



STAFF REPORT INFORMATION ONLY

2020-2024 Digital Strategy - Update

Date: May 23, 2023

To: Toronto Public Library Board

From: City Librarian

SUMMARY

The purpose of this report is to provide the results of the 2022 Digital Strategy Action Plan, and present the 2023 Digital Strategy Action Plan.

Modernization, driven by data & technology, is a key enabler in Toronto Public Library's (TPL) 2020-2024 Strategic Plan. TPL's Digital Strategy will ensure staff and customers are provided with the right combination of technologies and supports to meet their evolving needs. The Digital Strategy defines a shared vision, course of action, and required investments to enable the priorities set out in TPL's 2020-2024 Strategic Plan.

The 2022 action plan has continued delivery in alignment with the Digital Strategy. Progress encompasses a range of initiatives including enterprise technology within the data centre and improvements to technology supporting branch customer services.

FINANCIAL IMPACT

The Digital Strategy, including the 2023 Action Plan, is funded by TPL's operating and capital budgets. For the capital budget, there are three main multi-year projects that

contribute to the strategic plan execution roadmap, technology replacement strategy, and digital strategy, with 10-year funding for: Technology Asset Management Program (\$58.5 million); Service and Digital Modernization (\$23.3 million); and Digital Experience (\$24.4 million). Funding for the Digital Strategy is incorporated into each year's budget submission.

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

EQUITY IMPACT STATEMENT

TPL's strategic plan has the City's equity lens embedded in it. 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. TPL's Digital Strategy broadens access and drives inclusion for all by:

- Providing digital access online and in accessible & inclusive public spaces
- Increasing easy access to technology and digital literacy
- Facilitating access to information and information literacy.

DECISION HISTORY

At its November 25, 2019 meeting, the Library Board approved the [2020-2024 Strategic Plan Overview](#) as recommended by the Strategic Planning Steering Committee.

At its January 25, 2021 meeting, the Library Board approved the [2020-2024 Digital Strategy](#).

At its May 24 2022 meeting, the Library Board reviewed the [2022 Digital Strategy Action Plan and the Digital Strategy Scorecard](#).

COMMENTS

To enable an innovative, efficient library system to better inform, engage and connect Toronto and its residents, and to build success, resilience and well-being for the city and its communities, the 2020-2024 Digital Strategy is focused on achieving the following:

- *Our ambition:* to deliver exceptional digital value and experiences;
- *Our commitment:* to provide staff and customers with the right combination of technologies and supports; and
- *Our approach:* to create a modern, connected and sustainable data and technology environment that is transformation-ready.

To achieve this, TPL's Digital Strategy focuses on five priority areas, with associated goals and key activities:

1.0 Digital Services and Spaces

Goal: TPL has a vibrant digital presence that provides dynamic online services and physical spaces that are digitally advanced.

Key activities:

- Enable the delivery of more digital services to meet customer demands.
- Deliver new innovative technologies to maximize the use of online and digital channels.
- Explore opportunities to provide more immersive experiences using interactive and augmented reality technologies.
- Leverage planned renovations/rebuilds to blend the physical and digital spaces by deploying smart building, wayfinding and service solutions.

2.0 Unified Customer Experience

Goal: Consistent, personalized experiences across and between service touchpoints, driving customer satisfaction and anticipating changing expectations.

Key activities:

- Apply human-centered and inclusive design to amplify the voice of the customer and support the full range of human diversity.
- Develop an easy-to-use digital customer experience platform that enables convenient and responsive access to TPL's services and collections.
- Deliver services that offer customers choice and flexibility across all TPL channels.
- Explore opportunities to leverage data and technology to create unique and targeted experiences based on customer choices and behaviours.

3.0 Connected Workplace

Goal: A digitally-enabled workplace that improves ways of working, raises employee engagement and agility, and provides a consistent and positive employee experience.

Key activities:

- Deliver an integrated suite of technologies to enable effective employee collaboration, productivity and communications.
- Provide technology and supports to equip a mobile workforce whether in branches, in the community or at home.
- Automate and streamline core work flows to increase the efficiency, effectiveness and speed of operations.
- Cultivate a “Digital by Default” culture and enable digital dexterity to support employees in embracing data and technology to achieve better outcomes.

