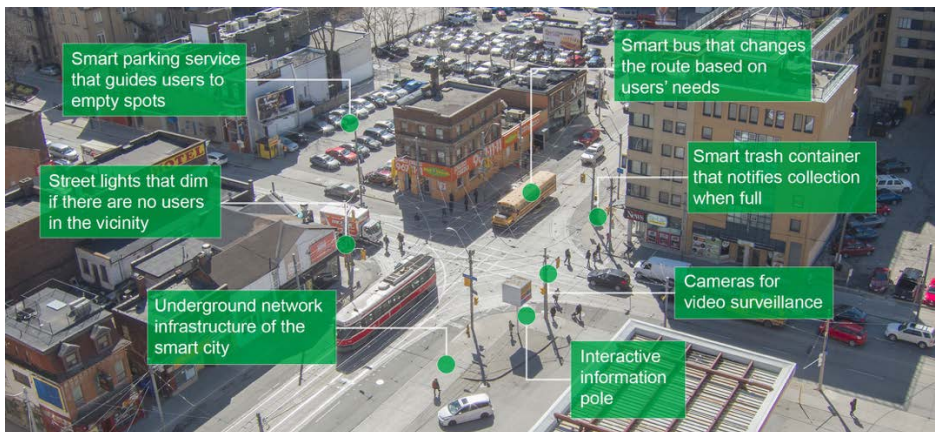


Digital Neighbourhoods & Digital Literacy

Discussion Guide

Digital technologies are playing a greater role in Torontonians' lives, changing the way we experience and use our city. We learn about neighbourhood news through social media and we renew library cards online. We use smartphones to see when the next bus is coming and to manage our money – whether that's our own personal banking or to buy something from around the world. These are just some of the things we can do because of digital technology.

It's not just our behaviour that is changing: the city is changing, too. Traffic lights are getting "smarter," with signals that are programmed to change in response to real-time street conditions; industries are changing with tech-driven services like ride-hailing and bike sharing apps; e-commerce and online shopping are influencing local retailers; and governments are becoming easier to communicate with through digital platforms, like 311 on social media.



The changes brought about by digital technologies can be seen as exciting or concerning, depending on your perspective. Some are excited by the potential for technology to make cities more personal, responsive, and efficient; others are concerned that these technologies could lead to the privatization of public services, infrastructure, and spaces or infringements on privacy. Many have a combination of these perspectives.

Since digital technologies will continue to have a significant role in our lives, it's important for us to discuss if or how we want them to shape our cities. What problems do these technologies help solve? Who benefits from them, and who doesn't? How can we reap the benefits while mitigating the risks that come with them? These conversations are important in making sure that decisions about if/how to use technology align with **what we value**.

About this Discussion Guide

Waterfront Toronto and the Toronto Public Library are exploring the role of digital technologies in cities. Public consultation is an important part of both organizations' work, and this discussion guide is intended to support that consultation.

Waterfront Toronto is developing **Digital Principles** to inform its consideration of any proposals related to the use of digital technology in emerging neighbourhoods as part of waterfront revitalization.

The Toronto Public Library is developing **Digital Literacy Programming** to support awareness, understanding, and inclusion around digital technologies.

To learn more, take a look inside!

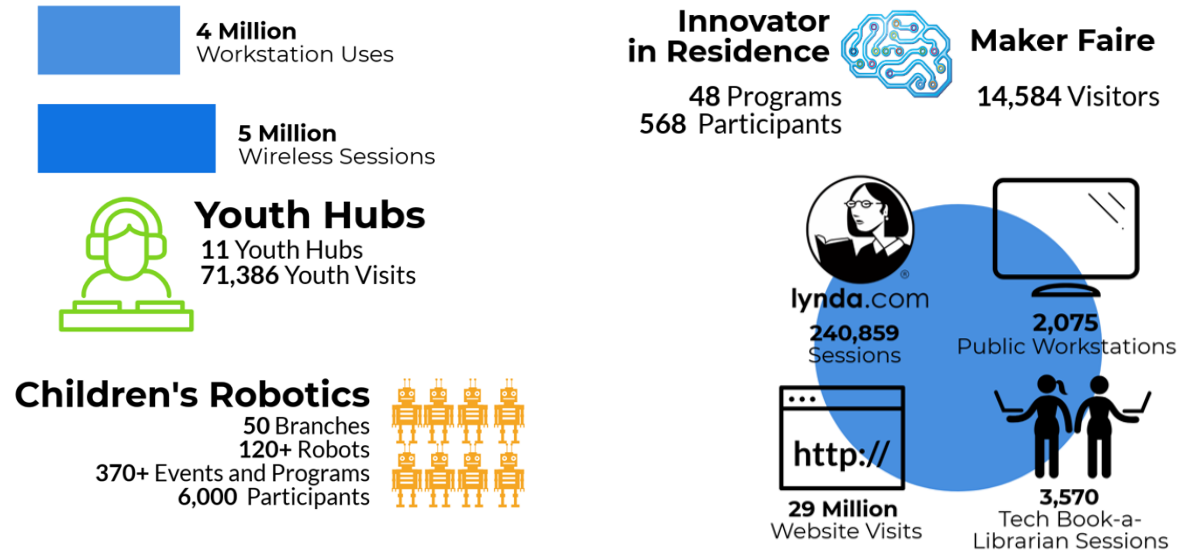
How does Waterfront Toronto think about digital technology?

