



STAFF REPORT ACTION REQUIRED

Central Automated Materials Handling System – Award of Contract

Date: June 22, 2026
To: Toronto Public Library Board
From: City Librarian and CEO

SUMMARY

The purpose of this report is to seek Toronto Public Library (TPL) Board approval to award a contract to Lyngsoe Systems for a central automated materials handling system.

The initial contract term is for five years commencing June 2026, with two five-year optional extension periods covering the period from June 2031 to June 2041.

The total potential value of the commitment is \$10,025,421 excluding Harmonized Sales Tax (HST), inclusive of the base term plus the two five-year optional extensions. This contract is comprised of \$7,058,400 for one-time hardware, installation, training and disposal costs and \$2,967,021 for ongoing maintenance, licencing and support services over the base term plus two five-year optional extension periods.

The automated materials handling system is part of TPL's 2025-2029 Digital Strategy roadmap and modernization goals. The Digital Strategy is focused on

transforming delivery of services, enabling innovation and growth across all aspects of TPL's services.

A replacement automated materials handling system at TPL's Ellesmere Administration site, part of a strategic initiative for a Physical Materials Management Strategy, represents a business opportunity for modernization that will result in improved efficiency across the entire library materials handling workflow cycle and enhance health and safety. This in turn will create a better staff and customer experience, by aiming to reduce the time materials spend 'in transit', eliminating day-to-day operational disruptions due to aging technology and infrastructure while being scalable to future service needs.

Lyngsoe Systems is a Canada-based corporation that operates out of Ontario as a subsidiary of Lyngsoe Systems a/s in Denmark and is the library's current automated handling vendor. For over four decades, Lyngsoe Systems has been a global leader in system integrated logistics management. With over 2,700 installations across 60 countries, the firm specializes in solutions tailored to enhance library materials management and movement.

RECOMMENDATIONS

The City Librarian recommends that the Toronto Public Library Board:

1. award a contract to Lyngsoe Systems for an automated materials handling system, for a total commitment of \$10,025,421 excluding HST comprised of:
 - a. An initial five-year term inclusive of one-time implementation costs for hardware, installation, and training of a new automated materials handling system and disposal of the current sorter totalling \$7,058,400, as well as annual maintenance and support services totalling \$688,794, for a total value in the initial term of \$7,747,194.
 - b. Two five-year optional renewal periods for ongoing maintenance and support services, subject to satisfactory performance and at the sole discretion of the City Librarian, for a total potential additional value not to exceed \$2,278,227, excluding HST, comprised of:
 - i) Option period one - Year 6 – 10 for \$1,027,778
 - ii) Option period two - Year 11 – 15 for \$1,250,449

FINANCIAL IMPACT

The potential value of the commitment to Lyngsoe Systems for a central automated materials handling system is \$10,025,421 as summarized below.

	Year 1 (2027)	Year 2 (2028)	Year 3 (2029)	Year 4 (2030)	Year 5 (2031)	Initial Term	Year 6-10 (2032- 2036)	Year 11-15 (2037- 2041)	Total - Including Optional terms
Implementation costs	\$3,654,048	\$3,404,352				\$7,058,400			\$7,058,400
Operational Maintenance and Support Services	\$0	\$162,204	\$168,692	\$175,440	\$182,458	\$688,794	\$1,027,778	\$1,250,449	\$2,967,021
Total	\$3,654,048	\$3,566,556	\$168,692	\$175,440	\$182,458	\$7,747,194	\$1,027,778	\$1,250,449	\$10,025,421

The exact start date of the contract will correspond to the execution of an agreement between TPL and Lyngsoe Systems. The implementation costs, including hardware, software, installation, training and disposal services is \$7,058,400. Funding for this is included in the approved 2026-2035 Capital Budget and Plan within the Service Modernization capital project.

Ongoing maintenance and support services for the remainder of the initial term, and for subsequent optional terms, will be included in future operating budget submissions. These costs will be offset by annual maintenance costs for TPL's current central sorter, budgeted at \$188,000 for 2026.