4.0 Data-informed Decisions

Goal: Data is accessible, information is meaningful and actionable, and analytics is a core capability of the organization.

Key activities:

- Structure and manage data as a strategic asset to ensure it is protected and fit for analytics use.
- Automate reporting to support performance measurement.
- Provide self-serve technology and supports for staff to run queries and get whatever data they need to make timely decisions.
- Explore opportunities to enhance TPL’s Open Data platform and analysis tools to enable broader use, and to support informational, educational, professional and/or civic engagement interests.

5.0 Adaptive Technology Foundation

Goal: Provide a secure, integrated, scalable technology environment that can enable TPL’s current and future priorities.

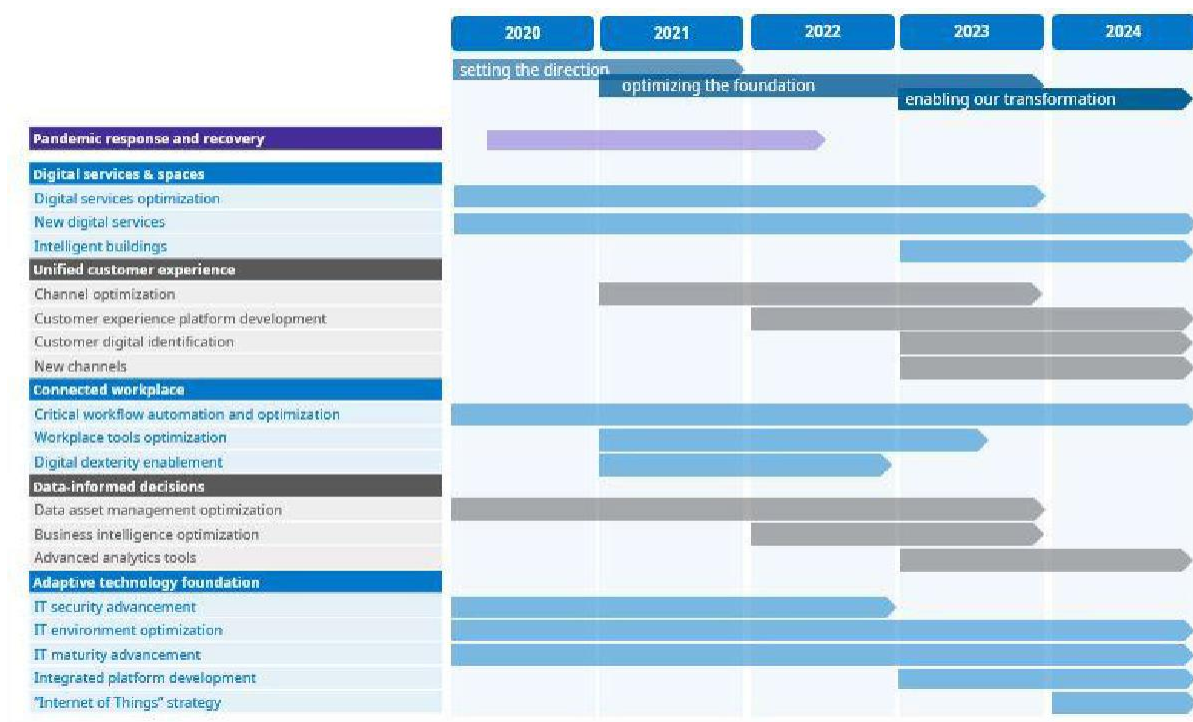
Key Activities:

- Raise the maturity of IT functions so that the organization can effectively support TPL’s digital aspirations.
- Improve access to technology for staff and customers.
- Rationalize and optimize legacy technologies to reduce cost, improve performance, facilitate integration and increase user adoption and satisfaction.
- Adopt a modern security approach to improve cybersecurity and TPL’s overall

security position.

- Enable better communications between systems to amplify customer and employee voices and support co-operative partnerships.
-

The roadmap for the Digital Strategy identifies key activities planned between 2020-2024.