Waterfront Toronto’s innovation agenda, based on the work of the Intelligent Community Forum, strives to create an excellent model of 21st century city building where physical, digital, social, environmental, and economic factors align to create an exceptional quality of life. To accomplish this, Waterfront Toronto is committed to creating “intelligent communities” that bring innovation, collaboration, and public policy together to achieve shared objectives that reflect shared values.



How does the Toronto Public Library think about digital technology?

The Toronto Public Library's vision is to help Torontonians become more resilient, more knowledgeable, more connected and more successful. This is increasingly dependent on providing access to online services and networks and an understanding of (and comfort with) emerging technologies. Modern-day library services provide access to new and emerging technologies, teach digital literacy, and bridge the digital divide. Libraries are the backbone on which smart people, communities, and cities can be built and sustained.



Digital technologies in cities: benefits, questions, and public controls

Governments and public agencies have an important role in shaping the part of technology in cities: they have the mandate to make decisions and guide change that serves the public interest and reflects our values. By convening conversations with people that have a range of perspectives, they can increase their own understanding and that of others of outcomes associated with different choices as well as potential benefits and risks.

There are many ways digital technologies are already used in and around Toronto. Here’s a snapshot of a few of them, including some of the benefits they can deliver, questions to consider related to that technology, and the public controls in place to manage them.

	Potential benefits	Questions to consider & manage through public controls
Transit cards	<ul style="list-style-type: none"> • Same card works across multiple transit systems • Card is rechargeable online; no need to purchase tickets or tokens • If card is lost, transit riders can block others from accessing remaining balance 	<ul style="list-style-type: none"> • How information collected by transit agency (i.e. where/when people use their card) is managed, such as policies about under what conditions the agency will share (and not share) this information. • Application of existing regulation, like the Freedom of Information and Protection of Privacy Act (FIPPA).
Cameras collecting data about street use	<ul style="list-style-type: none"> • Data collected about street use informs decisions about street design, traffic management, and more. 	<ul style="list-style-type: none"> • What do cameras achieve that other technologies cannot? • How to anonymize / de-identify any data collected from street cameras • If / how to provide streets users with opportunity to consent to data collection.
Smart meters for electricity	<ul style="list-style-type: none"> • Enables electricity customers to monitor real-time electricity use and better manage bills 	<ul style="list-style-type: none"> • How to ensure these technologies work in different environments and protect customers’ privacy.
Transit vehicle location data feeds	<ul style="list-style-type: none"> • Provides transit users with up-to-date information about vehicle location to help with trip planning • Creates economic opportunities for companies looking to build apps and services based on this information. 	<ul style="list-style-type: none"> • What safeguards will protect privacy of transit users? • How to provide infrastructure to provide equitable access to transit users without smartphones.

What do you think?

There are many more topics that come up in discussions around digital technologies in cities. The inserts in this Discussion Guide offer more detail into some of these topics, including:

Draft Digital Principles

Waterfront Toronto's Draft Digital Principles, intended to help inform decision making around digital proposals in waterfront revitalization projects.

Digital Literacy

Programs run by the Toronto Public Library to support increased Digital Literacy in Toronto

Digital Justice

Social values, infrastructure ownership, and more.

Digital Neighbourhoods: opportunities and issues

Including examples, who the players are, privacy considerations, and how money / value moves.