Renovations and modifications will be required at the Ellesmere location to enable the installation and optimize the benefits from the new central sorter. This work will be carried out in advance of the installation of the new sorter through a separate project. Funding is available within the approved 2026-2035 TPL Capital Budget and Plan, within the Service Modernization capital project, to complete this work.

The Director, Finance and Chief Financial Officer has reviewed this financial impact statement and agrees with it.

ALIGNMENT WITH STRATEGIC PLAN

The project aligns with TPL's strategic priority of awareness and availability by improving access to library collections across the city at all library locations and reducing wait times for items; and ensuring staff have the tools to deliver high quality services. The project also aligns with the Digital Strategy goals of a seamless, reliable secure and modernized digital experience for staff and customers, and secure, resilient, integrated, scalable, and stable technology to enable current and future priorities.

EQUITY IMPACT STATEMENT

While this project does not directly address specific Equity goals outlined in TPL's Equity Statement, the Central Sorter supports an essential operation that enables the efficient movement of materials throughout the system that ensure collection materials are made readily available when and where they are most needed by customers across Toronto. The replacement of the central sorter with updated hardware and software will enhance TPL's ability to optimize the materials handling workflow throughout the system and result in improved customer service and satisfaction.

DECISION HISTORY

At its April 22, 2025 meeting, the Library approved the [2025-2029 Digital Strategy](#) which includes as a key activity implementing technology to automate and streamline logistics for materials management.

At its meeting on June 25, 2012, the Library Board approved [Automated Materials Handling System – Award of Contract](#), awarding a contract to P.V. Supa Inc. for the supply of the automated materials handling system hardware, software, installation and training and the associated ongoing maintenance costs. The total value of the award included a one-time cost of \$1,806,750 plus annually maintenance costs for a three-year period totalling \$124,432, while also authorizing staff to renew the maintenance contract beyond the first three years, subject to budget availability and satisfactory performance.

ISSUE BACKGROUND

A centralized approach to automated materials handling at TPL's Distribution and Bibliographic Services facility at 1076 Ellesmere was implemented in 2014. The design and installation of the current sorter was coordinated by P.V. Supa using equipment manufactured by Eurosort, United Sortation Solutions, Ingersoll-Rand and Scemtec. P.V. Supa provided support and maintenance for the sorter until 2021 when Lyngsoe Systems acquired P.V. Supa and assumed responsibility for the equipment. Since then, TPL has renewed an annual Service Level Agreement (SLA) with Lyngsoe Systems for ongoing maintenance and support.

In 2023, as part of risk mitigation control presented annually as part of the library's risk register, TPL committed to both replacing the sorter and servicing the existing sorter until a replacement can be fully implemented.

The current system has a 10-year service life. The current Service Level Agreement provides basic routine maintenance, troubleshooting and annual preventative maintenance, including system optimization within the limits of the current hardware and software. However, now beyond the 10-year life expectancy, the limits to further optimize the system are being stretched daily. Significant or major failure of the hardware, software or infrastructure is not covered under the service level agreement and would represent significant downtime and expense. Despite a maintenance agreement in place on the current central sorter, recent service calls have demonstrated that limitations on sourcing available parts continue to be an operational risk.

The automated materials handling system is part of TPL's 2025-2029 Digital Strategy roadmap and modernization goals. The Digital Strategy is focused on transforming delivery of services, enabling innovation and growth across all aspects of our services.

COMMENTS

The proposed automated materials handling system is a critical modernization initiative that will improve customer service, increase system-wide operational efficiency, and mitigate growing operational, and health and safety risks associated with the aging sorter infrastructure. The investment will enable faster

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movement of materials across the system, reduce wait times for customers, and ensure reliable, scalable operations to support future service demands.