By executing on the Digital Strategy, TPL is confident that it can provide exceptional value and experiences to staff and customers by ensuring they have the right combination of technologies and supports to meet evolving needs. Most importantly, it will enable the priorities identified in TPL's 2020-2024 Strategic Plan and build a secure, reliable, scalable data and technology foundation that can evolve with TPL's future growth and transformation aspirations.

To meet this demand, the IT Services Division staffing complement has increased by an additional 20 full-time equivalent positions (FTE's) during the period 2021-2022. This additional capacity is necessary to ensure the long-term delivery and sustainment of the Digital Strategy.

Attachments 1 and 2 describe the 2020-2024 Digital Strategy and progress to date.

2022 Action Plan Review

The 2022 action plan continued to standardize the applications and software leveraged by TPL staff and ensure compliance of all existing tools. It also marked the kick-off of several multi-year projects that expand ITS capabilities and offerings.

The Hybrid Data Center project resulted in an upgraded server architecture within the Martin Ross data centre. The data centre infrastructure is now connected with Microsoft Azure, offering a single hybrid cloud integrated infrastructure for TPL. Work continues to migrate select applications to the cloud, dramatically reducing risk associated with aging infrastructure.

Projects are well underway to support the open data services optimization, the redevelopment of TPL's open data portal as well as enhancing data quality at TPL.

Through the connectivity stabilization work, branch networks are being upgraded to better serve staff and customers. This Enterprise Technology foundational work establishes the platform for further enhancements such as Voice over IP telephony and increased Wi-Fi capacity.

The 2022 action plan identified the following key activities; the status of each project is identified in the far-right column:

Focus Area	Workstream	Initiatives	Status
Unified customer experience	Customer experience platform development	Customer experience platform development	Initiating
Connected workplace	Critical workflow automation and optimization	Service management*	Initiating
Data-informed decisions	Data asset management optimization	Data quality optimization	Executing
	Business intelligence optimization	Open data service optimization	Executing
Adaptive technology foundation	IT security advancement	IT security infrastructure modernization	Planning
	IT environment optimization	Connectivity stabilization	Executing
		Hybrid Data Centre*	Executing
	Application optimization	Application compliance	Complete
		Software standardization	Complete
		Integration foundations	Planning

* Strategic plan execution roadmap initiative

Progress on the 2022 action plan was slower than anticipated due to:

- Continued prioritization of TPL's pandemic response and recovery (i.e., supporting remote work, responding to change public health protocols, new projects to track/report on pandemic-related activities, etc.);
- Recruitment and retention of ITS employees continues to be a challenge in a highly competitive market;
- Transition of Director Digital Strategy and Chief Information Officer;
- Continued learning curve regarding the work required to establish operational processes and governance - the ITS operating model continues to be evaluated and optimized, and capabilities increased in order to execute all aspects of the digital strategy efficiently;
- Work continues for projects identified in previous Digital Strategy Action Plans; and
- 2022 was a pivotal year for ITS, with enterprise-wide refresh of services and technologies.

The following projects were completed in 2022:

Focus Area	Workstream	Initiatives	Action Plan Year
Digital services & spaces	New digital services	Cash Register Upgrade	2020
		Self-checkout	2020
		Digitization of special collections	2020
	Digital services optimization	AODA: Accessible documents training	2021
Data-informed decisions	Data asset management optimization	Data asset management practice advancement	2021
		Data assets improvement	2021
	Business intelligence optimization	BI practice advancement	2021
		BI process improvements	2021
Adaptive technology foundation	IT security advancement	Detective controls	2021
	Application optimization	Application rationalization	2021
		Application compliance	2022
		Software standardization	2022

2023 Digital Strategy Action Plans

In addition to continuing with the in-progress initiatives outlined in previous Action Plans, the following are planned 2023 action plan initiatives:

Focus Area	Workstream	Initiatives
Data-informed decisions	Data asset management optimization	Open hours tracking Optimization
		Customer analytics improvement
Adaptive technology foundation	IT environment optimization	Wireless expansion
		AV optimization
	Application optimization	Enterprise applications migration

* Strategic plan execution roadmap initiative

See Attachment 3: Digital Strategy 2023 Action Plan for additional details on timelines.