Learn more

Waterfront Toronto is the public steward of Toronto's waterfront revitalization. Its mandate is to deliver a connected waterfront that belongs to everyone, serving as a leading example of innovation and excellence in urban design, a magnet for investment and job creation, and a source of pride and inspiration for Canadians. The Quayside project is Waterfront Toronto's most recent exploration of what an innovative community by the lake can be. Waterfront Toronto is preparing to receive and evaluate a Draft Master Innovation and Development Plan (MIDP) for its Quayside project from Sidewalk Labs. Waterfront Toronto expects the MIDP to have many ideas related to digital technology. To learn more about Waterfront Toronto and its Quayside project, please visit www.QuaysideTO.ca.

The Toronto Public Library provides access to new and emerging technologies, access to information, and teaches digital literacy vital to today's social and economic success. TPL is seeking feedback to inform how digital literacy programming can better support Torontonians in the context of civic technological change. Learn more at www.torontopubliclibrary.ca.

Draft Digital Principles

Digital solutions are being proposed to advance objectives for improving quality of life in waterfront neighbourhoods. When considering and evaluating solutions, Waterfront Toronto is focused on:

- Ensuring that personal privacy, civil liberties and human dignity are protected;
- Providing shared benefits, including an economic catalyst for open innovation;
- Informing the broader public policy dialogue on digital technology and data;
- Determining whether technology is the right answer to the challenge or opportunity; and
- Future-proofing emerging neighbourhoods, ensuring resiliency and adaptability.

These draft principles have been developed through our recent Civic Labs and informed by the work of cities around the world, including the efforts of the *Cities Coalition for Digital Rights*. Once we have consulted on these draft Principles we will engage our Digital Strategy Advisory Panel for their expertise and guidance.

It is important to note that any projects or proposals made for the waterfront would need to fully comply with all applicable legislative and regulatory requirements, including:

- Canadian Charter of Rights and Freedoms
- Personal Information Protection and Electronic Documents Act (PIPEDA) (Canada)
- Privacy Act (Canada)
- Municipal Freedom of Information and Protection of Privacy Act (Ontario)
- Freedom of Information and Protection of Privacy Act (Ontario)
- Any new legal/regulatory requirements which may be introduced or amended.



The core foundation of these draft Principles is that any project proposed to Waterfront Toronto must represent **ethically responsible innovation that reflects public values and preserves or enhances the public good.**

Principle #1: Inclusivity, accessibility, and shared benefit

- Universal access to affordable internet and inclusive design of digital services on equitable terms, and the skills to use this access and overcome the digital divide (socio-economic, proficiency-based, mobility, etc.).
- Enable full participation in digital activities, allowing individuals and groups to engage with their community through open, participatory and transparent digital processes.
- Use aggregated data and algorithmic transparency to avoid bias or marginalization of members or groups.
- As appropriate, non-personal and de-identified data collected will be shared with government-provided open data portals, the research community or other third-party organizations who are contributing to the advancement of the public good.

Principle #2: Innovation, agility, flexibility

- Rely on protocols, standards and operating agreements that do not foster monopolies, barriers to entry or create vendor lock-in, or dependency on a sole vendor to provide related products or services.
- Decision-makers (including individuals) have the freedom to use the technologies of their choice, and expect the same level of interoperability, inclusion and opportunity in their digital services.
- Technological infrastructures, solutions and services are determined and provided through open and ethical digital service standards and ethically sourced data to ensure they live up to this promise.
- Adaptability to new legislative or regulatory conditions that may emerge.

Principle #3: Transparency, accountability, responsibility

- Access to understandable and accurate information about the technological, algorithmic and artificial intelligence systems that are proposed or adopted, and the ability to question and change unfair, biased or discriminatory systems throughout the lifecycle of the product or service.
- Mechanisms to proactively address concerns about the potential misuse of data by fulfilling individuals' rights to access and review their data.
- Ability to override automated decisions that are inconsistent with the public good.
- Specific measures to ensure transparency of collection, use, retention and disclosure of personal data. Individuals will have access to, and correction rights over, their data.
- Minimize collection, use, retention and disclosure to what is necessary for the provision of identified and approved services that demonstrate benefit to individuals.
- Any proposed project will be subject to the review and opinion of the Waterfront Toronto Digital Strategy Advisory Panel prior to any implementation.
- Compliance with these principles will be actively monitored to ensure the objectives are achieved and maintained. The results of the compliance reviews will be transparent to the public.
- The organization responsible for any proposed project must demonstrate knowledge of, and adherence to, any applicable guidance published by a relevant regulator (such as the Privacy Commissioner of Canada or the Information and Privacy Commissioner of Ontario).
- Organizations must be willing to comply with any investigation, audit or other compliance action by a relevant regulator, including where such cooperation is "voluntary" under the regulation.

