



WATERFRONTToronto

Digital Strategy Advisory Panel - Meeting # 12

Agenda and Meeting Book

THURSDAY, NOVEMBER 7, 2019 FROM 1:00 PM TO 5:00 PM

WATERFRONT TORONTO

13TH FLOOR, WATERPARK PLACE

20 BAY STREET

TORONTO, ON, M5J 2N8

**WATERFRONT TORONTO DIGITAL STRATEGY ADVISORY PANEL
MEETING 12 - AGENDA**

November 7, 2019 - 1:00pm - 5:00pm
Waterfront Toronto Boardroom
20 Bay Street, Suite 1310 Toronto, Ontario M5J 2N8

1:00 - 1:05	1. Opening Session a. Call to Order b. Approval of Agenda c. Declarations of Conflict of Interest d. Approval of Previous Minutes i. September 12, 2019	Approval Approval	M. Geist All All All
1:05 - 1:10	2. Chair's Remarks		M. Geist
1:10 - 1:40	3. CEO's Remarks a. Threshold Issues b. Next Steps	Information	G. Zegarac
1:40 - 1:45	4. Management Report	Information	K. Verner
1:45 - 1:55	5. Discussion of Next Phase of Consultation	Information	C. Webb
1:55 - 2:45	6. Waterfront Toronto Digital Principles & Intelligent Community Guidelines a. Principles b. Guidelines & Consultation Process c. DSAP's Engagement	Recommendation Information & Discussion	K. Verner
2:45 - 3:00	BREAK		
3:00 - 3:45	7. Discussion of Responses to DSAP Preliminary Commentary a. Waterfront Toronto b. Sidewalk Labs	Information & Discussion	V. Lockton A. Harvey-Dawson; J. Lu; J. Shapins
3:45 - 4:15	8. Discussion of SWL Digital Innovation Appendix	Information & Discussion	J. Lu; J. Shapins
4:15 - 4:45	9. Discussion of Process for DSAP Review of MIDP a. Overview b. Discussion	Discussion	V. Lockton All
4:45 - 4:50	10. Refresh of DSAP Working Group Membership	Discussion	All
4:50 - 5:00	11. Other Business	Discussion	All
5:00	12. Adjournment	Approval	All

**WATERFRONT TORONTO
DIGITAL STRATEGY ADVISORY PANEL
MEETING #11 - MINUTES**

September 12, 2019 - 1:00pm – 5:00pm

Video Archive of Meeting: <https://www.youtube.com/watch?v=7ZcOHcHr2YY>

PANELISTS: Michael Geist (chair) Charles Finley (co-chair)
Alaina Alston Andrew Clement (remote)
Jutta Treviranus Kurtis McBride
Khaled El-Emam Karen Gomez
Mark Wilson Pamela Robinson
Teresa Scassa (remote) Kevin Tuer

REGRETS: Carlo Ratti
Diane Reynolds
Dave Dame

WATERFRONT TORONTO MANAGEMENT & EXTERNAL LEGAL:

Kristina Verner Chantal Bernier (remote)
Vance Lockton George Takach
George Zegezac Timothy M. Banks (remote)
Meg Davis

GUESTS:

Nicole Swerhun	Swerhun Facilitation
Alyssa Harvey Dawson	Sidewalk Labs
Jesse Shapins	Sidewalk Labs
Jacqueline Lu	Sidewalk Labs
Prem Ramaswami	Sidewalk Labs

1a. CALL TO ORDER

Being a quorum of Panelists present, the meeting was called to order at 1:03 p.m. Michael Geist, Chairman of the Panel, presided as Chairman of the meeting.

1b. APPROVAL OF AGENDA

On a motion made by Mark Wilson, seconded by Kevin Tuer, it was resolved to approve the agenda as amended for the meeting. Motion Carried.

1c. DECLARATIONS OF CONFLICT OF INTEREST

No new conflicts of interest were registered.

1d. APPROVAL OF PREVIOUS MINUTES

It was decided that, in future, DSAP meeting minutes should be limited to decisions, actions and issues.

On a motion made by Mark Wilson, seconded by Alaina Aston, it was resolved to approve the minutes from the meeting on July 22, 2019. Motion Carried.

2. CHAIR'S REMARKS

Michael Geist provided opening remarks, recognizing the work of the Report Writing Working Group in drafting the DSAP Preliminary Commentary. Waterfront Toronto CEO George Zegeerac also expressed appreciation for the work of the Panel.

3. MANAGEMENT REPORT

Kristina Verner provided an update on developments since July 22, 2019, with a particular focus on amendments to the Plan Development Agreement for Quayside. She also thanked Panelists for their contributions to the DSAP Preliminary Commentary.

4. UPDATE ON MIDP CONSULTATION

Nicole Swerhun (Swerhun Facilitation) provided a summary of findings from the first round of consultation on the draft MIDP and answered Panelist questions about the process.

During these discussions, one **recommendation** made by a Panelist was that an economic spillover analysis be undertaken on the digital elements of the proposal.

5. REPORT WRITING WORKING GROUP

Charles Finley provided an overview of the DSAP Preliminary Commentary, including both its development process and content.

6. POTENTIAL WATERFRONT TORONTO ACTIVITIES

Kristina Verner highlighted that the DSAP is not exclusive to Sidewalk/Quayside-related issues, but has a broad advisory role to play. To that end, two proposals were brought forward to Waterfront Toronto's attention (with Panelists encouraging to identify other potential opportunities to Waterfront Toronto management).

First, Jutta Treviranus described the **ISO Personal Data preferences standard**, and the potential for Waterfront Toronto to serve as an early adopter for the standard. After discussion, the Panel expressed their general support for the standard, and Waterfront Toronto agreed to take the matter aside for further consideration.

Second, Andy Best described the **Open City Network**, and the potential for Waterfront Toronto to join. Panelists had a mixed reaction to this opportunity (including uneasiness about a perceived lack of openness in the organization's funding). This opportunity will be put on hold.

7. DISCUSSION WITH SIDEWALK LABS

Sidewalk Labs opened the discussion with an overview of their upcoming Digital Innovation Appendix, intended to expand upon the digital innovations presented in the MIDP and to address concerns raised by the DSAP's Preliminary Commentary.

After discussion of this Appendix, an initial discussion was held on what further information the Panel might be seeking from SWL. Though SWL provided certain initial questions, it was ultimately determined that DSAP's efforts at this time were best directed to advising out to them by Waterfront Toronto

<CLOSED SESSION>

9. OTHER BUSINESS

None.

10. ADJOURNMENT

On a motion made by Andrew Clement, seconded by Mark Wilson, and carried unanimously, it was agreed that there was no further business of the Panel to transact, the meeting was closed at 4:58 p.m.



**DSAP Meeting – November 7, 2019
Item 4 – Management Report**

Agenda Item	4 – Management Report
Purpose	Information
Key Message	<p>Since the prior DSAP meeting (September 12), Waterfront Toronto has: (i) received a letter on Quayside from the Ontario Information and Privacy Commissioner; (ii) published its consultation report on the MIDP; and, (iii) been in discussion with Sidewalk Labs on a number of threshold issues.</p> <p>This update will focus on the latter of those three matters; the former two will be taken as read.</p>
Areas of note/ Key issues	
Expected Outcome	The Panel will have an understanding of key Waterfront Toronto activities which have occurred since the September 12, 2019 DSAP meeting, including the resolution of threshold issues for the Quayside project.
Key Takeaways/ Next Steps	

November 7, 2019

Management Report

Kristina Verner, Vice President, Innovation, Sustainability & Prosperity

Developments since September 12, 2019



Public Consultation Report *(included in package)*

- The full report on our first round of public consultations was released (<https://quaysideto.ca/get-involved/midp-consultations/>)
 - The first round of public consultation on the MIDP gave voice to three positions, including:
 - those that are **supportive** of the project, usually based on the opportunity associated with individual innovations and/or the value of innovation in general;
 - those that hold a **cautious** “maybe” position, who see both great opportunity and great risk, and who have said in the broadest of terms “if the MIDP moves forward, it has to be on terms that work for Toronto”; and,
 - those that are **against** the project, with major issues raised related to (but not limited to) lack of trust in Sidewalk Labs, Google, and Alphabet.

Letter from the Information & Privacy Commissioner *(included in package)*

- On September 24, 2019 a letter was received by Waterfront Toronto outlining the Commissioner's concerns with the project as framed in the MIDP.

Threshold Issues Resolution *(included in package)*

- On October 31, 2019, Waterfront Toronto's Board approved directing management to proceed to the evaluation of the MIDP on the basis of a series of amendments as outlined in the correspondence from George Zegarac dated October 29, 2019.

Intelligent Community Guidelines *(to be discussed during Item 6)*

- Building on the Digital Principles and based on the information we gathered through the first round of consultation, a preliminary draft of Intelligent Community Guidelines (similar to our MGBRs but for digital technologies) have been developed. These are subject to public consultation and industry market sounding.

Thank you.

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Waterfront Toronto's Public Consultation on the draft MIDP

Round One Feedback Report

September 19, 2019



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Appendices (*Under separate cover due to their length*)

- Appendix 1. Public Meeting Summaries (100 pages)
- Appendix 2. Online Consultation Summary (114 pages)
- Appendix 3. Written Submissions (134 pages)
- Appendix 4. Library Drop-In Feedback (7 pages)

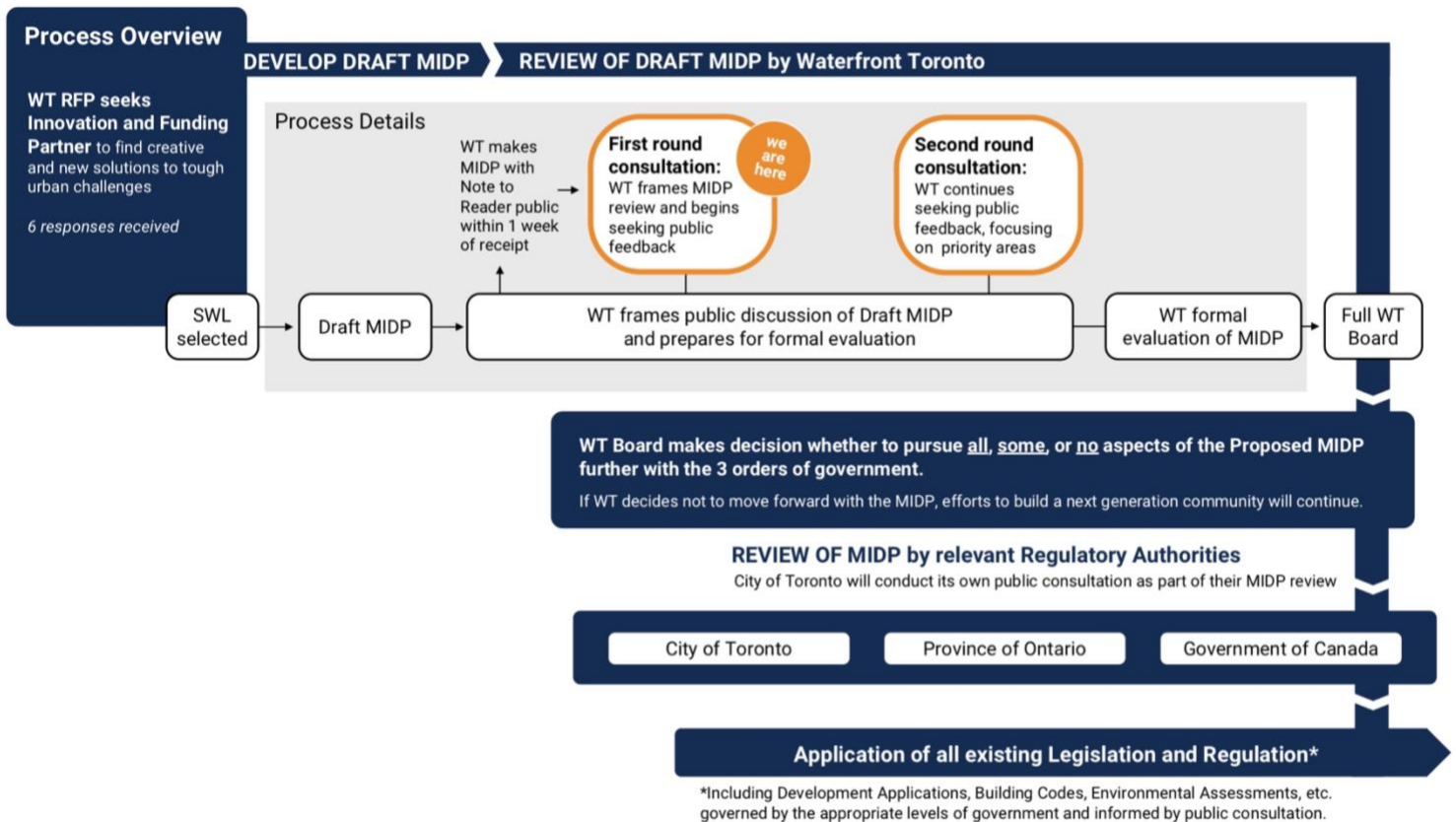
The raw feedback from the online consultation is also available.

Overview of the Process

On June 17, 2019 Sidewalk Labs submitted their Draft Master Innovation and Development Plan (MIDP) to Waterfront Toronto for review and evaluation. One week later, on June 24, 2019, it was released by Waterfront Toronto to the public along with a commitment to hold two rounds of public consultation to seek feedback on the MIDP.