The 2023 action plan continues the work undertaken in previous years to optimize TPL's capabilities, processes, and technologies and starts to invest in new technologies and capabilities to enable TPL to innovate and grow.

- Wireless expansion will offer much needed improvements to the wireless experience for customers and staff

- AV optimization and wireless expansion equips TPL branches with the technology needed for delivery of digital literacy programs and improved technology services
- Migration of enterprise applications to the cloud opens new opportunities for expansion of services and dramatically reduces risk associated with antiquated infrastructure.

In 2023, work will restart on the staff collaboration and pay-for-print projects that are currently on hold. Both of these projects are important projects to modernize TPL's services.

The work identified in the 2023 action plan is necessary to accelerate TPL's digital capabilities – to meet the growing demands of technology as a service for customers and to improve staff productivity and effectiveness. Ultimately, it will ensure that TPL cannot only provide exceptional digital experiences and value but also thrive in a digital age.

CONCLUSION

The Digital Strategy is a key enabler of TPL's 2020-2024 strategic plan and will ensure the needs of staff and customers are satisfied now and into the future.

Progress to-date has been slower than planned, however a strong foundation of increased ITS capabilities and essential technologies and governance has been established on which to build. In 2022, TPL adopted cloud-based services and made progress in modernizing the data center. The enterprise-wide refresh of services and technology provides a platform from which to grow. Simplification from multiple vendors to single service providers within specific service domains further positions TPL for success in the future. 2023 will be focused on continuing initiatives previously started and undertaking several new ones as part of the 2023 action plan.

CONTACT

Steve Till-Rogers, Director Digital Strategy & CIO, Tel: 437-228-1211
Email: stillrogers@tpl.ca

SIGNATURE

Vickery Bowles
City Librarian

ATTACHMENTS

Attachment 1:	2020-2024 Digital Strategy at a Glance
Attachment 2:	2020-2024 Digital Strategy Update
Attachment 3:	Digital Strategy 2023 Action Plan

tpl's digital strategy



our ambition

To deliver exceptional digital value & experiences

our commitment

To provide our staff and customers with the right combination of technologies and supports

our approach

To create a modern, connected and sustainable data and technology environment that is transformation-ready

our focus

1 digital services & spaces

TPL has a vibrant digital presence that provides dynamic online services and physical spaces that are digitally advanced.

2 unified customer experience

Consistent, personalized experiences across and between service touchpoints, driving customer satisfaction and anticipating changing expectations.

3 connected workplace

A digitally-enabled workplace that improves ways of working, raises employee engagement and agility, and provides a consistent and positive employee experience.

4 data-informed decisions

Data is accessible, information is meaningful and actionable, and analytics is a core capability of the organization.

5 adaptive technology foundation

A secure, integrated, scalable technology environment that can enable TPL's current and future priorities.

guiding principles

be customer-centric

ensure security & privacy

strive for equity & inclusion

be collaborative

manage risk

build for sustainability & scalability

encourage innovation & creativity

our journey of reinvention

2020

2021

2022

2023

2024

setting the direction

establish a unified digital direction, informed by assessment and leading practice

optimizing the foundation

strengthen our capabilities, processes and technologies to enable reinvention

enabling our transformation

invest in new technologies and capabilities to exceed customer expectations and enable innovation and growth



