all Delivery-distributed items are sent and sorted before they are delivered to their intended destination location.

Destination Point: The location where an item exits the Delivery system.

Hold: The act of requesting a copy of an item for delivery to a requester's location. Note that a hold does not request a unique item, as there may be multiple copies of an item available at multiple locations. An item specific hold can be placed for a unique item hold.

Hamper: A large mobile container used by the sorting location

Item: A book, DVD, CD or other individual piece of media that is available to be loaned through the Delivery.

Location: A library participating in the Delivery program

Origination Point: The location at which an item enters the Delivery system

Owner location: The location that owns the item being distributed

Pull list: Usually generated by the catalog system, the pull list notes items at the owner's location not currently in circulation that have been requested via holds which need to now enter the Delivery system.

Requester's location: The location requesting an item from the owner's location

Routing Slip: A paper receipt, printed or hand written, noting the destination of an Delivery item. A routing slip is either included with a single item, or included with a group of items.

Appendices

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Delivery Committee Meeting Schedule

1/26/09	4:30-6PM	Cranston Public Library
2/13/09	3-4:30PM	Cranston Public Library
3/18/09	3-5:30PM	East Providence Public Library (This meeting included the trip to Now Delivery)
4/16/09	4-5:30PM	OSL Warwick
5/11/09	4-5:30PM	OSL Warwick
6/10/09	4-5:30PM	George Hail Free Library, Warren
7/23/09	9:30-11AM	OSL Warwick
8/27/09	9:30-11AM	OSL Warwick
9/17/09	9:30-11AM	Cranston Public Library
10/29/09	9:30-11AM	OSL Warwick
12/17/09	9:30-11AM	OSL Warwick
01/11/10	9:30-11:30A	OSL Warwick

A list of locations and schedule

Code	Library Name	DOD	M	T	W	H	F	Code	Library Name	DO D	M	T	W	H	F
ARL	Arlington Reading Room		M	T	W			MCT	Mercymount Country Day School			T		H	F
ASH	Ashaway Free Library		M		W		F	MHS	Middletown High School	DOD					
ATH	Providence Athenaeum		M		W		F	MID	Middletown Public Library		M	T	W	H	F
AUB	Auburn Branch Library		M	T	W	H	F	MIR	Miriam Hospital Health Library						
BAR	Barrington Public Library		M	T	W	H	F	MPS	Memorial Hospital Med. Library		M	T	W	H	F
BCA	Colt-Andrews School Library			T		H		MSS	Meeting Street School Library			T			
BGA	Guiteras School Library		M		W		F	MTP	Mount Pleasant Library		M	T	W	H	F
BGC	Hugh Cole School Library			T		H		NAR	Maury Loontjens Memorial Library		M	T	W	H	F
BHS	Barrington High School		M		W		F	NCC	Cranston-Calvert School Library			T		H	
BMS	Barrington Middle School		M		W		F	NCO	Coggeshall School Library		M				F
BRI	Rogers Free Library		M	T	W	H	F	NET	New England Institute of Technology Library		M		W		F
BRO	Brown University - Science Library		M	T	W	H	F	NHR	Newport Hospital - Library		M	T	W	H	F
BRR	Brown University - Rockefeller Library		M	T	W	H	F	NHS	Rogers High School			T		H	F

