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STAFF REPORT ACTION REQUIRED

Network Upgrade and Replacement – Award of Contract

Date: October 27, 2025

To: Toronto Public Library Board

From: City Librarian

SUMMARY

The purpose of this report is to seek Toronto Public Library Board approval for a commitment to spend up to \$15,590,182 with OnX Enterprise Solutions Ltd for the supply and delivery of Cisco and Cisco-Meraki Network Equipment and Products, Maintenance and Support, Managed Services and Professional Services.

Toronto Public Library (TPL) will leverage an existing agreement through the City of Toronto for the supply and delivery of Cisco and Cisco-Meraki Network Equipment and Products, Maintenance and Support, Managed Services and Professional Services. The award of this contract is being made in accordance with TPL Purchasing Policy section 4.6 – Procurement of same goods and services as another public body.

In alignment with the 2025-2029 Digital Strategy, *Priority 5 Technology Foundation*, this capital investment will transform TPL's network foundation by replacing outdated systems with state-of-the-art Cisco and Cisco-Meraki wireless and wired network solutions. TPL operates one of North America's

largest public library Wi-Fi networks, serving over 100 branch locations and providing essential internet access to millions of annual visitors, making this infrastructure modernization essential for continued service excellence. As a cornerstone of the City of Toronto's digital inclusion efforts, TPL plays a vital role in bridging the digital divide by providing free, reliable internet access to residents who may face barriers to connectivity at home. TPL's 100 branch locations represent a significant portion of the City's 250+ public Wi-Fi access service points, underscoring the library's essential contribution to ensuring equitable digital access across Toronto's diverse communities.

Investment in wired and Wi-Fi networks will expand to include secure dedicated staff wireless network services. Enabling access to high-speed secure staff wireless networks will significantly enhance library operations enabling greater operational efficiency in collaboration, delivering customer services and accessing information on demand. New capabilities will be unlocked for staff with the option to adopt wireless-enabled technology across all areas of the library.

The existing network infrastructure faces several immediate challenges that necessitate action: a large percentage of wireless access points have reached end-of-serviceable life warranting replacement, current capacity limitations result in degraded service during peak usage periods due to concentrated customer demand, legacy security protocols no longer meet contemporary cybersecurity standards, and limited coverage areas restrict customer access to digital resources.

The dramatic shift toward mobile device usage and digital service delivery has created unprecedented demand for reliable, high-speed wireless connectivity that the current infrastructure cannot adequately support. The comprehensive replacement of aging network infrastructure directly supports TPL's mission of providing equitable access to digital resources and services, making this investment essential for maintaining TPL's position as a world-class public library system serving Toronto's diverse communities.

RECOMMENDATIONS

The City Librarian recommends that the Toronto Public Library Board:

1. approve a commitment to spend up to \$15,590,182, excluding Harmonized Sales Tax (HST) with OnX Enterprise Solutions Ltd for the supply and delivery of Cisco and Cisco-Meraki Network Equipment and Products, Maintenance and Support, Managed Services and Professional Services, October 2025 to December 2028.

FINANCIAL IMPACT

The total commitment with OnX Enterprise Solutions Ltd. during the period October 2025 to December 2028, is up to \$15,590,182, excluding HST, for supply and delivery of Cisco and Cisco-Meraki Network Equipment and Products, Maintenance and Support, Managed Services and Professional Services.

The annual capital and operating expenditures are outlined in the table below.

Capital	2025	2026	2027	2028	Total
Hardware & Management	\$931,278	\$1,323,207	\$3,720,225	\$1,054,400	\$7,029,110
Wi-Fi & Secure Access	\$0	\$920,742	\$1,332,478	\$623,781	\$2,877,001
Installation & Implementation	\$121,500	\$1,309,913	\$2,612,745	\$1,309,913	\$5,354,071
Operating					
Managed Services	\$0	\$165,000	\$165,000	\$0	\$330,000
Total	\$1,052,778	\$3,718,863	\$7,830,448	\$2,988,093	\$15,590,182

The funding for the capital expenditures is included in the Technological Asset Management Program (TAMP) capital project within the approved TPL 2025 capital budget and will be included in the TPL 2026-2035 Capital Budget and Plan submission for this project for future years. The funding for the operating expenditures will be included in the TPL 2026 Operating Budget submission.

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

ALIGNMENT WITH STRATEGIC PLAN

TPL's Strategic Plan 2025-2029 includes multiple objectives which are enabled through modern network infrastructure. The strategic objectives of 'Shared community spaces' and 'Broadening Toronto's digital access and inclusion' depend on reliable, high-performance wired and wireless connectivity throughout all branch and administrative locations. Additionally, the strategic priority of investing in staff and an innovative service culture requires robust network infrastructure to support staff productivity and service delivery capabilities.