TPL's Digital Strategy 2020-2024

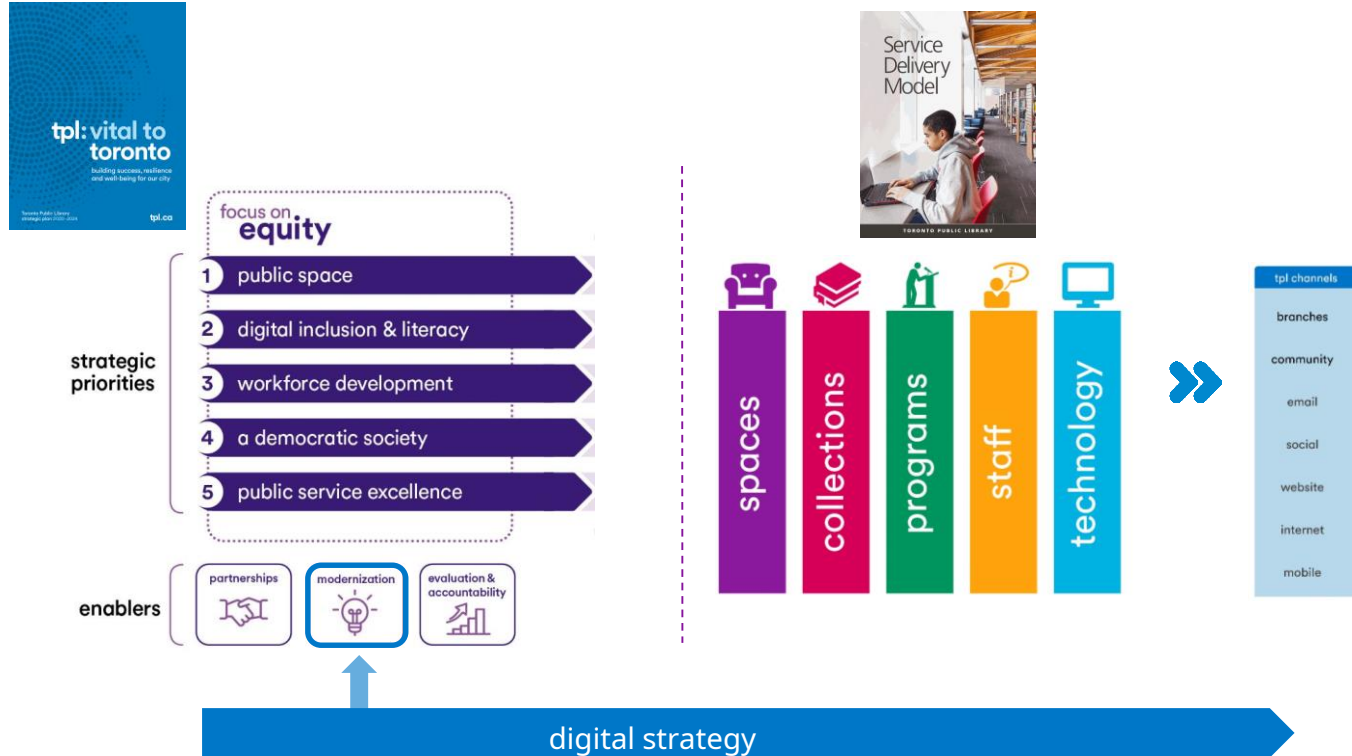
a journey of reinvention

May 23, 2023

- A refreshed understanding of the 2020-2024 digital strategy
- To report on 2022 progress to date
- To set expectations for 2023 objectives, priorities, and targets
- To share the 2022 digital strategy scorecard

2020-2024 digital strategy

The digital strategy enables execution of TPL's strategic plan





2020-2024 digital strategy

three goals

To deliver exceptional digital value & experiences

To provide our staff and customers with the right combination of technologies and supports

To create a modern, connected and sustainable data and technology environment that is transformation-ready

journey of reinvention

The digital strategy unfolds over several years and consists of three overlapping phases



At the end of year 3 of 5, we are largely on-track.

- COVID-19 response continued to take priority in 2022
- **Staffing** ITS positions remains a major challenge
- 2022 **Transition** of Director Digital Strategy & CIO
- 2022 was a **pivotal year** with enterprise-wide **refresh of services and technologies**
- Move towards **single service provider** and **standardization** from multiple vendors within specific services domains
- Strong **foundation established** from which to continue to build