BRW	Rockwell School Library			T		H		NKI	North Kingstown Public Library		M	T	W	H	F
BRY	Bryant University - Douglas and Judith Krupp Library		M	T	W	H	F	NPR	North Providence Public Library		M	T	W	H	F
BTH	Butler Hosp. Ray Med Lib.		M		W		F	NPT	Newport Public Library		M	T	W	H	F
BUR	Jesse M. Smith Memorial Library		M	T	W	H	F	NRH	Narragansett High School		M		W		F
BVA	St. Mary Academy-Bay View		M		W		F	NSH	Island Free Library		M	T	W	H	F
BWH	Mt. Hope High School Library		M		W		F	NSM	North Smithfield Public Library		M	T	W	H	F
CAS	Arlington School Library			T				NSU	Sullivan School Library			T		H	F
CBR	Chester Barrows School Library		M			H		NTM	Thompson Middle School Library		M		W		F
CBS	Blackrock School Library			T		H	F	NUS	Underwood School Library		M	T	W		
CCF	CCRI - Flanagan Campus Library		M	T	W	H	F	NWC	US Naval War College Library						
CCN	CCRI - Newport Campus Library		M	T	W	H	F	NYS	Nayatt School Library		M		W		F
CCP	CCRI - Liston Campus Library		M	T	W	H	F	OAK	Oaklawn Branch		M	T			F
CCW	CCRI - Knight Campus Library		M	T	W	H	F	OLF	Our Lady of Fatima Hospital Library		M	T	W	H	F
CDS	Stadium School Library		M		W			OLN	Olneyville Library		M	T	W	H	F
CDT	William Dutemple School Library		M				F	OSL	Ocean State Libraries		M	T	W	H	F
CDW	Daniel D. Waterman School Library				W		F	PAB	Portsmouth Abbey School		M		W		F
CEM	Western Hills Middle School		M		W		F	PAS	Pascoag Public Library		M		W	H	F
CEP	Eden Park School Library			T			F	PAW	Pawtucket Public Library		M	T	W	H	F
CES	Edward S. Rhodes School Library				W		F	PCO	Prov.College-Phillips Memorial Library		M	T	W	H	F
CFA	Central Falls Public Library		M	T	W	H	F	PCU	Paul Cuffee School Library						
CFH	Central Falls Jr./Sr. High School Library		M		W		F	PHS	Ponaganset High School		M		W		F
CGH	Glen Hills Elementary School Library			T			F	PMS	Ponaganset Middle School Library		M		W		F
CGN	Garden City School Library			T			F	POH	Portsmouth High School		M		W		F
CHA	Cross Mills Public Library		M	T	W	H	F	POR	Portsmouth Free Public Library		M	T	W	H	F
CHE	Cranston High School East		M		W		F	PPB	Potter-Burns School						
CHO	Chariho High School			T	W		F	PRH	Primrose Hill School Library		M		W		F
CHS	Coventry High School		M		W		F	PRO	Providence Public Library		M	T	W	H	F
CHW	Cranston High School West			T		H	F	PTS	Times Squared Academy Library						
CKL	Oak Lawn School Library			T	W			RED	Redwood Library		M		W		F
CKO	Alan S. Feinstein Middle School Library			T	W		F	RHS	Rhode Island Historical Society Library				W		
CLA	Clark Memorial Library		M	T	W	H	F	RIA	RI Dept of Attorney General	DOD					
CLS	Stone Hill School Library				W	H		RIC	RI College - Adams Library		M	T	W	H	F
COV	Coventry Public Library		M	T	W	H	F	RIH	Rhode Island Hospital		M	T	W	H	F
CPJ	George J. Peters School Library		M		W			RIS	Rhode Island School for the Deaf	DOD					
CPK	Hopkins Hill School Library			T			F	RLW	Rhode Island Law Library		M				F
CPV	Park View Middle School Library		M		W		F	ROC	Rochambeau Library		M	T	W	H	F
CRA	Cranston Public Library		M	T	W	H	F	RSD	Rhode Island School of Design			T			F
CRF	Orchard Farms Elementary School Library		M			H		RST	Rhode Island State Library		M	T	W	H	F
CST	Gladstone Street School Library		M		W			RWH	Roger Williams Hospital		M		W		F
CTS	Tiogue School Library		M		W		F	RWL	Roger Wms Univ. Law Lib.		M	T	W	H	F
CUM	Cumberland Public Library		M	T	W	H	F	RWM	Roger Williams Metropolitan Ctr. for Education and Law		M		W		F
CVM	Veterans Memorial Elementary Library							RWU	Roger Williams University Library		M	T	W	H	F
CVW	Western Coventry School Library		M		W		F	SAS	Saint Andrews School		M		W		F
CWD	Edgewood Highland School Library				W		F	SCI	North Scituate Public Library		M	T	W	H	F
CWO	Woodridge School Library		M		W			SGA	Saint George's School		M		W		F
CWS	Washington Oak School Library		M		W		F	SHE	Shea High School Library		M		W		F