Feedback from the public is critical to informing Waterfront Toronto’s thinking about Quayside and Sidewalk Labs’ proposal. It is Waterfront Toronto’s responsibility – informed by consultation with the public, technical experts, and all three orders of government – to determine if the ideas in the MIDP are in the public interest and respond to the objectives established for Quayside. Waterfront Toronto’s formal evaluation, reflected in the process overview graphic below, will take place following the second round of consultation. The full Waterfront Toronto Board will then decide whether to pursue all, some, or no aspects of the proposed MIDP further with the three orders of government. The MIDP is ultimately subject to the approval of Waterfront Toronto’s Board of Directors and Sidewalk Labs.

If Waterfront Toronto decides not to move forward with the MIDP, efforts to build a next generation community at Quayside will continue. If the MIDP does move forward, it would be subject to review by relevant regulatory authorities at the municipal, provincial, and federal levels. All existing legislation and regulations will apply. The City of Toronto has also made a commitment to conduct its own public consultation as part of their MIDP review.



The first round of public consultation ran from June 24, 2019 through to July 31, 2019. The purpose was to orient the public to the MIDP from the perspective of Waterfront Toronto as a public steward working with the support of all three levels of government. Very early feedback on the MIDP was also sought, recognizing that the length of the MIDP and the volume of material within it would require much more time for Waterfront Toronto and the public to become familiar with the document.

The MIDP submitted by Sidewalk Labs

The MIDP is organized into three Volumes. In the broadest terms, Volumes 1 and 2 propose plans for development and innovation (mostly things that we can see and touch). In Volume 3, Sidewalk Labs describes what they think is required to make those plans happen. There is also a fourth Overview document.



**Volume 1:
The Plans**



**Volume 2:
The Urban Innovations**



**Volume 3:
The Partnership**

Volumes 1 and 2 describe Sidewalk Labs' proposals for Quayside, as well as a much larger portion of the waterfront. The proposals include plans for: development of Quayside (12 acres); development of a larger area that Sidewalk Labs calls "The River District" (153 acres); social infrastructure and community facilities; economic development; urban innovations that focus on mobility, public realm, buildings and housing, sustainability, and digital innovation; and, new governance models and regulatory frameworks to support implementation of the innovations.

Volume 3 of the MIDP focuses on how Sidewalk Labs proposes that the plans be implemented. Their proposals include: creating a special district called the "Innovative Design and Economic Acceleration District" (IDEA District, which is 190 acres in size and includes Quayside and The River District) that would be governed by a new Public Administrator and other entities; roles for Sidewalk Labs (developer, advisor, tech deliverer, and provider of optional financing); and, financial streams for the public sector related to real estate, infrastructure, and Intellectual Property. The proposal also describes commitments required from governments (including potential future investments) and areas of necessary public policy and regulatory reform.

Materials from Waterfront Toronto

To support the process of seeking public feedback during the first round of public consultation, Waterfront Toronto produced the following public materials:

- An *Open Letter* from Board Chair Stephen Diamond on June 24, 2019, which confirmed that there a number of exciting ideas in the MIDP that respond to challenges that Toronto faces (particularly related to environmental sustainability and economic development), and also identified examples of proposals where it is clear that Waterfront Toronto and Sidewalk Labs have different perspectives on what is required for success;
- A *Discussion Guide* with an overview of the public consultation process;
- A *Note to Reader* that was based on an initial, high level review of the MIDP and provided a synthesis of what Waterfront Toronto asked for from its Innovation and Funding Partner, the response from Sidewalk Labs, where and how the MIDP aligns with existing industry practices and what is new, where the privatization of public assets is being proposed (if at all), and financial impacts and risks;
- *Display boards* that condensed the material from the Note to Reader; and
- *Slide presentations* shared at the public meetings.

All of these materials are available on Waterfront Toronto's Quayside project [website](#).

What is covered in this Report

This Round One consultation Feedback Report was written by the facilitation team from Swerhun Inc., the firm retained by Waterfront Toronto to support its public consultation process on this project. Swerhun works exclusively for governments, public agencies, and non-profits working to support public policy. The Swerhun team's role is not to advocate for any particular project outcome, but rather to support the delivery of transparent, constructive, and meaningful consultation processes.

This Round One consultation Feedback Report does not assess the merit or accuracy of any of the perspectives shared, nor does this documentation indicate an endorsement of any of these perspectives on the part of Waterfront Toronto.

Round One Public Consultation Activities

The design of the first round of public consultation was informed by feedback from Waterfront Toronto's Board or Directors, staff responsible for the Quayside project, and the Quayside Stakeholder Advisory Committee (SAC). Sidewalk Labs did not participate in the design or delivery of the consultation process. Representatives from Sidewalk Labs did attend the public meetings as observers in order to hear public feedback first-hand.

There were four ways to participate in this first round of public consultation, including:

- Seven (7) identical drop-in information sessions held at different branches of the Toronto Public Library;
- Four (4) identical public meetings held in four different locations;

- An online survey that began on July 10, 2019 (this report is based on responses received by midnight on July 31, 2019 - the survey remains open); and
- Written submissions provided to Waterfront Toronto by July 31, 2019

Approximately 1,034 people participated in all consultation activities for Round One. The table that follows below provides details on the dates, times, and locations of these activities.

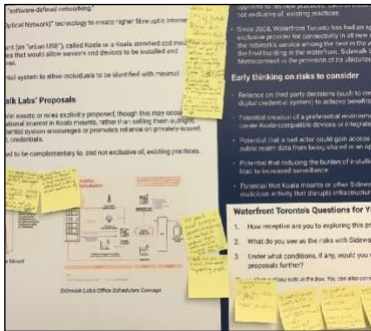
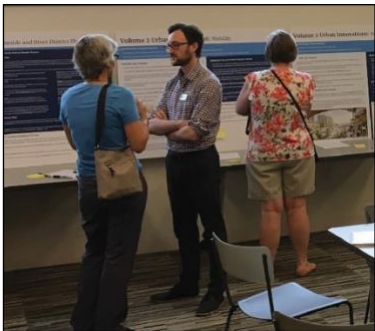
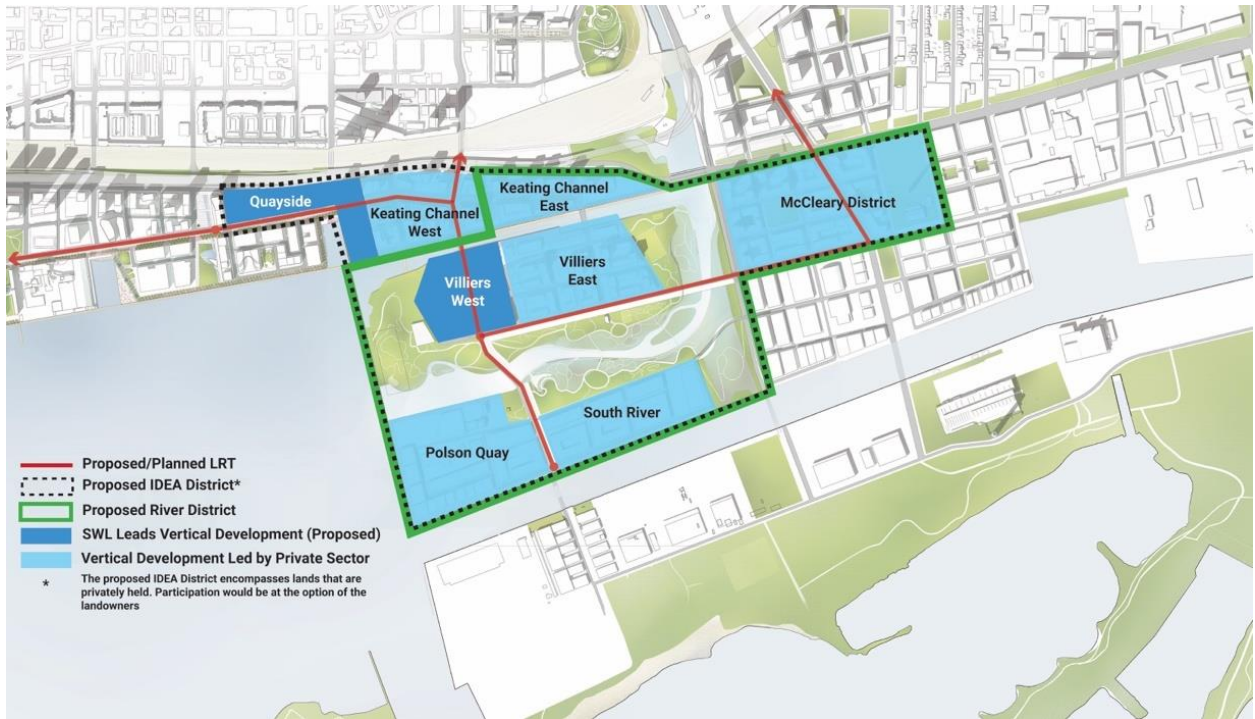
Summary of Round One Public Consultation activities:

Activity	Date / Location / Time	Number of participants*
Toronto Public Library Program (Drop-In Sessions)	Mon, July 8: North York Central Library, 2:30-4pm Tues, July 9: Scarborough Civic Centre, 4:30-6:00pm Wed, July 10: Fort York Public Library, 6:30-8pm Thurs, July 11: Brentwood Library, 2:30-4pm Thurs, July 11: Queen/Saulter Branch, 6:30-8pm Thurs, July 18: St. Lawrence Branch, 6:30-8pm Thurs, July 25: Toronto Reference Library, 6:30-8:00pm	200
Four identical public meetings	Mon, July 15: North York Civic Centre, 6-9pm Wed, July 17: Radisson Admiral Hotel, 6-9m Sat, July 20: George Brown Waterfront, 9am-12pm** Tuesday, July 23: Chestnut Conference Centre, 6-9pm	600
Online survey	July 10 – July 31 at www.QuaysideTO.ca	200
Written submissions	Delivered by July 31, 2019 to Waterfront Toronto (at quayside@waterfronttoronto.ca) or shared directly with the Swerhun Inc. facilitation team.	34
	Total	1,034

* The number of participants in the process is necessarily an estimate, since it is based on the number of people who chose to sign-in at the drop-in sessions and public meetings. The number of online survey respondents is also an estimate, with exactly 172 people completing the “quick” quantitative survey, and anywhere from 5 to 76 people providing responses to at least one of the 16 sub-sections of the of the more detailed online consultation. Written submissions were received from 24 individuals and 10 organizations, many of which represent a much larger constituency or membership.

** A video recording of the third public meeting (held at George Brown’s Waterfront Campus on Saturday, July 20, 2019) is available on the [Waterfront Toronto YouTube channel](#) and on the [Quayside project website](#).

Map of Quayside, and the River District and the IDEA District as proposed by Sidewalk Labs



Overall Observations

In the broadest of strokes, this first round of public consultation on the MIDP gave voice to three positions, including:

- those that are **supportive of the project**, usually based on the opportunity associated with individual innovations and/or the value of innovation in general;
- those that hold a **cautious “maybe” position**, who see both great opportunity and great risk, and who have said in the broadest of terms “if the MIDP moves forward, it has to be on terms that work for Toronto”; and,
- those that are **against the project**, with major issues raised related to (but not limited to) lack of trust in Sidewalk Labs, Google, and Alphabet.

These positions were thoughtful, well-articulated, and emerged consistently through all the consultation activities completed, with varying strengths depending on the activity. For example, those with concerns about the project brought a strong voice to the public meetings. At the same time, at every public meeting there were some participants who expressed support for the MIDP, and many who focused on the additional information they need to better understand the consequences of the proposal, along with the additional analysis they would like to see Waterfront Toronto undertake and bring back to the second round of public consultation.

Most of those participating in the online “quick survey” expressed support for much of the MIDP, while analysis of the more detailed online survey responses revealed significant polarization of opinion. A sizeable number of these responses were in favour of virtually every aspect of the MIDP and a sizeable number were opposed to virtually every aspect of the MIDP. On many aspects, however, respondents identified conditions that, if fulfilled, might allow a revised proposal to proceed.

Many participants throughout all consultation activities identified conditions that they would like to see met if Waterfront Toronto chooses to move forward, including (but not limited to):

- Limiting the geography of the project to Quayside (12 acres);
- Ensuring strong public control and oversight;
- Ensuring strong controls on all things digital (including data collection and governance); and,
- Making it fair financially for Toronto, and fair economically for the Canadian economy and supportive of Canadian businesses.

There were a number of suggestions about how Waterfront Toronto can support responsible public reflection on the MIDP, with many participants emphasizing the importance of reviewing the proposal from a position of strength, given the great value of this public asset. Examples of specific suggestions made include (but are not limited to):

- Sidewalk Labs demonstrating if/how the RFP objectives can be met at Quayside and, if not, explain why not (which would also help the public understand the intentions behind the IDEA District);
- Waterfront Toronto completing a risk assessment; and
- Considering this proposal in the broader Canadian context (including impacts and opportunities of Canadian business sectors and the Canadian economy) and the global context (i.e. demonstrating how experiences in other cities can inform evaluation of the MIDP).

Feedback from the Four Public Meetings

All of the public meetings were characterized by rich discussions, thoughtful questions and comments, and a wide range of perspectives and interests. An individual summary was written for each meeting (see Appendix 1). The overall themes that emerged from all four meetings are based directly on these individual summaries and are reflected below.

Participants and format

Each public meeting had between 100 and 200 participants, with about 600 participants in total across the four public meetings. The representation was diverse, with about 10-15% of people at each meeting indicating that it was their first meeting related to Quayside, while others had been watching (and participating in) previous Quayside-related discussions. There were interested residents, community organizers, tech experts, leaders of organizations from the non-profit and private sectors, students, academics, representatives of labour, public servants, and many others with a range of perspectives on the project.