1. Customer Service Improvement

A 2025 survey of Toronto Residents conducted by Forum Research Inc. found that borrowing physical books, magazines, movies or audio books was the most commonly used library service (85%) and browsing for materials of interest to borrow remains a top reason people visit the library (51%). In 2025, the central sorter processed 8,362,200 items – an average of 696,850 monthly, or 29,034 daily. The central sorter at Ellesmere is the core of this business activity and supports automated materials handling of holds and returns for the library. Monday to Saturday anywhere between 25,000 and 56,000 library materials are sorted daily. The continued demand and usage of the physical collection demonstrates there is a strong need now and going forward for TPL to be able to efficiently move library collection materials around the city where they are needed most.

Downtime because of technical or mechanical failure contributes to significant backlogs and delays in the movement of materials throughout the system. With the current solution, which lacks real time communication with the ILS, materials can be misdirected and spend additional, unnecessary time in transit to the requested branch. These types of delays can result in a significant negative impact on customer experience and satisfaction with TPL's collections and services. The future automated materials handling solution will be able to move materials intelligently – reducing wait time for items and help to ensure library collections are available where they are needed most, supporting TPL's Equity Statement and Digital Strategy.

2. Operational Efficiency

The implementation of a modern automated materials handling solution at Ellesmere represents a key step in building a strong foundation for the broader Physical Materials Management Strategy. This investment will enhance system-wide efficiency across the materials handling lifecycle, reduce transit times, minimize operational disruptions associated with aging infrastructure, and improve the overall customer experience while supporting future scalability.

Current workflows present limitations that affect service delivery. Enhancing automation and system capabilities will help better align internal processes with customer expectations.

Modernization also creates opportunities to optimize staffing models and increase operational throughput. Enhanced automation can streamline intake and sorting functions, expand processing capacity, and enable more flexible operations, supporting broader service objectives and system-wide distribution effectiveness.

At the branch level, there is an opportunity to simplify materials handling by reducing manual touchpoints and improving receiving workflows. Technologies such as batch check-in and enhanced item processing methods will accelerate the movement of materials to shelves, improve staff efficiency, and contribute to a safer work environment.

Finally, upgraded infrastructure will provide greater operational flexibility. Increased system capacity and more adaptable sorting capabilities will better support evolving service needs, including redistribution during branch closures, while reducing reliance on manual processes and strengthening overall system resilience.

3. Health and Safety

The failure of the current central sorter would pose an increased risk of staff injury and lost time, due to the physical effort associated with manual sorting procedures.

The current sorter requires staff use of hearing protection as a health and safety control, as it produces noise levels that approach the occupational exposure limits of 85dBA. This hearing protection is part of a broader Hearing Conservation Program (HCP) that is in place to protect the health and safety of sorter staff.

A modern sorter will significantly reduce health and safety risks associated with noise exposure, and physical work due to manual handling during system downtime. These risks are currently managed through mitigation measures such as safe materials handling procedures and hearing protection requirements; however, they do not address the underlying issue of outdated infrastructure. A

modern sorter reduces the risk of workplace injuries, supports employee well-being, and mitigates potential impacts on staffing and operations.

Procurement Process

TPL issued a public Request For Proposals (RFP) for an Automated Materials Handling System on October 31, 2025. The RFP closed on December 17, 2025 and one compliant proposal was received. The proposal was evaluated and scored by an evaluation committee of subject matter experts and in accordance with the rated criteria set out in the RFP, including business and technical requirements addressing system features, maintenance and support, accessibility, health and safety, solution design and implementation, project and account management experience and pricing. Upon completion of all stages of the evaluation, it is recommended that the contract be awarded to Lyngsoe Systems.

Following approval of the award, TPL will work with Lyngsoe and an architect on the final sorter design and impacted spaces at Ellesmere. The required construction and reconfiguration of space will be part of the central automated materials handling system project timeline. It is expected to take up to two years for design and space reconfiguration, installation, testing and operationalization of new workflows. Implementation will be scheduled in conjunction with decommissioning of the existing central sorter. A transition strategy will be developed to operationalize the new sorter within the project scope.