digital strategy structure

There are five focus areas, each with multiple work streams and projects

1

Digital services & spaces

2

Unified customer experience

3

Connected workplace

4

Data-informed decisions

5

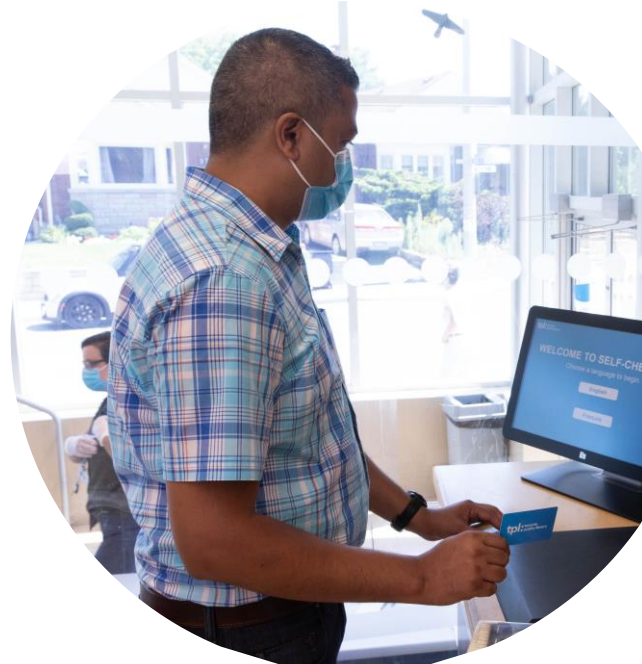
Adaptive technology foundation

1. digital services and spaces

Ensure TPL has a vibrant presence that provides dynamic online service and physical spaces that are digitally advanced.

2023 Priorities

- Modernize TPL programming



2. unified customer experience

Provide a consistent, personalized experiences across and between service touchpoints, driving customer satisfaction and anticipating changing expectations.

2023 Priorities

- Email channel optimization
- Digital experience platform development



3. connected workplace

Develop a digitally-enabled workplace that improves ways of working, raises employee engagement and agility, and provides a consistent and positive employee experience.

2023 Priorities

- Staff collaboration



4. data-informed decisions

Ensure data is accessible, information is meaningful and actionable, and analytics is a core capability of the organization.

2023 Priorities

- Optimize data quality
- Develop open data portal
- Open hours tracking optimization
- Customer analytics improvement



5. adaptive technology foundation

Develop a secure, integrated, scalable technology environment that can enable TPL's current and future priorities.

2023 Priorities

- IT security modernization
- Update server infrastructure and move to the cloud
- Modernize branch network equipment
- Ensure applications compliance
- Expand wireless access
- Realign staff and public computing needs
- Initiate AV ecosystem optimization



digital strategy scorecard – 2022 Results

2022 metrics illustrate progress made on key deliverables of TPL's digital strategy

Focus Area	Key performance Indicator (KPI)	2022 Target	2022 Actual
Digital Services & Spaces	# of digital initiatives completed	1	4
	# of new digital services	25	16
Unified Customer Experience	# of digital initiatives completed	1	0
	% y/y change in visits to TPL managed websites	+2%	-.5%
	Customer satisfaction with digital services (%)	>80%	85%
Connected Workplace	# of digital initiatives completed	2	0
	digital enablement work	N/A	15
Data-Informed Decisions	# of digital initiatives completed	6	4
	# of automated reports	N/A	5
Adaptive Technology Foundation	# of digital initiatives completed	12	4
	Data & technology maturity score	1.5	2.0
	Response time next day compliance for security investigations (%)	90%	100%
HR Metrics	Time from posting to hire for ITS positions (days)*	N/A	65
	# ITS employee enters and exits	Enters: >10 Exits: <15	Enters: 14 Exits: 9
	Average ITS employee tenure (months)*	N/A	55

*new metric for 2022, not previously reported

digital strategy scorecard – 2023

Metrics for 2023 have been identified based on 2023 action plan & 2022 scorecard results

Focus Area	Key performance Indicator (KPI)	2023 Target	2023 Actual
Digital Services & Spaces	# of digital initiatives completed	1	
	# of new digital services	25	
Unified Customer Experience	# of digital initiatives completed	1	
	% y/y change in visits to TPL managed websites	+2%	
	Customer satisfaction with digital services (%)	>80%	
Connected Workplace	# of digital initiatives completed	2	
	digital enablement work	N/A	
Data-Informed Decisions	# of digital initiatives completed	6	
	# of automated reports	N/A	
Adaptive Technology Foundation	# of digital initiatives completed	12	
	Data & technology maturity score	1.5	
	Response time next day compliance for security investigations (%)	90%	
HR Metrics	Time from posting to hire for ITS positions (days)*	<20	
	# ITS employee enters and exits	Enters: >10 Exits: <15	
	Average ITS employee tenure (months)	55	