The meetings were three (3) hours in length and organized to include less than one hour of presentation time and over two (2) hours for questions, feedback and discussion by participants. Four breakout rooms were hosted at each public meeting, one focusing on each of the three volumes of the MIDP, and a separate (fourth) room for Digital Innovation, Digital Governance, and Intellectual Property. Each breakout room had between three and five smaller table discussions, and each table had a representative from Waterfront Toronto and one facilitator. There were fifteen (15) small table discussions at each public meeting, or sixty (60) in total.

Note that the intent of the public meeting summaries was to capture the range of perspectives that were shared at the meetings. There are references to “few”, “some”, and “many” participants expressing a certain point of view, but it’s important to note that not all participants were asked to confirm whether they did (or did not) agree with any particular point raised by the other participants. As a result, the summaries are necessarily qualitative in nature.

Consistent themes from the public meetings

Throughout all four public meetings, the following feedback themes emerged:

1. **The Draft MIDP is difficult to get through and contains both too much, and too little, information.** Many considered the 1,500 page document to be inaccessible, characterized as either a poorly conceived communications plan or an effort to overwhelm. Many said that a shorter, simplified version is required, while at the same time saying that more information is needed in key areas.
2. **“There is huge potential, but also huge risk”.**
 - a. There were participants in every meeting who said that they were conditionally receptive to some of the ideas in the Draft MIDP. These participants said that they recognized and/or saw merit in:
 - the need for new thinking to address urban challenges and receptivity to some of the innovations, smart city technologies, and city-building techniques (accompanied by questions/concerns about financing, implementation, and mitigating failure);

- climate positivity and sustainability, with a push to see even more;
- the potential for the partnership to speed up our ability to implement new ideas and transfer lessons, including the potential to expedite transit and other development;
- the economic development potential and the potential for new jobs and tax revenue;
- affordable housing and the social infrastructure (but more information required);
- the proposed governance structures (accompanied by concern of how they would be funded, operationalized, and integrated with current structures); and
- the opportunity to create a world-leading digital governance framework (centred on citizens and privacy, with a de-centralized Urban Data Trust).

b. Many concerns and questions about the MIDP were expressed, including (but not limited to):

- concern about the overreach of the Draft MIDP in terms of both land and governance (in relation to what was asked in the March 2017 RFP);
- concern about data collection, surveillance, and inability to get informed consent from citizens;
- concern that we should not be contemplating a proposal like this until all levels of government have the policies and regulations in place to manage it (such as stronger protections against data breaches and frameworks informing how we want to use technology in our cities);
- questions and concerns about the Intellectual Property (IP) proposals, including concern about the risk that public actors (including governments) would have an incentive to turn its residents into units for financial gain, concern that the 10% profit-sharing for IP proposed is not enough, and that the patent pledge imposed by Sidewalk Labs could hinder Canadian companies from competing globally;
- concern about the governance proposals, including lack of clarity around the proposed governance structures and effort by Sidewalk Labs to isolate itself from democratic processes;
- a lack of information about public benefits and public harms of the proposals;
- concerns that development of a tech sector, especially by Google and Sidewalk Labs, could result in the area becoming unaffordable;
- safety and accessibility concerns related to curb-less street designs;
- questions about the development process and land ownership;
- a need for more economic development detail (e.g. number and type of jobs); and
- the risk that Quayside will not be able to integrate with the rest of the city.

Many of the innovative solutions to complex urban issues related (for example) to mobility, affordable housing, public realm and sustainability were presented separately from their governance, financial and data context making an assessment of consequences or trade-offs difficult.

3. There were several suggestions about how Waterfront Toronto can support responsible public reflection on the Draft MIDP. Many participants emphasized the importance of reviewing the proposal from a position of strength given the great value of this public asset. The feedback included very specific suggestions on the types of research and analysis that many participants would like to see completed and shared publicly in order to inform a rigorous consideration of the Draft MIDP.

Specific requests included (but were not limited to):

- Sidewalk Labs demonstrating if/how the RFP objectives can be met at Quayside, and if not, explain why not (this explanation would also help the public understand the intentions behind the IDEA District).
- Waterfront Toronto completing a risk assessment, including (but not limited to):
 - where this type of project has worked and where it has failed, including: a strong understanding of the track record of proposed innovations, what happens if/when they fail (i.e. contingency plans), and transparency regarding trade-offs in partnering with Sidewalk Labs;
 - an analysis of the opportunity cost, for example recognize that “it’s not Google or nothing,” need to compare this proposal to what else could be done;
 - identifying and seriously considering all potential consequences and outcomes, including those that are unintended;
 - considering the risk of not moving forward with the opportunity (i.e. figure out what Waterfront Toronto is/isn’t willing to budge on, and think about how to move forward while addressing risks); and
 - needing an analysis of potential issues if Quayside is insular and separate from the rest of Toronto.
- Considering this proposal in a broader Canadian and global context, including:
 - comparing benefits to the Canadian economy if this was run by Canadian company(ies) rather than a US tech giant; and
 - completing research that puts the proposal in a global context (e.g. through comparisons with other partnerships).
- Needing more information about a number of aspects of the proposals, including (but not limited to):
 - why the proposed governance structures are needed, how they would be staffed, and how they would be integrated with existing structures;
 - mechanisms to help achieve affordable housing targets; and
 - whether technology is the right solution to the challenges we’re considering.

Notwithstanding the need for additional analysis, many participants identified conditions they feel must be considered/met if the proposal is to move forward, including (but not limited to):

- start with the 12-acre pilot before considering whether to expand the partnership;
- identify strong limits and maintain strong public oversight and control, including a failsafe “out” clause that can be used to end the partnership, and consequences for breaches;
- avoid “situation dependency”;
- need data collection to be undertaken by a public actor (or many smaller, private actors) with strong public oversight; some said there were no conditions under which they were willing to consider data collection at all; and
- need updated policies and regulations from governments related to technology before any decision is made about Sidewalk Labs.

Specifically related to technology and data, many participants said that data governance needs to be strong and protect the public. Waterfront Toronto has the opportunity to be a leader in creating a strong digital governance framework that:

- disincentivizes the stockpiling of data;
- ensures there are severe penalties for data breaches;

- creates clear conditions under which researchers could access data; and
- makes sure there are strategies to address indirect data collection.

Waterfront Toronto was urged to avoid “boutique deals” on data governance with Sidewalk Labs, and instead work with the City of Toronto to do something that applies across the whole city. It was suggested that the Urban Data Trust(s) be citizen-owned or user-owned, act as an advocate, protect citizens and their data, and act as a data fiduciary.

Related to the second round of consultation, there were participants who urged Waterfront Toronto to scope back the discussion to what is reasonably feasible and structuring the discussion at the second round of consultation around Waterfront Toronto’s objectives, rather than following the structure of Sidewalk Labs’ proposal. Discussion of all digital topics also needs to be integrated into (and not separate from) other aspects of the proposal.

4. There is a lack of trust in Sidewalk Labs (and their sister-company Google and their parent company Alphabet). Concerns included (but were not limited to):

- the overreach of the proposal and questions about their true objectives/ambitions – noting that they act like “bullies” and are not accountable to any nation state;
- a lack of transparency around the track record of these companies in other cities;
- an asymmetry of power and influence, risk of privatization, and potential threat to our democratic processes, sovereignty, and institutions;
- a conflict of interest with Sidewalk Labs as both Advisor and Tech Provider;
- their business models’ focus on monetizing people’s data; and
- Google potentially “swallowing up” smaller companies.

Some participants were clear that they were not supportive of moving forward with Sidewalk Labs and expressed concern that Waterfront Toronto is even considering the proposal. Others said that while there are many issues in the Draft MIDP, these should not stop the evaluation/reflection on the potential good that could come from it; Waterfront Toronto needs to judge the project based on the merits of the proposal, not just the company itself. There was also interest in better understanding what Waterfront Toronto’s obligations are to Sidewalk Labs and what elements of the MIDP can move forward without Sidewalk Labs.

5. There was a mix of appreciation and concern regarding Waterfront Toronto’s role.

Some participants expressed appreciation for the consultation process and Waterfront Toronto’s leadership, including the past 20 years of work that Waterfront Toronto has done to successfully coordinate the work of all three levels of government. Others raised questions about why Waterfront Toronto was consulting the public on things that are outside of what it asked for in its RFP and raised concerns that Waterfront Toronto couldn’t be objective given their close working relationships with Sidewalk Labs.

Feedback from the Online Consultation

As with all public consultation activities in round one, the online consultation was based on the MIDP and Waterfront Toronto's *Note to Reader*. It consisted of two separate but related surveys:

- a short, quantitative survey designed for providing a quick response; and
- a detailed, qualitative survey for those interested in providing more detailed feedback.

The survey was not designed or intended to be statistically significant; it was designed to supplement the public consultation to help Waterfront Toronto assess the diversity of opinions and understand the rationale behind the various positions on the Draft MIDP.

Online consultation statistics

The Quayside online consultation launched on July 15, 2019 at www.QuaysideTOSurvey.com. Squarespace, the platform on which the online consultation was hosted, collected Internet Protocol (IP) addresses to inform reporting on how many people visited the website, how many people submitted responses, and a general location of website visitors (at the level of country, region, or city). IP addresses were not connected to the survey responses. The online consultation website was not geofenced, and as a result did not limit responses from any place on the planet.

Between July 15, 2019 and July 31, 2019, the survey logged 1,382 Unique Visitors and 1,081 Visits¹. The following list details the geography of Visits by IP:

- 805 of 1,081 were from Canada (75%);
- 276 of 1081 were not from Canada (25%) (209 from USA, and 67 from other countries);
- 740 of 1081 were from Ontario (68%);
- 662 of 1081 were from Greater Toronto and Hamilton Area (61%); and
- 591 of 1081 were from Toronto (54%).

¹ Excerpt of definitions from Squarespace, the platform hosting the survey:

Unique Visitors. Unique Visitors is an estimate of the total number of actual visitors that reach your site in the selected time period. Unique Visitors is a good measure of your loyal audience and readership. Every time a visitor clears their cookies or opens your site from a different browser, Analytics counts their first new visit toward Unique Visitors.

Visits: A visit is a single browsing session and can encompass multiple pageviews. [*Squarespace tracks*] visits with a browser cookie that expires after 30 minutes. Any hits from a single user within that 30-minute browsing session count as one visit. This means that one person can register multiple visits a day if they close their browser and return to your site at least 30 minutes later. Visits are a good measure of attention on your site because they correlate with a single browsing session and are frequently used in marketing applications.

Discrepancies between Unique Visitors and Visits: In rare cases, Unique Visitors, which is typically lower than Visits, might be greater than Visits when viewing shorter date ranges. This could happen because only the first pageview of a new browsing session counts toward a visit. So, a visit that straddles the midnight boundary might contribute to the next day's Unique Visitors, but not Visits.

The Quick Survey

The quick survey included 15 quantitative questions asking participants to rank how receptive they were to Sidewalk Labs' proposals and gave respondents a way to indicate where they needed more information. 172 responses to the Quick Survey were received. The table on the following page summarizes the results of their feedback to each question in the survey. See Appendix 2 for a more detailed summary.

Generally, Quick Survey respondents were more receptive to ideas presented in Volumes 1 and 2 of the Draft MIDP, with the exception of Privacy and Digital Governance, where a greater number of respondents were receptive to some or not receptive at all. Relative to Volumes 1 and 2, a greater number of respondents were somewhat receptive or not receptive to the ideas presented in Volume 3.

Screenshot from Quayside Quick Survey

QUAYSIDE ONLINE CONSULTATION

Quayside Quick Survey

The form below is a short and quick survey on Sidewalk Labs' proposals for Quayside. If you would like to read about more details in each section and answer detailed questions, please use the navigation above to jump to the section of your interest.

When you are finished, please make sure to click "submit" before moving to another section or exiting.