Lyngsoe Systems

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Next Steps

Overall, the proposed solution addresses critical operational risks while delivering measurable improvements in service delivery, efficiency, and workplace safety. It

positions TPL to meet current demand and future growth while ensuring reliable and sustainable materials handling operations across the system.

Following this award, TPL will work with Lyngsoe and an architect working on behalf of TPL on the sorter design and required building infrastructure changes. This will inform the necessary space reconfiguration. The project duration is expected to take 18 to 24 months including sorter design, space design, construction, implementation, testing and operationalization. During this time the current materials sorting process will remain in place.

CONTACT

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SIGNATURE

Moe Hosseini-Ara
City Librarian and CEO

ATTACHMENTS

Attachment 1: Central Automated Materials Handling System Presentation

Automated Materials Handling System

Lisa Radha Vohra, Director, Collections and Membership Services

Steve Till-Rogers, Digital Strategy and Chief Information Officer

Monday, June 22, 2026

2014

- Sorter installed at Ellesmere
- Introduced automation
- Improved accuracy and efficiency at Ellesmere and across all 100 branches
- Designed by P.V. Supa
- Uses equipment manufactured by EuroSort, United Sortation Solutions (Honeywell), Ingersoll-Rand and Scemtec.

2021

- Lyngsoe Systems acquires P.V. Supa
- TPL maintains Annual Service Level Agreement

2022

- Current State Assessment of branch and Ellesmere sorters
- Ellesmere sorter at or near end of life
- Recommended strategy for logistics and materials management and replacement plan for sorters

Current Challenges

- Aging technology infrastructure, end of life
- Increasingly difficult to source replacement parts

Future Opportunities

- New AMH technologies bring new opportunities to improve customer and staff experience
- Create capacity to grow and evolve logistics and materials management at TPL

2025 Survey of Toronto Residents

- The most commonly used services were borrowing physical or electronic materials (85%)
- Browsed for books, magazines, movies, music of interest to borrow (51%)

Strategic Plan 2025-29

Priority 4: Awareness and Availability

Torontonians can conveniently access library collections, programs, spaces and services equitably in neighbourhoods across the city where, when, and how they want to.

what stays the same

Distribution Services is responsible for sorting and movement of physical collection materials that support TPL's Mission to provide free and equitable access to services which meet the changing needs of Torontonians.

what will change

- Increased processing capacity of the central sorter
- Reduced maintenance/downtime and improved health and safety
- Enhanced materials movement processes support both staff and customers
- New infrastructure positions TPL for future adoption of advanced materials management solutions
- Establishes the foundation for TPL to explore adoption of software augmentation for materials management

Physical Materials Management Strategy

2024-2029 Strategic Plan Initiative

- Think holistically about centralized logistics and materials management
- New materials, holds, closed collections
- Tackling most complex aspect first

Where are we headed?

- Design in collaboration with vendor and architect
- Design and construction of space required for new sorter
- Procurement, implementation and activation
- Decommission of existing central sorter
- Operationalize and continual improvement

Financial Impact

	Year 1 (2027)	Year 2 (2028)	Year 3 (2029)	Year 4 (2030)	Year 5 (2031)	Subtotal Year 1-5	Year 6-10 (2032 -2036)	Year 11-15 (2037-2041)	Total (Year 1 -15)
Capital Hardware, Software (Year 1), Installation and Implementation	\$3,654,048	\$3,404,352				\$7,058,400			\$7,058,400
Operating Operational Maintenance and Support Services	\$0	\$162,204	\$168,692	\$175,440	\$182,458	\$688,794	\$1,027,778	\$1,250,449	\$2,967,021
Total	\$3,654,048	\$3,566,556	\$168,692	\$175,440	\$182,458	\$7,747,194	\$1,027,778	\$1,250,449	\$10,025,421

our strategic priorities

- 1 social connection,
civic engagement
and democracy
- 2 shared
community
spaces
- 3 learning and
growth
- 4 awareness and
availability

focus on
staff



aligning
with our
**Digital
Strategy**

questions