- **Transformational year** with transition to cloud-based services, modernization of data center, and refresh of public desktops
- **On-track** despite COVID-19 response effort and depth of foundational work needed
- Continuing to focus on recruitment and approaches for **recruiting ITS** positions
- **Experiencing tactical outcomes** of Digital Strategy, delivery of new/improved services to customers

2020 action plan

		2020				2021	2022
		Q1	Q2	Q3	Q4		
Pandemic response and recovery							
Digital services & spaces							
New digital services	Enable Digital Access Card*						
	Self-Checkout*						
	Integrated Cash Registers						
	Modernize TPL's Digital Archive*						
Unified customer experience							
Connected workplace							
Data-informed decisions							
Data asset management optimization	Data and analytics program design						
Adaptive technology foundation							
IT security advancement	IT security, risk and governance program design						
IT environment optimization	Computing devices review and persona modelling and Plan Development						
IT maturity advancement	IT maturity assessment and plan						
	Operating model design and implementation						
	Documentation improvement						

2021 action plan

		2021				2022	2023
		Q1	Q2	Q3	Q4		
Pandemic response and recovery							
Digital services & spaces							
Digital services optimization	AODA: Webex Assistant Rollout*						
	AODA: Digital documentation training program						
New digital services	Programming modernization*						
Unified customer experience							
Channel optimization	Customer email channel improvement						
Connected workplace							
Critical workflow automation & optimization	Incident management*						
Workplace tools optimization	Staff collaboration*						
	Remote work*						
Digital dexterity enablement	Design digital enablement program						
Data-informed decisions							
Data asset management optimization	Data asset management practice advancement						
	Data assets improvement						
	Data management platform optimization						
Business intelligence optimization	BI practice advancement						
	BI products improvement						
Adaptive technology foundation							
IT security advancement	Implement IT security, risk & governance program						
	Protective controls improvement						
	Detective controls enhancement						
	IT security incident response & recovery improvements						
IT environment optimization	IT infrastructure and unified communications redesign						
	Print devices optimization						
	Computing devices optimization						
	Public computing replacement and realignment						
	Staff computing replacement and realignment						
	UCaaS migration						
Application optimization	Application rationalization						
	IT strategy development						
IT maturity advancement	ITS operations optimization						
	ITS capabilities development						

*Strategic Plan Execution Roadmap Initiative

2022 action plan

		2022				2023	2024
		Q1	Q2	Q3	Q4		
Pandemic response and recovery							
Digital services & spaces							
Unified customer experience							
Customer experience platform development	Digital experience platform development						
Connected workplace							
Data-informed decisions							
Data asset management optimization	Data quality optimization						
	Open data services optimization						
Adaptive technology foundation							
IT security advancement	IT security infrastructure modernization						
IT environment optimization	Hybrid data center*						
	Connectivity stabilization						
	Appliance compliance						
Application optimization	Integration foundations						
	Software standardization						

*Strategic Plan Execution Roadmap Initiative

2023 action plan

		2023				2024	2025	
		Q1	Q2	Q3	Q4			
Digital services & spaces								
New digital services	Programming modernization							
Unified customer experience								
Customer experience platform development	Digital experience platform development							
	TPL.ca ReImagine							
Channel optimization	Customer email channel improvement							
Connected workplace								
Workplace tools optimization	Staff collaboration							
Data-informed decisions								
Data asset management optimization	Open hours tracking optimization							
	Customer analytics improvement							
	Data quality optimization							
	Metadata optimization							
Business Intelligence Optimization	Self-service BI							
Adaptive technology foundation								
IT environment optimization	IT security infrastructure modernization							
	IT Security incident response & recovery							
	Hybrid data center							
	Connectivity stabilization							
	Wi-Fi expansion							
	Initiate AV optimization							
	Public computing R&R							
	Staff computing R&R							
Application optimization	UCaaS - VoIP							
	Integration foundation							
	Enterprise applications cloud migration							