How receptive are you to Sidewalk Lab's proposals about:

The Quayside and River District Plans

- Receptive
- Receptive to some
- Not receptive
- Need more information

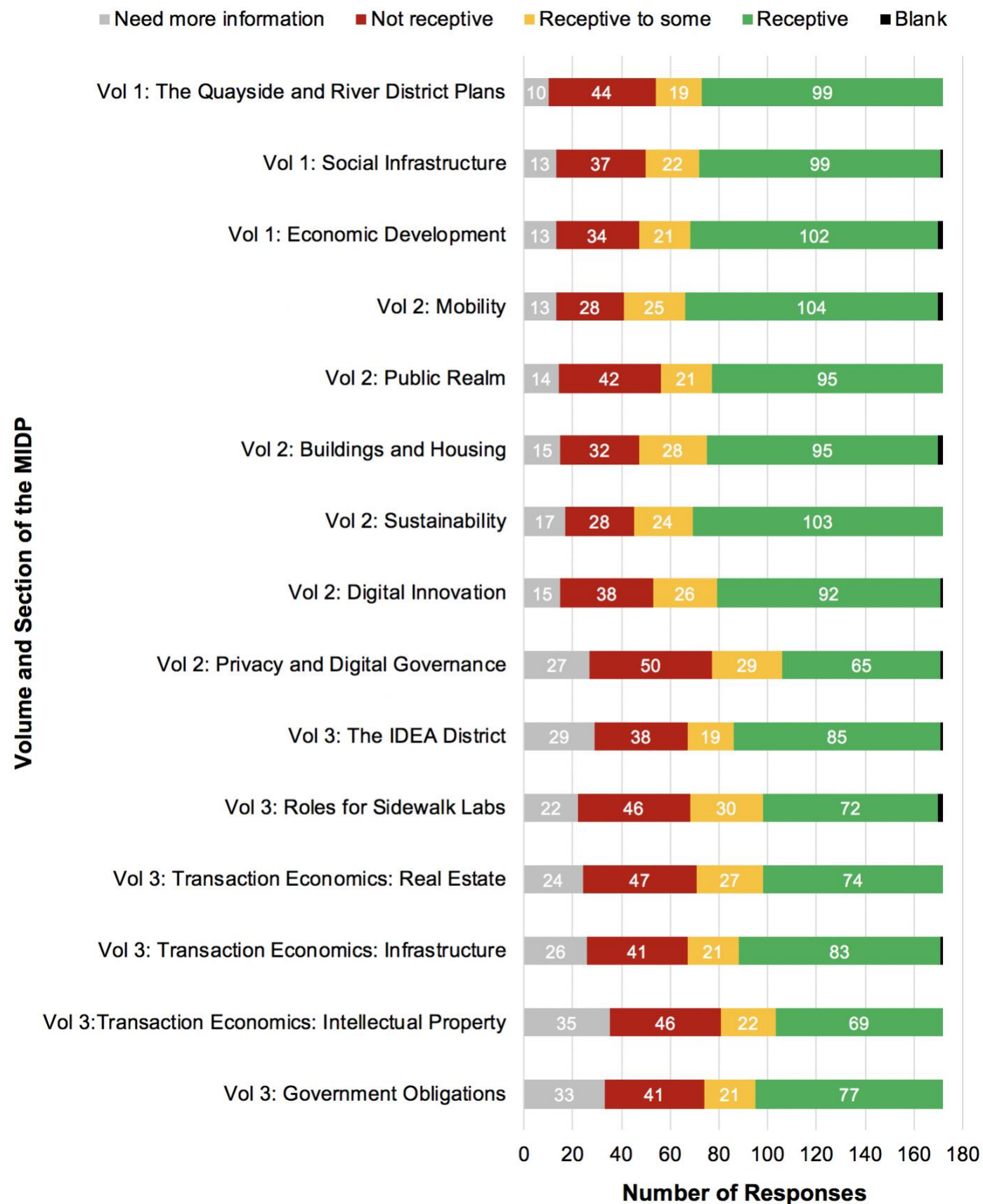
Social Infrastructure

- Receptive
- Receptive to some
- Not receptive
- Need more information

Sidewalk Labs' Master Innovation and Development Plan

Waterfront Toronto's Note to Reader

Quayside Quick Survey Results



The Detailed Survey

The detailed survey included 89 qualitative questions across 16 sections corresponding to different sub-sections of the MIDP as described through the lens of Waterfront Toronto's *Note to Reader*. The number of questions per sub-section ranged from 5 to 11. Given the volume of information and the number of questions, the detailed survey allowed respondents to navigate and share feedback about whichever sections were relevant to their interests.

For the detailed survey, the greatest number of responses to any set of questions was 76, which related to the Quayside and River District Plans sections. All other sections range from 5 responses to upwards of 65 responses. An organized summary of all responses is included in Appendix 2 (under separate cover), and the raw data is available at www.QuaysideTO.ca.

Observations on the feedback received through the Detailed Survey:

- Overall, respondents commented on their receptivity to the various proposals outlined in the MIDP, the perceived risks and benefits of the various proposals, conditions for Waterfront Toronto proceeding with the project, and also provided advice to Waterfront Toronto. Some of this advice was very detailed, and included references to other projects, plans and reports.
- The number of respondents decreased between sections on Volume 1 through to sections on Volume 3:
 - Volume 1. The greatest number of responses overall was 76 and were received to the first set of questions relating to the Quayside and River District Plans.
 - Volume 2. The greatest number of responses was 48 and related to the section on mobility.
 - Volume 3. The greatest number of responses was 14 and related to the section on the IDEA District (Public Administrator). The fewest number of responses overall was 5 and related to questions in Volume 3 relating to Transaction Economics (Infrastructure).
- In many places, respondents stated that they needed more information to answer questions. This was particularly true with the questions relating to Volume 3.
- Although there was polarization of opinion, there was also some middle ground. Analysis of responses shows significant polarization of opinion, with a sizeable number in favour of virtually every aspect of the MIDP and a sizeable number opposed to virtually every aspect of the proposal. On many aspects, however, respondents identified conditions that, if fulfilled, might allow a revised proposal to proceed.

Those in favour of the proposal identified many benefits

These included (but were not limited to):

- it is innovative and forward thinking;
- it will provide social and economic benefits to the city;
- we will learn from it, especially with respect to new technologies;
- an urban tech cluster will facilitate economic growth;
- it will spur development of the waterfront;
- it will have positive environmental impact and contribute to sustainability;

- we need to explore new ways to develop;
- it addresses social needs through the inclusion of affordable housing, connectivity, amenities and public realm proposals; and
- seed funding will help to get development occurring.

Those in opposition to the proposal identified many drawbacks

These included (but were not limited to):

- the increased geographic scope of the proposal beyond Quayside;
- discrepancy between existing precinct plans and the MIDP, especially reductions in density;
- data collection and privacy issues;
- lack of affordability and inclusivity;
- increased income inequality;
- lack of support for Toronto tech firms;
- over-reliance on technology, especially with regard to the public realm;
- the bureaucratization of public space;
- governance issues including duplication of effort and the creation of new bodies (Waterfront Administrator, Open Space Alliance, Waterfront Transportation Management Association, Waterfront Sustainability Association, Urban Data Trust, Waterfront Housing Trust) to take on functions that are currently provided by government;
- adverse financial impacts on the City of Toronto and taxpayers;
- the role of Sidewalk Labs including lack of experience as a developer and potential data use; and
- lack of trust in Sidewalk Labs.

Respondents identified key conditions for proceeding with the proposal

These included (but were not limited to):

- restricting development and testing of technology to Quayside;
- incorporating additional affordable housing and parks;
- addressing data use and privacy concerns;
- providing additional community amenities, such as a library;
- addressing parking and circulation issues including funding of transit;
- ensuring public governance is retained for housing, transportation, recreation and other functions; and
- ensuring the City will not bear undue financial costs and will accrue appropriate financial benefits.

Feedback from Written Submissions

In total, 34 written submissions were received up to and including July 31, 2019. These submissions ranged in length, contributing to a total of 125 pages. Ten submissions were received from organizations and 24 were received from individuals, of which 11 provided permission to share their name with their submission.

Submissions from organizations

Ten organizations submitted written submissions as part of the first round of public consultation. The table below identifies the organization and summarizes some of the highlights of their submission. The original submission letters are included in Appendix 3 (under separate cover).

Organization	Highlights of submission
Federation of Northern Ontario Municipalities	Support for including wood as a major component of the MIDP and its potential to reduce carbon, drive northern industry, and create a stronger link between northern and southern Ontario.
Coalition Against Technological Development	Concern that technology is creating economic decline and consuming more resources than it protects; preference to see low-tech solutions to addressing environmental challenges.
Good Jobs For All	Concerns about public land grab, power grab, surveillance, and privatization; want to see public interest and public jobs protected in planning waterfront development and innovation.
Institute for Advancing Prosperity	Support for the idea of a Data Trust but needs more information than what is in MIDP, including: how the Trust would support itself; how it would be funded; and how the public derives value. Opportunity through this proposal to see control of Trust given to residents and operate more like a labour union stewarding collective data for public good.
Council of Canadian Innovators	This project is a missed chance to provide opportunities for Canada's existing, world-class smart city innovators; desire to get more information about what is proposed, including (but not limited to): why open data by default is in the public interest, how the proposal would be bound by existing privacy laws; how the proposed patent pledge would enable Canadian companies to compete globally.
Swedish Consulate	Concern about additional land in proposal; desire to see municipalities responsible for development and installation of infrastructure; support for the idea of testbeds, which have been done successfully in Sweden.
Unifor	Concern about scope creep and the additional land asked for in the proposal; concern about increase in property values and accelerated development harming existing residents and businesses.
Waterfront BIA	Support for Waterfront Toronto's engagement process; see opportunities for housing, jobs, recreation, and mobility in the proposal; desire for future consultation to focus on LRT and expanded role for Waterfront Toronto as Public Administrator.
#BlockSidewalk	Concern about procurement process, Sidewalk Labs' lobbying, use of non-disclosure agreements, and assertion of its right to buy lands without competitive procurement. Waterfront Toronto should not consult on things beyond what it asked for; this process should end.

Members of the West
Don Lands
Committee/Waterfront
For All Study Group

Detailed feedback identifying benefits, questions, and concerns about many different sections of the MIDP.

Submissions from Individuals

24 individuals shared written submissions with Waterfront Toronto during the first round of consultation. Of those 24 individuals, 11 gave permission to include their name with their submission:

Paul Beck	Donald James	Tim Warner
Julie Beddoes	William Lim	Bianca Wylie
Melissa Goldstein	Jane Rucchetto	John Yu
Blayne Haggart	Natasha Tusikov	

Key themes from the written submissions include:

- 1. Some interest and willingness to continue exploring the proposed ideas.** A few of those preparing written submissions were supportive of some of the ideas in the MIDP. Examples of ideas some were willing to further explore included:
 - *Some interest in and support for the idea of the Urban Data Trust* but need more information about how a Trust would support itself (i.e. how is it funded, how can the public receive value from what it generates, how is it publicly accountable).
 - *Interest in a smaller proposal.* Some said they would be willing to further consider the ideas in the MIDP if Sidewalk Labs submitted that was limited to the geography of Quayside.
 - *Conditions under which some kind of data collection might be acceptable*, including: data is not given away for free to large firms (which can leverage its existing large data sets to derive more value from it), data collection begins only after we've debated what kinds of data collection are acceptable or socially desirable (if at all). There is a need to first think more broadly about what kind of city we want and if/how technology fits in. Some support for the idea that the digital proposals can help achieve Waterfront Toronto's objectives and serve as a catalyst for change. Would want to see neutrality for wired and wireless connectivity infrastructure, legislative oversight of digital infrastructure.
 - *A better deal for Waterfront Toronto:* we should be an equal partner in any profit / revenue generated from this project.
 - *Interested in seeing a balance between affordable housing and housing affordability.* For example, the resale fee should be capped over a period of time or capped in terms of an amount.
- 2. Concerns about the proposal.** Many of the people that responded shared concerns about ideas in the MIDP. These concerns included (but are not limited to):
 - *Governance proposals:* including concern that a foreign, big tech company could have a hand in shaping Canadian democratic structures (whether proposing new governance structures or asking for changes to existing by-laws and regulations). Specific concerns about the new governance structures included that they create a "heavy bureaucratic burden" that's top down and reliant on on-going public funding and that it is unclear how these new structures would interface with existing ones. For the proposed "Urban Data

Trust, concerns included: the term “urban data” has no legal meaning in Canada; proposed Trust is “ill-defined;” it is unclear how the proposed Trust would operate, what its structure and regulatory powers would be, what its funding sources would be, how it would relate to other regulatory bodies, and how it would be bounded by existing privacy laws.

- *Data collection*: the potential for surveillance and personal data collection by a foreign, big tech company and the potential for there to be no opportunity to opt out of data collection. Concerned that: data collected could be shared with Google / Alphabet; Toronto should not be part of a Google “research experiment”; and that data collection should only be undertaken by a democratically elected Canadian government. Another concern shared was that it is easy for de-identified data to be re-identified.
- *Concerns about the proposed partnership*: including worry that Sidewalk Labs’ proposed funding of the LRT could be used to give the company leverage in future negotiations; the proposed patent pledge does not give Canadian innovators opportunity to compete at a global scale.
- *Economic development*: including that it’s unclear how many of the proposed new jobs will be in Ontario; concern that this proposal represents a missed opportunity to leverage Canada’s own smart city innovators.
- *Other issues*: including that self-driving cars are in the distant future, creating a tall timber industry is outside of both parties’ control, the smaller units are too small, the proposal does not include a cost-benefit analysis and others.

3. **Lack of trust in Sidewalk Labs and the process to date.** Concerns about Sidewalk Labs and the process to date were common in the responses, including:

- Lack of trust in Sidewalk Labs, Google, and Alphabet (including their potential connections to state-run Intelligence communities)
- Concern that this project is a land and power grab that exceeds what was asked for in Waterfront Toronto’s RFP.
- Frustration that the MIDP is too big and too difficult to digest, containing “too many buzzwords” and not enough substance.
- Concerns that the MIDP is an “omnibus plan offering a corporation the power to define organizing principles and governance changes.”
- Precinct planning and regulations should come first, such as regulations around data collection and use, before considering this proposal.
- Other process concerns, including concerns with the RFP process that led to Sidewalk Labs’ selection, interest in understanding if Indigenous people have been engaged as part of this process, concern this project is diverting attention from other work.
- Range of opinions about Waterfront Toronto’s engagement: some glad to see Waterfront Toronto lead the consultation and attempt to make the MIDP accessible; others frustrated about the lack of time to review the MIDP for the initial consultations; concerns about the online survey being “gamed”; and, the opacity around timelines for the next round of public consultation.

Feedback from the Library Drop-In Program

Waterfront Toronto worked with the Toronto Public Library to offer a Drop-In Program at seven library branches across the city, including a number of waterfront library branches, the Toronto Reference Library, and branches in North York, Etobicoke and Scarborough. These drop-in sessions were 1.5 hours in length and attracted anywhere from 10 to 15 participants to upwards of 40 or 50.

The format of the drop-ins was informal, with a series of information boards based upon the Note to Reader and several Waterfront Toronto staff on-hand to answer questions and share information with participants. Hard copies of the Draft MIDP were also available during and outside of the drop-in sessions.