Principle #4: Privacy, data protection, cyber security and resiliency

- All initiatives and products that use personal data will be the subject of a published Privacy Impact Assessment to identify privacy risks and corresponding mitigation strategies before implementation.
- Privacy compliance must be embedded in any initiative or product development through Privacy by Design.
- Collection of personal data by, or on behalf of, government agencies must be accompanied by a demonstration of necessity and appropriate notice to individuals. Collection of personal data by businesses requires informed consent, full identification of purposes (in a contextually appropriate form), and clear options to not provide, and to later withdraw, consent.
- Personal data will be de-identified at source, unless the collecting organization has obtained consent – or, in the case of government, demonstrated necessity – to store the data in identifiable form.
- Profiling, without demonstrated necessity or informed consent by government or without informed consent by business, for any purpose, is expressly prohibited.
- Collection and use of personal information will be limited through, among other measures, the use of non-identifying technology (e.g. motion sensors rather than cameras) and automatic deletion of identifiable data when no longer required.
- Data collected within waterfront projects cannot be used for advertising purposes without express positive consent.
- Data will be protected through appropriate security measures, mandatory breach notification, and prohibitions against disclosure without consent (except where explicitly permitted by law).

Principle #5: Architecture, ownership and technological sovereignty

- Granular policies regarding data residency and routing that are informed by legislative requirements, global best practices and project objectives (e.g., potential research and development exemptions, support escalation requirements, etc.), which policies would be adopted and made public.
- Solutions will be provided in a technological manner and accompanied by commercial terms that strive to minimize the impact of information asymmetry.
- As a first principle, data collected in waterfront neighbourhoods will remain in Canada.
- Ensure that all digital infrastructure and solutions are secure and resilient.



Digital Principles Feedback Form

1. What do you like about the Draft Digital Principles?

2. What do you find concerning or think is missing from the Draft Digital Principles?

3. Do you have any other advice for Waterfront Toronto as it continues to think about how to consider any proposals related to digital technologies in neighbourhoods as part of waterfront revitalization?

Digital Literacy



www.torontopubliclibrary.ca



4 Million
Workstation Uses



5 Million
Wireless Sessions

Digital Privacy Initiative



1180 Participants
72 Programs
23 Branches
since 2017

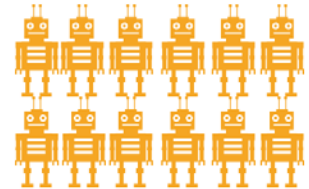


Youth Hubs

11 Youth Hubs
71,386 Youth Visits

Children's Robotics

50 Branches
120+ Robots
370+ Events and Programs
6,000 Participants



Innovator in Residence

48 Programs
568 Participants



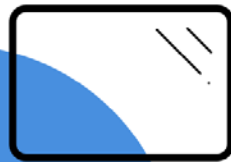
Maker Faire

14,584 Visitors



lynda.com

240,859
Sessions



2,075
Public Workstations



29 Million
Website Visits



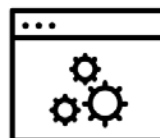
3,570
Tech Book-a-Librarian Sessions

Workforce Training

Let's Learn Tech

- Internet of Things
- Linux
- Cybersecurity

launched 2018



AI, Machine Learning and Algorithmic Literacy Programming
Launching 2019!

All data from 2018

1. Think about the next 5 years. What issues or challenges will you and/or your community be facing?

2. What could the library do to help you and/or your community?

3. Is there anything else you would like to tell us?



Digital Neighbourhoods

There are many examples of Digital Neighbourhoods close to home and around the globe:

In 2008 Waterfront Toronto issued a request for proposals to find a telecommunications partner for the emerging neighbourhoods on the waterfront. Toronto-based Beanfield Metroconnect was selected as the non-exclusive provider for connectivity in all of the new neighbourhoods. Since that time, Beanfield has built Canada's first open-access broadband networks in the waterfront – without any government funding. The arrangement has a number of unique characteristics:

- Enabling content creation: Residential services are provided at 1 gigabyte per second for both uploads and downloads – creating an environment where content creation is encouraged.
- Fostering digital inclusion: Services are provided well below traditional market rates and have been structured in a manner that encourages digital inclusion by providing pricing structures for affordable housing residents. This includes a cross-subsidy from market condominium units to affordable units, that creates an opportunity to provide deeply discounted rates (in some cases as low as \$0/month).
- Futureproofing the neighbourhoods -Through the relationship with Waterfront Toronto, Beanfield is obligated to maintain the network's service among the best in the world for at least 10 years after the completion of the final building in the waterfront.
- Contributing to the development of new skills: Once Beanfield has deployed its services to key areas in the waterfront, they will also be providing two scholarships annually to help develop essential skills in fields that leverage high-speed technologies.

The "Smart Docklands Initiative" in Dublin, Ireland unites business, residents and local government officials on one digital platform so they can develop, test, and implement solutions to urban challenges.

The Greek City of Trikala adopted a technological platform to increase service efficiency by giving citizens direct access to a City portal that displays and allows reporting of uncollected trash, traffic incidents, fallen tree branches, and other events that require city service, without having to navigate a heavy bureaucracy.

Barcelona has a sensor system for drivers that guide them to open parking spots, smart trash bins that use vacuum and suck waste into underground storage (reducing the smell of trash and reducing air and noise pollution from collection vehicles who only pick up when necessary), and noise sensors to support resident complaints about noise levels



Who are the players?

Multiple actors help design, develop, deliver, and oversee digital neighbourhoods.

Public actors that provide research, policies, services and ultimately direct the allocation of public resources according to public values. Public actors strive to provide the best quality of life and oversee all actors to uphold the public interest.

Private actors that may both provide technological infrastructure and services to the public actors as well as offer their own goods and services that together make up the digital ecosystem for both government services and commerce.

Civil society or non-governmental organizations and institutions that are distinct from government and business and that represent citizens' interests.

The broader public, including anyone that lives, works, plays or travels through a neighbourhood. They are also customers and/or users of digital neighbourhood products and services and, through participation in public conversations, influence public policy.

What are some of the key privacy considerations?

Some of the key questions to be answered when creating digital neighbourhoods are related to:

Data collection and storage. Who is collecting what data, under what authority? Where are they storing that data, and for how long? Who has access to that data, and how secure is it? Is it essential for them to collect and/or store that data in the first place?

Data use. How is the data that's being collected put to use? Is the data use consistent with the terms or conditions of its collection? What else is it being used for (e.g. assisting law enforcement, to support advertising, other uses)?

Consent. How did the data collector get consent? Did the service users have an opportunity to understand what they were consenting to? How and when can service users revoke consent? When is it not feasible to ask for consent?

How does money / value move?

Here are some of the ways that money and/or value moves between different actors in Digital Neighbourhoods:

Between government and residents. Governments collect tax revenue from residents to provide programs and services in the public interest. They also provide incentives, rebates, or other programs that provide value back to residents. In addition, some public services have user fees, like public transit.

Between residents and businesses. Residents may choose to pay a business in exchange for a service that provides them value. For example, residents pay food delivery service applications in exchange for that business delivering food to their home. In addition to money, some businesses also receive value from collecting data from and about residents, which can enable those businesses to improve their services or sell advertising based on the data collected.

Between government and businesses. Governments can contract out public products and services to private businesses. The public sector can benefit from private companies' capacity and specialized expertise and businesses receive financial gain. Governments and businesses can also agree to share value, such as financial gains, from intellectual property.

Digital Neighbourhoods Feedback Form

1. Is there anything about what's being presented and discussed that is particularly exciting to you?

2. Is there anything about what's being presented and discussed that is particularly concerning to you?

3. What advice do you have for Waterfront Toronto as it continues to explore Digital Neighbourhoods?

Feedback after the meeting

If you would like to share any advice for Waterfront Toronto about its Draft Digital Principles, or Digital Neighbourhoods, please send them to Ian Malczewski from the third party facilitation team:

imalczewski@swerhun.com

416 527 4365.

The deadline to submit any additional feedback is Wednesday, June 5.

Meeting summary

Waterfront Toronto will share a Draft Summary of feedback received about the Draft Digital Principles and Digital Neighbourhoods a week after the June 5 feedback deadline.

Please sign in to be included on the distribution of the Draft Meeting Summary.