1 digital services & spaces

TPL has a vibrant digital presence that provides dynamic online services and physical spaces that are digitally advanced.

key activities

- Enable the delivery of more digital services to meet customer demands
- Deliver new innovative technologies to maximize the use of online and digital channels
- Explore opportunities to provide more immersive experiences using interactive and augmented reality technologies
- Leverage planned renovation/rebuild to blend the physical and digital spaces by deploying smart building, wayfinding and digital signage solutions

strategic objectives enabled

- 1.1** Spaces as a Service program
- 1.3** Online & Digital Service (Tier 4) Reimagined
- 2.1** Access to Technology & Digital Literacy strategy
- 3.1** Workforce Development Strategy

2 unified customer experience

Consistent, personalized experiences across and between service touchpoints, driving customer satisfaction and anticipating changing expectations.

key activities

- design to amplify the voice of the customer and support the full range
Apply human-centered and inclusive of human diversity.
- Develop an easy-to-use digital customer experience platform that enables convenient and responsive access to the TPL's services & collections.
- Deliver services that offer customers choice and flexibility, across all TPL channels.
- Explore opportunities to leverage data and technology to create unique and targeted experiences based on customer choices and behaviours.

strategic objectives enabled

6.22 Modernize Customer Experience

3 connected workplace

A digitally-enabled workplace that improves ways of working, raises employee engagement and agility, and provides a consistent and positive employee experience.

key activities

- Deliver an integrated suite of technologies to enable effective employee collaboration, productivity and communications.
- Provide technology and supports to equip a mobile workforce whether in branches, in the community or at home.
- Automate and streamline core work flows to increase the efficiency, effectiveness and speed of operations.
- Cultivate a “Digital by Default” culture and enable digital dexterity to support employees in embracing data and technology to achieve better outcomes.

strategic objectives enabled

- 5.1 Modernize Employee Experience
- 5.2 Modern Workplace

4 data-informed decisions

Data is accessible, information is meaningful and actionable, and analytics is a core capability of the organization.

key activities

- Structure and manage data as a strategic asset to ensure it is protected and fit for analytics use.
- Automate reporting to support performance measurement.
- Provide self-serve technology and supports for staff to run queries and get whatever data they need to make timely decisions.
- Explore opportunities to enhance TPL's Open Data platform and analysis tools to enable broader use, and to support informational, educational, professional and/or civic engagement interests.

strategic objectives enabled

6.4 Evaluation & Accountability Practices

5 adaptive technology foundation

A secure, integrated, scalable technology environment that can enable TPL's current and future priorities.

key activities

- Raise the maturity of IT functions so that the organization can effectively support TPL's digital aspirations.
- Improve access to technology for staff and customers.
- Rationalize and optimize legacy technologies to reduce cost, improve performance, facilitate integration and increase user adoption & satisfaction.
- Adopt a modern security approach to improve cybersecurity and TPL's overall security position.
- Enable better communications between systems to amplify customer and employee voices and support co-operative partnerships.

strategic objectives enabled

6.22 Modernize Data and Technology Environment

2023 action plan

		2023				2024	2025	
		Q1	Q2	Q3	Q4			
Digital services & spaces								
New digital services	Programming modernization							
Unified customer experience								
Customer experience platform development	Digital experience platform development							
	TPL.ca ReImagine							
Channel optimization	Customer email channel improvement							
Connected workplace								
Workplace tools optimization	Staff collaboration							
Data-informed decisions								
Data asset management optimization	Open hours tracking optimization							
	Customer analytics improvement							
	Data quality optimization							
	Metadata optimization							
Business Intelligence Optimization	Self-service BI							
Adaptive technology foundation								
IT environment optimization	IT security infrastructure modernization							
	IT Security incident response & recovery							
	Hybrid data center							
	Connectivity stabilization							
	Wi-Fi expansion							
	Initiate AV optimization							
	Public computing R&R							
	Staff computing R&R							
Application optimization	UCaaS - VoIP							
	Integration foundation							
	Enterprise applications cloud migration							