Overall, the vast majority of discussion at the drop-ins focused on answering questions raised by participants. As with all the other consultation activities, there were some participants who were very concerned about the proposal, some who were very supportive, and a number who did not share their position and/or identified conditions under which this proposal could work for Toronto. Many participants in the drop-in sessions also participated in at least one public meeting.

The feedback collected at the Library Drop-In Program (through comments on post-it notes attached to the various display boards, completed feedback forms, and discussions with staff) is included in Appendix 4. The feedback received at the libraries is generally consistent with feedback received through the public meetings, the online consultation, and the written submissions.

Next Steps

All feedback received during round one of the public consultations, including this report and all of its appendices, is a critical input to Waterfront Toronto's preparation for the next round of public consultation and to its review of the MIDP.

Since July 31, 2019, a few important updates have been provided by Waterfront Toronto and their advisors, including:

- On July 31, 2019 Waterfront Toronto and Sidewalk Labs agreed to extend the Plan Development Agreement (PDA) by six months in order to allow Waterfront Toronto more time to receive public feedback on the MIDP and to undertake an expert evaluation of it prior to making a recommendation to its Board of Directors. The [Amending Agreement](#) also includes a new termination provision should certain threshold issues [outlined](#) by Waterfront Toronto's Board Chair not be resolved. If the parties cannot reach an understanding on these issues, the PDA will terminate as of October 31, 2019; and
- On September 10, 2019 Waterfront Toronto's Digital Strategy Advisory Panel released its [Preliminary Commentary and Questions on the Draft MIDP](#).

Plans for the second round of consultations are being made for late November 2019, with confirmation of details to be provided after October 31, 2019.

For the latest information about Waterfront Toronto's work at Quayside, see www.QuaysideTO.ca.



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October 29, 2019

Mr. Josh Sirefman
Sidewalk Labs LLC
307 Lakeshore Blvd. East
Toronto, On
M5A 1C1

Dear Mr. Sirefman,

Re: Plan Development Agreement Threshold Issues

Reference is made to the Plan Development Agreement dated as of July 31, 2018 between Toronto Waterfront Revitalization Corporation (“**WT**” or “**Waterfront Toronto**”) and Sidewalk Labs LLC (“**SWL**” or “**Sidewalk Labs**”), as amended July 31, 2019 (collectively the “**PDA**”).

As you know, the PDA will terminate on October 31, 2019 if a set of threshold issues arising from your Master Innovation Development Plan (MIDP) is not resolved to the satisfaction of our Board of Directors and Sidewalk Labs. In preparation for our Board of Directors’ meeting on October 31, 2019, we are writing to confirm Sidewalk Labs’ agreement on the following resolution to the threshold issues informed by the substantial feedback received to date from public consultation and our stakeholders.

Consistent with our governance practices, we presented these MIDP amendments to our Investment, Real Estate and Quayside Committee and to our Board of Directors on October 24, 2019, in advance of the Board of Directors’ decision on October 31, 2019.

With alignment on the amendments tabled in this letter, and after a decision from our Board on October 31, 2019, Waterfront Toronto will proceed with a formal comprehensive evaluation along with further public consultation in order to obtain a final decision from our Board by March 31, 2020.

Waterfront’s evaluation and public consultation activities will finalize terms to guide the implementation agreements (should Waterfront Toronto’s Board come to final approval by March 31, 2020).

The term “MIDP” will mean the MIDP released to the public on June 24, 2019, as amended by the provisions set out below. To be clear, this in no way is intended to pre-judge or prejudice in any manner the outcome of the further evaluation and consultation relating to the MIDP. Waterfront Toronto reserves its right to request further amendments to the MIDP.

Timing for the implementation of the MIDP to any parts of the Project will be governed by the issuance and approvals of any amendments to precinct plans and Business Implementation

Plans (BIPs) with the City of Toronto, which will be subject to further public consultation and will be voted on by council.

Waterfront Toronto and Sidewalk Labs also must remain committed to working together and continuing discussions with Indigenous Peoples with respect to their involvement in the advancement of the Quayside Project.

1. Project Boundaries

The geographic scope of the project will be the area encompassing the Quayside properties as an initial stage of the project (See Schedule A) (the “Project”). Based on the performance at Quayside, WT recognizes that there could be substantial public benefits by providing for an area of future expansion of the initial phase beyond Quayside to an area such as Villiers West to further Waterfront Toronto’s objectives particularly in relation to economic development. These public benefits could include the Google Canada Headquarters, the Urban Innovation Institute and related development.

Any expansion beyond Quayside will be subject to;

- (i) demonstrating the amount of development area(s) of Villiers West properties or other lands needed to achieve the economic development and innovation priorities shared by Waterfront Toronto and Sidewalk Labs, including commercial viability
- (ii) any process required by relevant landowners (City of Toronto/CreateTO and Ports Toronto)
- (iii) future Waterfront Toronto and government approvals (including any performance conditions)
- (iv) proceeding in a manner that is supportive of the objectives of Waterfront Toronto and its stakeholders

The PDA will be amended, as required, to reflect the revised geography of the Project, including sections 11.01(a) and 6.02(a).

(a) Procurement – Villiers West Land Acquisition

- Waterfront Toronto does not own land on Villiers West. Any acquisition of these lands by Sidewalk Labs will be subject to the processes as determined by their landowners (City of Toronto/CreateTO and Ports Toronto). including as set out in Schedule B.

2. Innovation Plan

Waterfront Toronto is prepared to support and advocate for an “Innovation Plan”, as is consistent with the Waterfront Toronto mandate of pursuing innovation to realize ambitious public policy objectives and which will be applicable to the Project, as defined below. There will be no further reference made to the IDEA district.

(a) Objectives, Approvals and Governance

Waterfront Toronto and Sidewalk Labs will develop an “Innovation Plan” to advance and achieve Waterfront Toronto’s priority outcomes, namely to enable job creation and

economic development; sustainable and climate-positive development with a commitment to design excellence; housing affordability; new mobility; and urban innovation (including robust data privacy and digital governance). The Innovation Plan would apply to the Project. Waterfront Toronto and Sidewalk Labs will continue to work together in good faith to identify and agree on a priority list of innovations, together with any regulatory modifications required to implement them, as part of the MIDP to be considered by March 31, 2020. The Innovation Plan could also include innovative financing or funding mechanisms for infrastructure. The Innovation Plan will be subject to the results of Waterfront Toronto's evaluation and further public consultation and will be dynamic, and capable of adapting to new technologies, as well as technical and regulatory challenges that emerge during the development process.

- Objectives:

- The objective of the Innovation Plan is to advance the approval and implementation of core innovations. Implementation of the Innovation Plan will take place, to the extent possible, through existing and established legislative and regulatory processes.

- Regulatory Approvals:

- Waterfront Toronto understands that numerous proposals in the MIDP will require regulatory reform or modernization in order for them to be implemented. It is beyond the jurisdiction of Waterfront Toronto to grant regulatory or statutory approvals; Waterfront Toronto will help facilitate approvals, where appropriate and possible.
- Waterfront Toronto will advocate for the creation of new government task force(s) (described in more detail, below) focused on timely decision making as part of the Innovation Plan.
- Waterfront Toronto will support a due diligence period to December 2020 for Sidewalk Labs to satisfy itself as to the likelihood of achieving those regulatory approvals.

- Governance:

Waterfront Toronto will oversee the development of the Innovation Plan, consistent with its current mandate, in coordination with existing public sector entities.

Given the role of Waterfront Toronto and its government partners, there is no need to establish a new entity such as the Public Administrator, as originally contemplated in the MIDP. Instead, Waterfront Toronto will advocate for the creation of government task force(s) to support implementation of the Innovation Plan. The task force(s) and the basis on which they will operate will be determined by March 31, 2020. Such task forces shall, among other things:

- Establish appropriate governance of the Innovation Plan to be in operation, including management strategies required to realize the Innovation Plan, and

- Throughout the course of the project, manage and facilitate approvals required to implement the Innovation Plan.

3. Implementation – Roles and Responsibilities

Waterfront Toronto and Sidewalk Labs will work together to achieve new standards for architecture and the public realm. Waterfront Toronto's Design Review Panel and Digital Strategy Advisory Panel will continue to provide peer review and advice to Waterfront Toronto on design and digital proposals.

As the Innovation and Funding Partner, Sidewalk Labs will provide Waterfront Toronto with recommendations on the standards and guidelines for possible inclusion in the Waterfront Toronto Resilience and Innovation Framework.

Through the process of advancing the Innovation Plan and developing Quayside, Sidewalk Labs will also develop innovation and design standards and guidelines reflective of the Innovation Plan, taking into account Waterfront Toronto's Minimum Green Building Requirements and Intelligent Community Guidelines. Waterfront Toronto may choose to apply the standards and guidelines to other projects in order to advance the Innovation Plan.

(a) Municipal Infrastructure – Roles and Responsibilities

Waterfront Toronto will lead planning, design and delivery of municipal infrastructure, such as parks, waterfront promenades, streets and sidewalks, water and sewer, subject to further discussion on an enhanced role for Sidewalk Labs where significant innovations will be employed. Waterfront Toronto will engage Sidewalk Labs in a collaborative effort to integrate municipal and advanced infrastructure innovations, where appropriate.

Waterfront Toronto will be responsible for funding of all municipal infrastructure, up to typical unit costs.

To the extent Sidewalk Labs proposes to move forward with municipal infrastructure that exceeds current Waterfront Toronto standards, if approved by Waterfront Toronto, Sidewalk Labs will arrange for funding of any additional costs for such municipal infrastructure that exceed current Waterfront Toronto standards.

(b) Advanced Infrastructure – Roles and Responsibilities

Sidewalk Labs will lead implementation of advanced infrastructure systems in accordance with the Innovation Plan, subject to Waterfront Toronto's review and approval. "Advanced infrastructure" includes the thermal grid, pneumatic waste systems, and other non-traditional systems as proposed in the MIDP.

To the extent Sidewalk Labs proposes to move forward with advanced infrastructure, with Waterfront Toronto's approval, Waterfront Toronto will not be held responsible for delivery or operation of such advanced infrastructure.

Appropriate financial security, acceptable to both parties, will be required from Sidewalk Labs to backstop and address the risk associated with any unproven advanced infrastructure systems within the public right-of-way.

4. Waterfront LRT

While Waterfront Toronto does not have jurisdiction over the approval of capital funding for public transit, Waterfront Toronto will continue to support and advocate for a higher-order transit solution, which sufficiently services the Project, without accepting any liability in respect thereof.

Sidewalk Labs must satisfy itself by December 2020 on the adequacy of the funding commitments and arrangements for higher-order transit concurrent with the execution of the implementation agreements.

5. Procurement - Quayside Vertical Development Partner Selection Process

Waterfront Toronto and Sidewalk Labs agree that Sidewalk Labs will partner with one or more real estate developers to carry out the vertical development of Quayside. Waterfront Toronto, with Sidewalk Labs' support, will lead a competitive public procurement process for vertical development team(s) to partner with Sidewalk Labs.

- Sidewalk Labs would play an integral role in an RFP for a vertical development partner(s). Specifically, it would contribute to the development of a scope of work, specifications, evaluation criteria and sit on an Evaluation Committee for the selection of a vertical development partner(s).
- Sidewalk Labs would then negotiate and enter into a partnership with the preferred partner(s) based on reasonable terms, within the provisions of a project agreement, and subject to anti-windfall provisions.
- Sidewalk Labs and the preferred partner(s) will enter into a development agreement with Waterfront Toronto.

There may be staged releases of development parcels, and evolution of requirements as development partner(s) suggest within the Quayside lands. Any requirement for staged releases, if based on performance, would have to be commercially reasonable.

There will be a requirement for appropriate financial security from Sidewalk Labs and/or the development partner(s) (including guarantees from affiliates) acceptable to both parties to ensure delivery of various aspects of the proposed development.

6. Methodology for Pricing Lands

(a) Quayside:

Waterfront Toronto's traditional approach to land valuation begins with fair market value at the time of sale or lease (current appraised value, including Waterfront Toronto and City-owned land, is approximately \$590M for as-of-right zoning), subject to the investments as noted in Section 10 of this document.

7. Digital Governance and Privacy

The parties acknowledge that Waterfront Toronto will lead all privacy and digital governance matters related to the Project. The parties are committed to ethically responsible innovation that reflects public values and preserves or enhances the public good. The parties are committed to

Waterfront Toronto's Digital Principles (found on Waterfront Toronto's website – www.waterfronttoronto.ca), which have been developed through consultation with industry, academia, government stakeholders, and the broader community.

Sidewalk Labs has agreed that there will be further documented, facilitated consultation with community stakeholders, with an emphasis on ensuring engagement with groups most impacted by a particular technology, during the development process. Digital proposals may be required to go through a public meeting process and approval by governments.

a) Interactions with Government:

Waterfront Toronto will act as the lead on discussions with the City of Toronto, Province of Ontario, Government of Canada and the relevant Privacy Commissioners ("Applicable Government Authorities") on any data governance and privacy discussions directly relating to the Project. Recognizing the governance structure of Waterfront Toronto and its overall responsibility for the Project, Sidewalk Labs agrees that it will not, without Waterfront Toronto's prior consent, which may be conditioned on Waterfront Toronto's participation: (a) initiate discussions with Applicable Government Authorities focused on data governance and privacy issues directly relating to the Project or (b) use the Project as an example, case study, or basis for lobbying in communications with Applicable Government Authorities with respect to legislative or regulatory changes with respect to data governance and privacy directly affecting the Project.