EQUITY IMPACT STATEMENT

TPL's Strategic Plan has the City's equity lens embedded. This lens supports the understanding and addressing of barriers to TPL services by equity-deserving groups and vulnerable populations in the City of Toronto to advance equitable outcomes for all. Ensuring reliable, high-speed wired and wireless connectivity across all branch locations provides equitable access to digital resources and online services for all Torontonians, particularly those who may not have access to reliable internet connectivity at home. The refreshed and upgraded network infrastructure will support digital literacy programming and enable customers to fully participate in the digital economy.

DECISION HISTORY

At its meeting on April 22, 2025, the Library Board considered and approved TPL's [2025-2029 Digital Strategy](#). Within the Digital Strategy, Priority 3 *Connected Workplace*, centers on delivering an integrated suite of technologies to enable effective collaboration, productivity and communications. Additionally, the goal aims to automate and streamline core workflows to increase the efficiency, effectiveness and speed of operations. Furthermore, Priority 5 *Technology Foundation*, places emphasis on ensuring TPL's foundational technology readily meets the organizational demands for today and the future.

At its meeting on February 24, 2025, the Library Board approved the extension of the contract with [Lanworks Inc. for Wireless Service Solution to June 30, 2026](#), recognizing the need for network infrastructure replacement and expansion.

At its Bid Award Panel meeting on December 13, 2023, the [City of Toronto awarded a \\$20M contract to OnX Enterprise Solutions Ltd.](#) for the supply and delivery of Cisco and Cisco-Meraki Network Equipment and Products, Maintenance and Support, Managed Services and Professional Services.

At its meeting on January 25, 2021, the Library Board considered and approved [TPL's Digital Strategy 2020-2024](#). Within this digital strategy the foundation was established for modernizing TPL's network environment both internally and externally.

At its meeting on November 19, 2018, the Library Board approved the [Wireless Service Solution – Award of Contract](#) to Lanworks Inc. (formerly IntelliGo Networks Inc.) for a Wireless Service Solution. The term of the contract was from January 1, 2019, until December 31, 2021, with an option, at the sole discretion of TPL, for two one-year extensions.

ISSUE BACKGROUND

Toronto Public Library operates one of the largest public Wi-Fi networks in North America, serving over 100 branch locations and providing free internet access to millions of annual visitors. The current wireless infrastructure, mostly deployed between 2013-2018, has reached a critical juncture whereby aging hardware, evolving security requirements, and increased usage demands necessitate comprehensive replacement and expansion.

The existing network infrastructure faces several challenges: majority of wireless access points have reached or are approaching end-of-serviceable life therefore warranting replacement, current capacity limitations result in degraded service during peak usage periods due to increased customer demand, legacy security protocols no longer meet contemporary cybersecurity standards, and limited coverage areas in many branches restrict customer access to digital resources. Additionally, the dramatic shift toward mobile device usage and digital service delivery has created unprecedented demand for reliable, high-speed wireless connectivity throughout library spaces.

COMMENTS

The award of this contract is being made in accordance with TPL Purchasing Policy section 4.6 – Procurement of same goods and services as another public body. In 2013, following a publicly posted Request for Quotation, the City of Toronto awarded a contract to OnX Enterprise Solutions Ltd. for the supply and delivery of Cisco and Cisco-Meraki Network Equipment and Products, Maintenance and Support, Managed Services and Professional Services valued at \$20 million. The City of Toronto's contract term is from January 1, 2024, to December 31, 2028.

OnX Enterprise Solutions Ltd. was selected by the City of Toronto as the preferred technology vendor to implement wireless network services for the ConnectTO program, which has successfully deployed public Wi-Fi at over 150 City facilities. Engaging OnX to support TPL's network infrastructure modernization ensures consistency of service delivery and leverages the proven expertise and experience the vendor has established through the ConnectTO program.

The proposed wired and wireless network replacement represents a comprehensive modernization initiative that will transform TPL's technological foundation and significantly enhance service delivery capabilities across all locations. This enterprise-wide infrastructure refresh addresses critical operational requirements while positioning TPL to meet evolving staff and customer expectations and service delivery demands.

Technical Improvements and Infrastructure Modernization

The new Cisco-Meraki wireless solution delivers substantial technical enhancements over existing infrastructure. Modern Wi-Fi 7 access points will provide up to 300% improvement in connection speeds and support 4x more concurrent device connections per access point. Advanced mesh networking capabilities ensure seamless connectivity throughout branch spaces, eliminating dead zones and providing consistent service quality. Enterprise-grade security features include WPA3 encryption, intrusion detection, and automated threat response capabilities that protect both customer and staff network usage.

The cloud-managed infrastructure enables centralized monitoring and management across all locations, providing real-time performance analytics and proactive issue resolution. This approach significantly reduces on-site technical support requirements while ensuring consistent network performance and security standards across TPL's entire branch network.

Enhanced Customer Experience and Digital Access

Network modernization will fundamentally transform the customer and staff experience at TPL locations. Customers will benefit from significantly faster connection speeds, supporting high-bandwidth activities such as video streaming, online learning platforms, and cloud-based productivity applications. Expanded coverage areas ensure wireless connectivity throughout branch spaces, including previously underserved areas such as study rooms, meeting spaces, and outdoor reading areas.