DPL	Davisville Free Library		M		W		F	SHS	Scituate High School		M		W		F
DSL	Office of Library & Information Services		M	T	W	H	F	SKB	Broad Rock Road Middle School		M		W		F
EBF	Meadowbrook Farms School Library			T		H		SKH	Robert Beverly Hale Library		M	T	W	H	F
EDM	James Eldredge Elementary Library			T	W		F	SKI	South Kingstown Public Library		M	T	W	H	F
EFT	Frenchtown School Library			T		H		SKJ	Curtis Corner Middle School		M		W		F
EGC	Archie R. Cole Jr. High Library		M		W		F	SKK	Kingston Free Library		M	T	W	H	F
EGH	East Greenwich High School			T		H	F	SKS	South Kingstown High School		M		W		F
EGR	East Greenwich Free Library		M	T	W	H	F	SMH	Smith Hill Branch		M	T	W	H	F
EPF	Anne Ide Fuller Branch		M	T	W	H		SMS	Smithfield High School			T		H	F
EPH	East Providence High School			T		H	F	SPR	South Providence Library		M	T	W	H	F
EPL	East Providence Public Library		M	T	W	H	F	SRA	Saint Raphael Academy Library			T		H	
EPR	Rumford Branch		M	T	W	H		SRC	Salve Regina University		M	T	W	H	F
EPV	Riverside Branch		M	T	W	H	F	SWE	Sowams Elementary School Library		M		W		F
ESM	East Smithfield Public Library		M	T	W	H	F	THS	Tiverton High School Library		M		W		F
EWH	Exeter West Greenwich High Library			T		H	F	TIV	Essex Public Library		M	T	W	H	F
EXE	Exeter Public Library			T	W	H	F	TMS	Tiverton Middle School		M		W		F
FOS	Foster Public Library			T	W	H		TOL	Tolman High School Library			T		H	
FPT	Fox Point Library		M	T	W	H	F	TUN	Union Branch Library			T		H	
GJH	Gorton Jr. High School Library		M		W			TYL	Tyler Free Library		M		W		F
GLO	Glocester Manton Free Library		M	T	W		F	UCA	Urban Collaborative Acc. Pgm			T		H	
GVL	Greenville Public Library		M	T	W	H	F	UPM	Pell Marine Science Lib.		M	T	W	H	F
HAL	William Hall Library		M	T	W		F	URI	Univ. of Rhode Island Libraries		M	T	W	H	F
HAN	George Hanaford School Library			T		H	F	URP	University of Rhode Island - Providence		M	T	W	H	F
HAR	Harmony Library		M	T	W	H		VAM	Veterans Affairs Medical Center Library		M	T	W	H	F
HBD	Hugh B. Bain Middle School Library		M		W		F	WAH	Aldrich High School Library		M		W		F
HGE	Hope Highlands School Library			T			F	WAN	Wanskuck Library		M	T	W	H	F
HMS	Hampden Meadows School Library		M		W		F	WAP	Apponaug Branch		M	T	W		F
HPE	Hope Public Library		M	T	W	H	F	WAR	Warwick Public Library		M	T	W	H	F
JAM	Jamestown Philomenian Library		M	T	W	H	F	WCO	Conimicut Branch		M		W		F
JHS	Johnston High School			T		H	F	WES	Westerly Public Library		M	T	W	H	F
JOH	Marian J. Mohr Memorial Library		M	T	W	H	F	WGR	Louttit Library		M	T	W	H	F
JSL	Jamestown School - Lawn Library			T		H	F	WHL	Wheeler School			T		H	F
JSM	Jamestown School - Melrose			T		H	F	WHM	Westerly Hospital						
JWA	Johnson & Wales University		M	T	W	H	F	WHR	Landmark Medical Ctr. - Library	DOD					
JWH	Johnson & Wales University Culinary Library		M	T	W	H	F	WIL	Willett Free Library		M	T	W		F
KCM	Kent County Hospital		M	T	W	H	F	WNO	Norwood Branch		M		W		F
KMA	Knight Memorial Library		M	T	W	H	F	WNS	Woonsocket Public Library		M	T	W	H	F
KMS	Kickemuit Middle School Library			T		H	F	WPK	Washington Park Library		M	T	W	H	F
KNV	Knightsville Branch		M	T			F	WPO	Pontiac Free Library			T		H	F
LAN	Langworthy Public Library		M	T	W		F	WRR	George Hail Free Library		M	T	W	H	F
LCO	Brownell -Little Compton Free Library		M	T	W	H	F	WWA	West Warwick Public Library		M	T	W	H	F
LIN	Lincoln Public Library		M	T	W	H	F	WWH	W. Warwick Sr. High School			T		H	F
LSA	La Salle Academy			T		H	F	WWN	Winman Junior High School Library		M		W		F
MBS	Moses Brown Library	DOD													