This commitment does not preclude Sidewalk Labs from responding to routine industry consultation requests from Applicable Government Authorities, provided that Sidewalk Labs does not directly or indirectly argue for or promote legislative or regulatory change in the area of data governance and privacy as it relates to the Project, unless Sidewalk Labs is specifically requested by Applicable Government Authorities to offer Sidewalk Labs' view. In addition, this commitment does not preclude Sidewalk Labs from discussing data governance and privacy issues related to the Project in response to Applicable Government Authorities during briefings or other discussions with those Applicable Government Authorities.

b) Methodology:

- Sidewalk Labs reaffirms its commitment to comply with all existing and future privacy legislation, regulations and policy frameworks (e.g., Canada's Digital Charter and Ontario Digital Principles). This includes an understanding that data governance, in particular, personal information, varies for public and private activities and actors.
- Data governance will be determined by the municipal, provincial and federal laws applicable to access and protection of data in the Project. These laws apply to Sidewalk Labs as they do to any private sector organization, either under the federal Personal Information Protection and Electronic Documents Act (PIPEDA) in the course of Sidewalk Labs' commercial activities, or under the public sector privacy laws applicable to government where Sidewalk Labs would act on behalf of government under contract.
- Sidewalk Labs has agreed to respect Waterfront Toronto's Digital Principles and comply with emerging Intelligent Community Guidelines, to be developed with input from government stakeholders, industry and the broader community. These will be similar to

Waterfront Toronto's existing Minimum Green Building Standards (being an increase from the baseline requirements for sustainability). These Intelligent Community Guidelines will be similarly enforced through contract.

- With respect to the operations of digitally enabled solutions in Quayside, Sidewalk Labs agrees (i) that personal information will be stored and processed in Canada; and (ii) to use commercially reasonable efforts to store and process non-personal data in Canada. Should exceptions be required, they will be determined on a case-by-case basis through a review process.
- Sidewalk Labs will not condition implementation agreements on the requirement for new or amended privacy laws or other new laws or regulations in order to achieve a digital governance structure. This includes removing the expectation for the creation of the proposed "Urban Data Trust".
- Waterfront Toronto and Sidewalk Labs share a commitment to the pursuit of innovative models for responsible data use and trusted data-sharing. Sidewalk Labs is committed to contributing data, technological expertise and resources to this effort, and to leveraging the strengths of existing models where applicable.
- Sidewalk Labs will not use "Urban Data" as a term, and instead will rely upon existing terminology and Canadian legal constructs for this Project.
- Sidewalk Labs will issue a Digital Innovation Appendix ("DIA") that will supplement Volume 2, Chapter 5 of the MIDP ("Digital Innovation") by November 7, 2019. The DIA will form the core content that is to be formally evaluated by Waterfront Toronto regarding these matters.
- Sidewalk Labs agrees to work with Waterfront Toronto and its government stakeholders in good faith to ensure each digitally enabled solution will not impede (and where feasible, will foster) accessibility in Quayside, freedom of association, freedom of expression, equitable treatment of marginalized groups, public engagement and participation and other fundamental rights and freedoms, as applicable.

8. Ecosystem Development

(a) Urban Innovation Institute

Recognizing the importance of early actions to engage academia and the innovation ecosystem in the development of the Urban Innovation Institute, Waterfront Toronto and Sidewalk Labs will develop a business plan for distributing, upon entering into implementation agreements, \$10 million in seed capital, per the MIDP. The resulting business plan will not create a financial burden for governments or the broader public sector, nor will it preclude government investment or future investment by Sidewalk Labs.

(b) Venture Capital Fund

- To foster the urban innovation ecosystem in Canada, Sidewalk Labs is committed to ensuring that (i) the initial venture capital fund shall raise at least 50% of its funds from

Canadian investors; (ii) that there is substantive Canadian representation on its board; and (iii) that Waterfront Toronto will be provided visibility into the investment program.

- Sidewalk Labs will work with a local partner to manage the fund, with the two parties acting jointly to secure additional fund participation from third parties for inclusion alongside Sidewalk Labs' \$10 million committed in the MIDP for a new venture capital fund, which Sidewalk Labs would fund upon entering into implementation agreements. The fund will be consistent with venture capital fund structuring in the Canadian market. Recognizing the importance of early actions to support the local innovation and investment ecosystem, Waterfront Toronto and Sidewalk Labs will continue to collaborate on a business plan for standing up the fund.
- Consistent with standard fund strategies, assuming a successful deployment of the initial fund, Sidewalk Labs anticipates raising additional funds that can further support the scale of the Canadian urban tech ecosystem as it matures.

9. Intellectual Property/Data Ownership

Waterfront Toronto and Sidewalk Labs are committed to working in good faith to design an intellectual property framework that not only recognizes the value of Waterfront Toronto's contribution to catalyzing innovation but also creates a foundation for Canadian-based companies to innovate in Canada and compete on a global scale. This includes but is not limited to:

- A revenue stream on products and services piloted in Waterfront Toronto-facilitated testbed area, based on global net revenues, where net revenue will mean all consideration received by Sidewalk Labs less agreed upon deductions. This net revenue will be for a defined period of time to be determined.
- Sidewalk Labs agrees to work with Waterfront Toronto in good faith to resolve issues relating to the role and obligations of Sidewalk Labs' affiliates that Sidewalk Labs has working in a Waterfront Toronto-facilitated testbed area on their associated products and services, including without limitation, in relation to revenue share arrangements and remedies in the event of default.
- An expanded patent pledge that allows innovators to leverage Sidewalk Labs' hardware and software digital innovation patents. The patent pledge will provide Canadian innovators operating globally with the right to use all Sidewalk Labs' Canadian and foreign patents covering hardware and software digital innovations.
- Whether or not there is approval or implementation of the MIDP, Sidewalk Labs will provide Waterfront Toronto with an irrevocable, perpetual license to use the Site-Specific IP.
- A mechanism that will provide appropriate recognition for Waterfront Toronto's contributions to co-created IP.
- A reporting and audit structure which is transparent and manageable.

Waterfront Toronto will work with Sidewalk Labs and other innovators to provide meaningful support and enable the testing, piloting, and development of products and services that serve the Innovation Plan.

The parties acknowledge that there remain outstanding issues regarding Intellectual Property that will require substantial efforts to resolve. The parties also recognize that data ownership is an issue that will be resolved through implementation agreements and that prevailing ownership and partnership models will serve as baseline expectations for the City of Toronto, Province of Ontario, and Government of Canada.

10. Waterfront Toronto Investments

As is typical in other Waterfront Toronto projects, Waterfront Toronto will make investments in its public policy objectives, specifically addressing additional affordable housing, sustainability, and other innovations that achieve Waterfront Toronto's project objectives. Waterfront Toronto will continue to work with all three levels of government and other sources to secure additional funds in support of the priority outcomes and Innovation Plan. To the extent the value of the Quayside lands exceeds at the time of sale the Fair Market Value as at the time of this letter (\$590M) a proportional share of such excess may be used by WT as a source of funds for such priority outcomes and innovations.

It is recognized that in moving forward, the parties must satisfy themselves that the economics of the development and Waterfront Toronto's objectives can be met on Quayside and as a result, the mechanism and timing for the investments will be agreed upon between Waterfront Toronto and Sidewalk Labs by March 31, 2020, subject to the outcome of Waterfront Toronto's evaluation and public engagement process.

(a) Affordable Housing

Waterfront Toronto will work with Sidewalk Labs and all relevant government parties to identify, by December 2020, an affordable housing program and funding sources that achieve Waterfront Toronto's objectives, including achieving affordable housing in perpetuity.

In addition, Waterfront Toronto will work with Sidewalk Labs to explore additional funding opportunities to provide deeper affordability levels and/or an increased number of units.

- All affordable housing will meet or exceed the City of Toronto's Affordable Housing Guidelines in effect at the time of construction, subject to any adjustment agreed to by the City of Toronto.
- All Affordable Rental Housing as defined in the Central Waterfront Secondary Plan will be owned by a public body or a non-profit organization.

(b) Sustainability and Other Innovations

Waterfront Toronto and Sidewalk Labs will continue to discuss the remaining investments to be made to meet Waterfront Toronto's policy objectives as described above.

I look forward to receipt of confirmation of Sidewalk Approval to this letter, so that Waterfront Toronto can move forward to seek the approval of our Board.

Yours truly,



George Zegarac
President and CEO
Waterfront Toronto

SCHEDULE A



SCHEDULE B



Tracey Cook
Deputy City Manager

Chris Murray, City Manager

**Infrastructure & Development
Services**
City Hall
100 Queen Street West
East Tower, 4th Floor
Toronto, Ontario M5H 2N2

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Fax: 416-392-4540
tracey.cook@toronto.ca

October 21, 2019

Mr. George Zegarac, CEO
Waterfront Toronto
1310 - 20 Bay Street
Toronto ON
M5J 2N8

Dear Mr. ~~Zegarac~~ *George*:

We are writing in response to your letter dated October 18, 2019 to the City Manager, Chris Murray, requesting clarification on the procurement process that would be applicable to land owned by the City of Toronto in Villiers Island, related to the Sidewalk Labs Master Innovation and Development Plan (MIDP) of June 2019.

Consistent with past practice, staff are of the view that City and CreateTO land must be disposed of through an open and competitive procurement process. Such an approach is required to ensure transparency and fairness to proponents, and the optimization of city-building value for citizens and taxpayers. Accordingly, any disposition of land in Villiers Island would require an open and competitive procurement process.

As per direction from the City's Executive Committee on June 6, 2019, City staff is expected to undertake a comprehensive evaluation of the Sidewalk Labs MIDP and related Board decision, in consultation with relevant City Divisions and Agencies, and report back to the Executive Committee by the end of the second quarter of 2020. Please note that the timing of this report may change in response to the revised schedule of Waterfront Toronto and Sidewalk Labs, which now contemplates a Waterfront Toronto Board decision in March 2020. The resulting staff report will be informed by a rigorous City-led public consultation process to occur in Q2 2020.

The aforementioned staff report will lead to a City Council position on the 12-acre Quayside site. Should Waterfront Toronto and Sidewalk Labs choose to advance proposals for land owned by the City of Toronto in Villiers Island, it is anticipated that direction would also be sought from City Council to commence two separate but related reviews:

1. Additional detailed planning work associated with the Villiers Island Precinct Plan and Port Lands Planning Framework, both adopted by City Council on December



- 5, 2017, required to address the concentration of commercial development outlined in the proposal which is inconsistent with Council-approved plans; and
2. A Business and Implementation Plan (BIP) for Villiers Island, that would address infrastructure requirements, costs, phasing and financing, as well as roles and responsibilities for the build-out of the precinct.

The work described above would commence immediately following the applicable Council direction. This is expected to take approximately 12 months and would include extensive public consultation. Once completed, based on the above preliminary timeline, staff would report details of the additional detailed planning review and Business and Implementation Plan to City Council in Q2/Q3 of 2021. Following this, if directed, there would commence an open and competitive process with regard to the various development parcels in Villiers Island.

Toronto is a thriving and growing city that is welcoming to the innovation economy. If the likely timeframe for a procurement process to be launched for Villiers Island seems lengthy, it is important to keep in mind that this land is expected to have very significant financial and symbolic value because of its highly visible location on the western waters' edge of Toronto's Port Lands, with commanding views of Toronto's spectacular skyline. The City of Toronto holds this land for its residents. Residents expect our City officials to act in their best interest, ensuring that decisions around the use of land in Villiers Island are undertaken carefully and critically, and in a manner that ensures and maintains the public trust.

The City of Toronto is excited about the opportunities that could be unlocked through the Quayside proposal. The City continues to be interested in working with Waterfront Toronto and Sidewalk Labs to identify possible opportunities where the entire vision of a Google Canada headquarters, "Urban Innovation Institute" and related development could be realized in a shorter timeframe.

We look forward to discussing this matter further with you, and to working closely with you on this project.

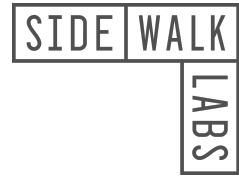
Yours truly,



Tracey Cook
Deputy City Manager,
Infrastructure and Development Services
City of Toronto



Brian Johnston
Chief Executive Officer
CreateTO



October 30, 2019

Mr. George Zegarac
Waterfront Toronto
20 Bay Street, Suite 1310
Toronto, ON M5J 2N8

Dear Mr. Zegarac,

Thank you for your letter dated October 29th regarding alignment on threshold issues. Sidewalk Labs is in alignment with Waterfront Toronto that this content should be utilized to inform Waterfront Toronto's consultation and evaluation process. Sidewalk Labs has also obtained all approvals required to give "Sidewalk Approval" for these threshold issues as the basis for our continued work together, pursuant to section 9.01(a)(v)(i) of the amended Plan Development Agreement.

We note, however, that the City of Toronto's letter of October 21st to Waterfront Toronto (Schedule B) proposes a significantly different timing for the evaluation and potential disposition process of the land within Villiers West than had previously been assumed would be possible. That timing change has an impact on the innovation agenda and economic underpinnings of our proposal. We therefore note the importance, as stated in the Threshold Issues document, of agreeing on the economics and innovation program to achieve Waterfront Toronto's objectives at Quayside.

We look forward to continuing our collaboration as we work toward defining a successful, highly innovative project on Toronto's waterfront.

Sincerely,

A handwritten signature in black ink, appearing to read "Joshua J. Sirefman".