The improved infrastructure supports TPL's growing portfolio of digital services, enabling customers to seamlessly access online databases, digital collections, and cloud-based productivity tools. Enhanced network capacity accommodates increased usage during peak periods, ensuring consistent service quality regardless of demand levels. These improvements are particularly valuable for customers who rely on library internet access for employment searches, educational activities, and essential government services.

Operational Excellence and Staff Productivity

Modern network infrastructure delivers significant operational benefits for TPL staff and service delivery capabilities. Staff will benefit from improved connectivity for mobile devices, enabling enhanced customer service delivery throughout branch spaces. The centralized management platform will enable detailed network analytics, supporting data-driven decision making and proactive service management. These operational improvements align with TPL's strategic objective of investing in staff and an innovative service culture.

Implementation Strategy and Service Continuity

The network replacement, upgrade and expansion is planned to be implemented through a phased approach designed to minimize service disruptions and ensure continuous customer access to TPL Wi-Fi services. Priority will be given to locations with the most critical infrastructure needs and highest utilization, followed by scheduled replacement across all branch locations. Investing in staff training and building internal support capacity is anticipated to ensure a smooth transition to the new network management platform and optimize ongoing operational efficiency.

CONCLUSION

The wired and wireless network replacement initiative represents a critical investment in TPL's technological foundation that will deliver transformative benefits for customers, staff, and service delivery capabilities. The aging wired and wireless infrastructure currently limits TPL's ability to provide reliable, high-speed internet access that staff and customers expect and require for contemporary digital activities.

Implementation of modern Cisco-Meraki wireless technology will position TPL as a leader in public Wi-Fi service delivery while supporting the strategic objectives of digital access, customer service excellence, and operational efficiency. The comprehensive nature of this infrastructure refresh ensures TPL will be well-positioned to meet evolving staff and customer needs and technological requirements throughout the contract term and beyond.

CONTACT

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SIGNATURE

Moe Hosseini-Ara
City Librarian

Network Upgrade and Replacement Award of Contract

Toronto Public Library Board Meeting

October 27, 2025



Why This Investment is Critical

Current Challenges

- Hardware at end-of-serviceable life
- Degraded service during peak hours
- Older security protocols
- Limited coverage areas

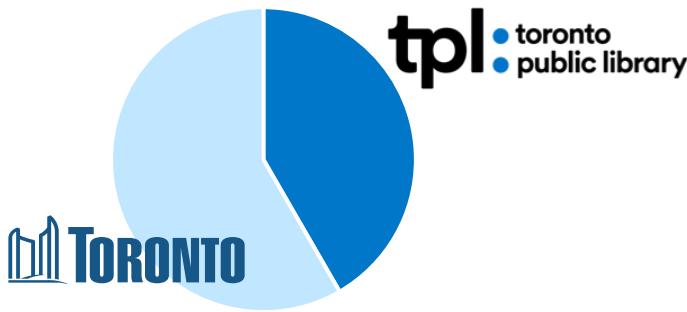
Digital Inclusion Impact

- Essential for bridging digital divide
- Free, reliable internet access
- Supports equity-deserving groups
- Critical city infrastructure

ConnectTO Wifi Sites

2 years (2023 to 2025)
4.2 Petabytes
data downloaded

2 years (2023 to 2025)
Avg. 16,000+
Unique device
connections per day



+40% of ConnectTO Free Wifi sites
are TPL branch locations

Financials

Capital	2025	2026	2027	2028	Total
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Total	\$1,052,778	\$3,718,863	\$7,830,448	\$2,988,093	\$15,590,182

All amounts exclude HST. Funding from TAMP capital project (2025) and future capital/operating budgets.

Technical Improvements

Performance Gains

- 300% improvement in connection speeds
- 4x more concurrent device connections
- Wi-Fi 7 access points
- Advanced mesh networking

Security & Management

- WPA3 encryption standard
- Intrusion detection & automated threat response
- Cloud-managed centralized monitoring
- Real-time performance analytics

New Capability

Secure dedicated staff wireless network for enhanced operational efficiency and collaboration

Enhanced Customer Experience

Access & Coverage

- Faster connection speeds
- Expanded coverage areas
- Study rooms & outdoor spaces
- Eliminated dead zones

Security & Management

- Enhanced video streaming support
- More response to online learning platforms
- Improved connectivity to cloud productivity tools
- Consistent peak performance

Staff Productivity & Operations

- Mobile device connectivity
- Enhanced customer service delivery
- Wireless-enabled technology adoption

- Detailed network analytics
- Data-driven decision making
- Reduced on-site support needs

Implementation Approach

Phased Rollout Strategy

Phase 1

Critical Infrastructure

Priority locations with most critical needs and highest utilization

Phase 2

Branch Network

Scheduled replacement across remaining branch locations

Phase 3

Optimization

Dedicated Staff Network & Staff training for internal support capacity building

thank you
questions?

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