Joshua J. Sirefman
President
Sidewalk Labs



October 31, 2019

OPEN LETTER FROM WATERFRONT TORONTO BOARD CHAIR

When Waterfront Toronto released the Master Innovation and Development Plan (MIDP) to the public this past June, I wrote an [open letter](#) outlining the Board's early impressions of Sidewalk Labs' proposal. The letter acknowledged that there were some exciting ideas that respond to challenges we face, particularly related to environmental sustainability and economic development. The letter also clearly outlined several areas of concern Waterfront Toronto would need to see resolved before proceeding to an evaluation of the proposal.

We are pleased to report that we have reached alignment on the critical issues raised in my letter, as well as other issues and concerns raised by the public during consultations this summer.

Based on the progress made to date, the Board of Waterfront Toronto has decided unanimously to direct management to proceed with the formal evaluation of the MIDP and further public consultation.

Let me be clear: this is not a done deal. There is still much work to do before a final decision. While a final Board decision whether or not to proceed has yet to be made, we are pleased that we are now able to move to the evaluation stage on a project that has the potential to create new jobs and economic development opportunities, a create carbon-neutral neighbourhood, and more affordable housing units.

Waterfront Toronto's initial concerns were rooted in our public interest mandate, including our responsibility to protect, innovate, and revitalize Toronto's waterfront. Sidewalk Labs listened to our concerns, and those of the public, and has confirmed that it will make significant changes to its proposal, including:

- The amount of land in the proposal has been reduced, from 190 acres (IDEA district) to the 12 acres of Quayside as an initial stage of the project. If Quayside proves successful, the approval of any additional public lands outside of Quayside in will be subject to competitive procurement processes.
- Sidewalk Labs agreed that all personal information will be stored in Canada, and it has eliminated the Urban Data Trust proposal, as well as the term "urban data." It will comply with all existing and future legislative and regulatory frameworks.
- Proposals for new public administrators. Any future innovations in Quayside will remain subject to the regulation, evaluation, and approval of existing governing bodies.
- For vertical development, Sidewalk Labs has confirmed that it will partner with one or more real estate developers, rather than act as "lead developer" as originally proposed. As is customary, Waterfront Toronto would lead a competitive public procurement process.

In addition, Waterfront Toronto and Sidewalk Labs have had productive discussions on other aspects of the MIDP:

- Waterfront Toronto will receive fair market value for the Quayside lands at the time of sale. The current appraisal is approximately \$590 million. Waterfront Toronto will make investments to support project priorities such as affordable housing and climate change.
- Sidewalk Labs has acknowledged that Waterfront Toronto does not have jurisdiction over the approval of capital funding for public transit. That said, Waterfront Toronto has always supported and advocated for waterfront transit and will continue to do so. Sidewalk Labs will review the status of public transit commitments and will make its decision to proceed prior to the completion of implementation agreements.
- Sidewalk Labs will expand its patent pledge from Canadian-only to global, allowing Canadian innovators to have the right to use Sidewalk Labs' Canadian and foreign patents covering hardware and software digital innovations.
- Waterfront Toronto will be entitled to a revenue share on intellectual property based on percentage of revenues, rather than profits.

The details of the realignment agreed to are [here](#) and a summary of the threshold issues is [here](#).

Later this fall, Waterfront Toronto will meet with the public on the resolution of these key issues, provide clarity on what is being evaluated, and discuss the decision-making process going forward.

The public have my assurance that there will be more opportunities to have its say and inform the evaluation and any subsequent decisions by Waterfront Toronto and its Board. Early in 2020 there will be another round of public consultation to share and seek feedback on the status of the evaluation.

A decision about whether to move forward with the MIDP will be made by March 31, 2020 by Waterfront Toronto's Board.

On behalf of the Board and staff of Waterfront Toronto, I thank the public for showing up, for participating in consultations and for sharing important feedback. I want you to know that you have made a real difference. The discussion on Quayside has demonstrated that the people of Toronto are passionate, engaged, and determined to see the waterfront remains a thriving place for everyone to enjoy.

Sincerely,



Stephen Diamond
Chair, Waterfront Toronto Board of Directors



Information and Privacy
Commissioner of Ontario

Commissaire à l'information et à la
protection de la vie privée de l'Ontario

VIA ELECTRONIC MAIL

September 24, 2019

Stephen Diamond
Chairman of the Board of Directors
Waterfront Toronto

Dear Mr. Diamond:

Re: Sidewalk Labs' Proposal

I am writing to comment on the privacy and access to information issues that arise in Sidewalk Labs' draft Master Innovation and Development Plan (MIDP) for the Quayside project. The purpose of this letter is to help guide Waterfront Toronto's consideration of the MIDP's digital governance proposals. Note that a number of our recommendations are directed to the government of Ontario and directly implicate the interests of the City of Toronto. For that reason, I have copied the provincial government and the City. As there is limited detail on the proposed digital innovations, our comments will focus on the digital governance proposals.

As discussed in greater detail below, I have the following key concerns about the proposals in the MIDP:

- The City must have a clearer role in the project and a voice in identifying what is in the public interest. Cities are at the core of smart city innovations such as transit optimization, or enhancement of public spaces, and they have experience in the delivery of municipal services.
- When a city or other public sector organization contracts with a private sector organization to carry out municipal services, it is essential that any related collection, use or disclosure of personal information complies with MFIPPA.
- The provincial government must modernize our laws to ensure that privacy protective, transparent, accountable and ethical data practices are at the forefront of all smart city projects.
- The proposed Urban Data Trust is problematic for a number of reasons, including: a concerning overlap with the mandate of the Trust and that of existing privacy regulators; a lack of independent oversight of the Trust's decisions; and an expectation that public sector organizations seek approval from the Trust.



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- If new public sector organizations are created as a result of Sidewalk Labs’ proposals, the provincial government must ensure that Ontario’s public sector privacy and access legislation applies to those bodies.

Our office oversees Ontario’s *Freedom of Information and Protection of Privacy Act* and the *Municipal Freedom of Information and Protection of Privacy Act* which apply to provincial and municipal institutions respectively (also referred to as “organizations”). FIPPA and MFIPPA establish the rules for collection, use and disclosure of personal information and provide a right of access to information held by public institutions. These laws help ensure that governments are open, accountable and transparent – central features of any democratic government. The privacy protections recognize the fundamental right of individuals to have control over their own personal information. An important part of my office’s role is to comment on proposed government programs and to work with provincial and municipal government institutions to ensure compliance with the laws.

My office has been closely following the Quayside consultations carried out by Waterfront Toronto. I was pleased to see that Waterfront Toronto set up an advisory panel with participation from some of the leading privacy voices to provide independent guidance on these challenging issues. Earlier in the year, we also met with Sidewalk Labs and Waterfront Toronto and provided some preliminary comments on the possible application of MFIPPA to the collection, use and disclosure of personal information in some of the scenarios described in the MIDP. We have also had discussions with the City and provincial government staff about the project where we expressed our commitment to support a thorough review of the privacy implications of the proposals in the MIDP.

I believe that some smart city technologies and the data they generate have the potential to help cities better manage urban environments and deliver services in a more effective and efficient way. Privacy does not have to be a barrier to these technologies. However, the increasing reliance on data – in some cases personal information – requires more robust protections.

OVERVIEW OF PRIVACY LAWS IN THE MUNICIPAL CONTEXT

Before commenting on the digital governance proposal, it is important to consider how municipal institutions are currently expected to protect privacy when collecting personal information.

Under MFIPPA, municipalities are only permitted to collect personal information if it is:

- expressly authorized by statute,
- used for law enforcement, or
- necessary to the proper administration of a lawfully authorized activity.

In many cases, municipalities rely on the last condition – that is, they collect personal information because it is necessary to do so to deliver a service. This is an important principle as it builds in data minimization requirements, a foundation of privacy laws worldwide. MFIPPA also limits how

municipalities may use and disclose personal information, and includes requirements for retention, storage and destruction.

Government organizations are increasingly working with the private sector to help them deliver effective and cost efficient public services. This is reflected in many smart city initiatives where public-private partnerships are formed to deliver services. In Ontario, the *Personal Information Protection and Electronic Documents Act* – a federal law overseen by the Privacy Commissioner of Canada – applies to the private sector when engaged in commercial activity.

The complex nature of smart city partnerships can make it challenging to determine the applicable privacy laws. Depending on the circumstances of the public-private partnership, it is possible that the collection, use or disclosure of personal information would be governed by MFIPPA, PIPEDA, or both. In our view, municipalities should be leading smart city initiatives involving the collection of data within public spaces, to solve urban challenges and improve the delivery of municipal services. When municipalities contract with private sector organizations to carry out activities that involve the collection, use or disclosure of personal information, compliance with MFIPPA is of the utmost importance. Unlike PIPEDA, MFIPPA does not allow the collection of personal information on the basis of consent. This has been an ongoing point of confusion in the Quayside discussion.

COMMENTS ON THE MIDP PROPOSAL

Proposal to create new organizations

Sidewalk Labs proposes the establishment of a number of organizations, including:

- Public Administrator – a public entity serving as revitalization lead in the project area.
- Waterfront Transportation Management Association (WTMA) – a unit of the Public Administrator that would oversee the mobility infrastructure and systems, such as the streets, sidewalks and transportation services within the project area.

Sidewalk Labs envisions the role of the Public Administrator to include overseeing the innovation, real estate, infrastructure and technology in the geographic area covered by the MIDP. Notably, Sidewalk Labs proposes that the Public Administrator would work closely with the City and others to lead planning efforts, and supplement the City's existing public approval process.

If any new public sector organizations are created as a result of Sidewalk Labs' proposals, the provincial government must ensure that Ontario's public sector privacy and access legislation applies to those bodies. It appears that the new organizations described above may deliver some key services that are within the legislative mandate of the City (as set out in the *City of Toronto Act, 2006*), and the TTC. If carried out in the more traditional manner by these institutions, these activities would clearly be governed by MFIPPA. However, the new public sector organizations would not necessarily fall under Ontario's public sector privacy and access legislation, unless they are designated as institutions. Clear statutory rights of access and privacy are key components to

democratic and accountable government.

Digital governance proposals

Sidewalk Labs' main digital governance proposals are:

- Urban Data – includes personal, non-personal, aggregate or de-identified data collected in a physical space in the City, where it is difficult to get meaningful consent prior to collection and use. Sidewalk Labs has proposed new rules and processes for the collection and use of Urban Data, intended to supplement existing rules set out in Ontario's public sector privacy laws and PIPEDA.
- Transactional Data – information that individuals provide through direct interaction with commercial or government-operated services, such as apps, websites, and product or service delivery. In contrast to Urban Data, Sidewalk Labs has not proposed any new rules or processes for the collection or use of Transactional Data; it is excluded from the Trust's oversight.
- Urban Data Trust (the Trust) – a data steward that oversees both public and private sector organizations collecting and using Urban Data in the project area. The Trust would have the authority to approve or reject any proposed collection or use of Urban Data.
- Responsible Data Use Assessment (RDUA) – organizations would be required to submit an RDUA to the Trust that evaluates the purpose of the proposal, the type of data it would collect, its potential impact on the community, and its risks and benefits.

Sidewalk Labs proposes a two-staged implementation of the Trust:

- Phase 1 – establish a non-profit organization overseen by a five-member board comprised of a data governance, privacy, or intellectual property expert; a community representative; a public-sector representative; an academic representative; and a Canadian business representative.
- Phase 2 – the Trust becomes a public-sector agency or quasi-public agency requiring enabling legislation.

Sidewalk Labs acknowledges that the Trust is just one digital governance model. I echo that statement. While there is value in open engagement with a diverse range of parties, ultimately the provincial and municipal governments, led by democratically elected officials, are best-placed to define the digital governance framework for this project and all other smart city initiatives in the province. We encourage the relevant governments to consult with our office to design an appropriate framework to ensure that privacy, accountability and ethical practices are at the forefront of these types of complex personal information practices.

With that in mind, the following comments should not be interpreted as implicit support of the digital governance proposals outlined in the MIDP. At this time, I remain unconvinced that the

proposal to create an Urban Data Trust as outlined in the MIDP is the most effective way to protect privacy rights. However, I am providing feedback on the digital governance proposals so they can be improved upon in the event that they are approved.

i. Urban and Transactional Data

Urban Data reflects a marked departure from the scope of current federal and provincial privacy legislation, which applies to *personal information*. If Waterfront Toronto supports the creation of a digital governance model that is based on Urban Data, it will be important not to lose sight of the need to comply with existing access and privacy laws that apply to *personal information* collected, used and disclosed by public and private sector organizations.

If pursued, there is also a need for clarity regarding the scope of Urban Data versus Transactional Data. In my view, it is difficult to determine whether some of the data activities described in the MIDP would be considered Urban Data, and therefore subject to the oversight of the Trust, or Transactional Data, which is not.

It is important to consider whether Urban Data and Transactional Data are meaningful distinctions – both types of data raise privacy concerns. For instance, consider a mobility app proposed in the MIDP that provides information about public and private sector transit options and allows users to pay using the same app. If the data collected via this app were to be classified as Transactional Data (which seems likely given that Transactional Data includes information individuals provide for service delivery through a direct interaction, such as apps) it would be considered outside of the scope of the Trust’s review. This is concerning given that such an app, while beneficial for users, could enable a complete portrait of a user’s movements in the area.

If one of the key purposes of the Trust is to add an extra layer of protection where there are increased privacy risks, such as surveillance, the omission of Transactional Data from the Trust’s mandate is troubling. The privacy risks associated with Transactional Data are further amplified in the event that one organization, such as Sidewalk Labs, is engaged to support the delivery of multiple services in Quayside (such as offering mobile apps or delivering freight management and storage as suggested in the MIDP). If Sidewalk Labs (or another organization) provides multiple services, it could amass a great deal of information on individuals that could be linked to create detailed profiles of individuals’ lives. Where an organization is providing multiple services to an individual who lives and/or works in Quayside (such as transit, mail delivery and hydro), consent may not offer strong privacy protection, as the individual may not have a viable alternative for those services.

For the reasons described above, it is important to consider whether both Urban Data and Transactional Data are deserving of an extra layer of review and protection, whether it be through a Trust or other legislative protections. I am pleased that Sidewalk Labs has committed to applying the Responsible Data Use Guidelines to any of its own commercially launched products and services that involve Transactional Data. I see this as an important role for Sidewalk Labs – that is, if they want to see a more robust framework in place for transparent, privacy-enhancing and ethical information practices, they should lead by example.

ii. The Urban Data Trust

One of the purposes of the Trust is to provide enhanced privacy and ethical protections that surpass the current privacy laws. Sidewalk Labs states that it wants the Trust to build a robust process that stakeholders can trust, can help advance the priority outcomes for the project, provides additional protections for individual privacy and groups, and makes publicly accessible the data that could reasonably be considered a public asset.

Sidewalk Labs' Trust proposal establishes a common approach for information handling and encourages best practices that go beyond the current legislative requirements. I believe that this is a laudable objective. For instance, the establishment of guiding principles around responsible artificial intelligence, or de-identification by default would enhance privacy protection for individuals whose information is collected, used and disclosed in a smart city initiative. While guidelines and best practices can be useful tools, in my view they are not adequate to ensure that these goals are met. The government needs to put in place a legislative framework to ensure that the highest protections are upheld and enforceable by an independent oversight agency. Below are further comments on the proposed Trust.

Overlap with existing privacy and access regulators

There is a distinct overlap between the roles of the Trust and the roles of my office and the federal Privacy Commissioner. For instance, it is possible that the Trust could approve a project, the parties would reasonably assume the project is legally sound, and my office could later find that the project violated MFIPPA. In other areas, such as auditing and enforcement, the Trust's authority may even reach beyond that of my office. This problem of overlapping jurisdictions and oversight is further complicated in public-private partnerships where it may be unclear whether public or private sector privacy laws apply. As I expand on below, the notion of a non-profit Trust having the ability to govern the information practices of public institutions that are already governed by privacy legislation and other statutes is problematic.

Composition of the board

As previously noted, Sidewalk Labs has suggested that the composition of the board could include a data governance, privacy, or intellectual property expert; a community representative; a public-sector representative; an academic representative; and a Canadian business representative. As well, they have recommended best practices to ensure the independence of the board. The representation of a diverse range of experience and interests is very important to the extent that the board will make decisions about all information practices in the scope of this project. While I understand why a sectoral approach was proposed, it may be beneficial to instead focus on the areas of expertise required to make such decisions; for example, ethics, risks to marginalized populations, data science and effective de-identification. Also, measures will need to be put in place to ensure that the board is independent, including defining processes for the selection of board members.

Limited oversight and redress

As described above, Sidewalk Labs proposes that the Trust be established as a non-profit with a chief data officer tasked with setting the guidelines and governance for digital practices in Quayside. If the Trust is established as proposed, our office would continue to have oversight over privacy and access laws applicable to Ontario's public institutions operating in the project area. However, under the MIDP proposal, in phase one there would be no independent oversight of the decisions made by the Trust. Nor would it be subject to Ontario's access and privacy laws. It appears that the only remedy for parties subject to the Trust would be to seek redress before the courts – a costly and time consuming process. It is also not clear that the public, particularly individuals affected by the Trust's decision to approve or disallow projects, would have any recourse during phase one, given that they would not be a party to the contractual agreements between the Trust and the organizations seeking approval of their collection practices.

For the above reasons, I do not recommend that Waterfront Toronto approve a two-phase approach to implementation of the Trust. Absent a legislative framework to protect privacy and access rights, ensure best practices and provide independent oversight, the Trust model is not adequate. Instead, I recommend that the provincial government conduct an open review of the Trust model and determine whether it or some other legislative scheme should be enacted to govern privacy in all smart city projects. If the government decides to pursue this Trust model, it must be supported by a clear regulatory framework that sets out the Trust's authority, mandate, criteria for evaluating the full lifecycle of data (not just collection and use), as well as a mechanism for independent oversight. Ontario has a number of good examples of entities that are entrusted with the management of large amounts of personal information, such as the prescribed entities model under Ontario's health privacy law.

Public interest must be clearly defined

Sidewalk Labs proposes that the mandate of the Trust include balancing the public interest and the need for innovation. There are many interests that will need to be considered in such an evaluation, such as privacy, human rights, security, intellectual property, potential benefits to future society, data monopolies and many others. It is not clear how the Trust would balance these diverse interests unless the public interest is clearly defined. The government should ensure that public interest objectives are defined in legislation.

Clearer role for the City

It is unclear from our review what role the City will play in the implementation of the proposal as a whole. This is unfortunate, as the City is at the core of smart city innovations such as transit optimization, or enhancement of public spaces, and it has obvious experience in the delivery of municipal services. The City also has broad legislative authority to pass bylaws regulating the economic, social and environmental well-being of the City, as well as the health, safety and well-being of persons within the City. As a democratically elected government, the City must have a clearer role in the project and ultimately a voice in identifying what is in the public interest. If the provincial government pursues the Trust model proposed, there must an integral role for cities clearly articulated in the legislative framework.

Public sector reporting to the Trust

As noted above, I also find it problematic that, as proposed, the City and other public sector organizations would be expected to apply to the Trust in order to collect or use any Urban Data in the geographical area of the project. The City has statutory authority to carry out various activities that will require the collection, use and disclosure of personal information in order to properly administer its lawfully authorized activities. In some cases, the City may be statutorily required to collect, use or disclose personal information. The City also has extensive experience in determining what is in the public interest, a democratic mandate, and has also developed a framework for the protection of privacy. To then expect the City to apply to a non-profit Trust, go through the evaluation process, and commit to contractual undertakings would be inappropriate given the experience, mandate and statutory authority of the City.

Need for law reform

As described above, part of the aim of the Trust is to build upon the foundation of privacy laws and create a higher standard of protection. We encourage organizations to surpass the bare minimums set out in legislation, and recognize Sidewalk Labs' effort to improve upon an imperfect legislative framework in the Trust proposal. Our privacy and access laws are out-dated and the IPC has long called for a comprehensive review and modernization of our public sector privacy laws.

Rather than relying on Sidewalk Labs to develop an appropriate solution, this is an opportunity for the provincial government to take the lead and modernize the laws to address the legislative shortcomings. Amendments could include mandatory requirements for data minimization, additional protections for individual and group privacy, ethical safeguards, and greater enforcement tools for my office, including additional investigation, order making and audit powers.

With regard to private sector privacy laws, reports of the federal Privacy Commissioner and the Standing Committee on Access to Information, Privacy and Ethics, among others, demonstrate that PIPEDA is inadequate. As the process unfolding at the federal level to bring PIPEDA up to date is proceeding slowly, this may also be the time for the government to consider advancing made-in-Ontario private sector privacy legislation. An Ontario private sector privacy law would help ensure public and private sector laws are cohesive, and help to minimize the risks of regulatory uncertainty. Simplifying oversight would lead to efficiencies, particularly in the context of smart city initiatives that involve partnerships between the private and public sectors.

An alternative option for the government to consider is stand alone smart city legislation. Legislative reform could ensure that there are clearly defined and consistent rules in Ontario to address the unique risks arising from public-private sector partnerships in all urban settings, not just Quayside. This includes a need for clarity on which law applies to these types of complex information practices within our cities.

iii. Responsible Data Use Assessment and Guidelines

Sidewalk Labs sets out its views on what should be included in the Responsible Data Use Guidelines, though ultimately they suggest that the Trust should establish the Guidelines. The principles included in the Guidelines (including transparency, de-identification by default, data minimization and making data publicly accessible) are important principles and I agree that all of these factors should be considered when carrying out data activities.

Full lifecycle

The MIDP proposes the Trust be tasked with “implementing and managing a four-step process for approving the responsible collection and use of Urban Data.” Disclosure is a notable absence in this mandate. Some references in the MIDP suggest that the full lifecycle of information will be considered – however, most seem to only consider collection and use. Whatever the approach, the full lifecycle of information handling must be considered.

PIAs

The RDU is a tool developed by Sidewalk Labs to evaluate any proposed activities involving Urban Data. While the proposed RDU process clearly incorporates some elements of a Privacy Impact Assessment (PIA), it is unclear if the completion of an RDU would satisfy all of the components typically considered in a PIA (such as identifying the data flows, confirming legal authority for each data activity, and considering the full information lifecycle from collection/creation to destruction/return). PIAs are widely recognized as important tools to help ensure that privacy risks are identified and adequately addressed in the design of new technologies and programs. The City completes PIAs regularly when considering new technologies or programs. In this project, there must be a requirement for all organizations processing personal information to conduct a full PIA, or to include PIA requirements in the RDU.

Net impact

The RDU developed by Sidewalk Labs proposes that the Trust base decisions on a net impact of an initiative, balancing benefit and risk. This may be problematic. For instance, an initiative that is high risk yet yields a higher benefit would arguably be allowed to proceed with this approach. Some privacy risks will not be acceptable, no matter how beneficial the outcome may be.

CONCLUSION

I appreciate the valuable public discussion encouraged by Waterfront Toronto and Sidewalk Labs and furthered by governments, academics, civil society actors and special interest groups around new digital governance models. I also want to commend Waterfront Toronto and Sidewalk Labs for the number of open consultations that have taken place over the last year.

The digital governance proposals set out in the MIDP raise several concerns, including: a lack of independent public oversight, a cumbersome mandate that overlaps with that of my office and the federal Privacy Commissioner, and an insufficient role for the City given its experience delivering

municipal services in the public interest. If Waterfront Toronto decides to pursue the Trust proposal advanced by Sidewalk Labs, it must be supported by the provincial government with a clear regulatory framework that sets out the mandate, criteria for evaluating the full lifecycle of data, as well as a mechanism for independent oversight. In addition, if new public organizations are created, such as the proposed Public Administrator, they must be designated as institutions under MFIPPA or FIPPA.

Most importantly, the digital governance proposals proposed by Sidewalk Labs highlight the legislative shortcomings in our privacy laws. I appreciate the efforts of Waterfront Toronto and Sidewalk Labs to explore interim measures to address these deficiencies; however, the provincial government needs to modernize our laws to ensure that privacy protective, transparent, accountable and ethical data practices are at the forefront of all of these complex data projects. My office is available to consult with the government on the design of a legislative framework that meets these requirements.

Sincerely,

A handwritten signature in black ink, appearing to read 'B Beamish', written in a cursive style.

Brian Beamish
Commissioner

cc: Hillary Hartley
Chief Digital and Data Officer, Deputy Minister
Cabinet Office

John Roberts
Chief Privacy Officer and Archivist of Ontario
Ministry of Government and Consumer Services

John Tory
Mayor
City of Toronto

Honorable Laurie Scott
Ontario Infrastructure Minister
Ministry of Infrastructure



DSAP Meeting – November 7, 2019
Item 5 – Next Phase of Consultation

Agenda Item	5 – Next Phase of Consultation
Purpose	Information
Key Message	As part of our evaluation process for the MIDP (as amended through the threshold issues negotiations), Waterfront Toronto is planning two rounds of public consultation – an information session in November, and a full consultation in January.
Areas of note/ Key issues	
Expected Outcome	
Key Takeaways/ Next Steps	DSAP members will be provided additional information about consultations once they have been scheduled.

November 7, 2019

Quayside Public Engagement – Next Steps

Waterfront Toronto

Process Overview

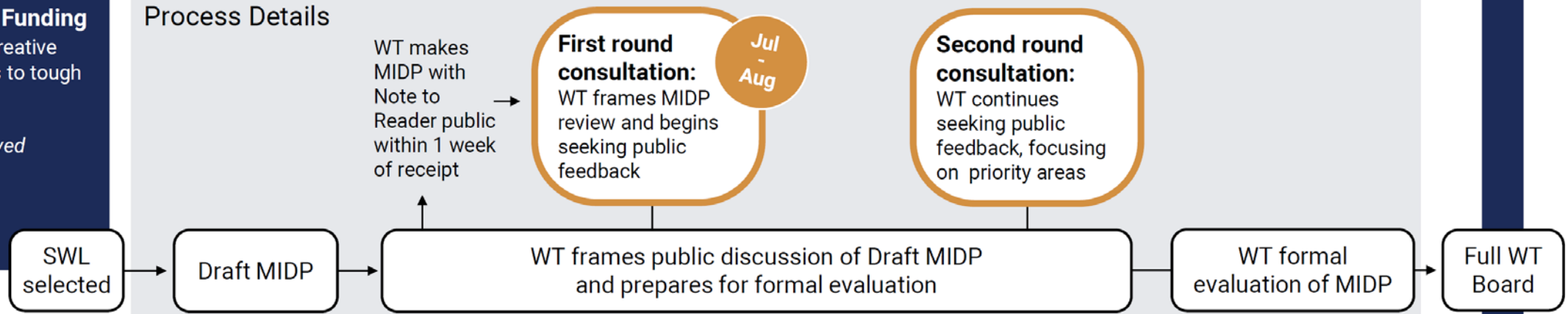
WT RFP seeks Innovation and Funding Partner to find creative and new solutions to tough urban challenges

6 responses received

DEVELOP DRAFT MIDP

REVIEW OF DRAFT MIDP by Waterfront Toronto

Process Details



WT Board makes decision whether to pursue all, some, or no aspects of the Proposed MIDP further with the 3 orders of government.

If WT decides not to move forward with the MIDP, efforts to build a next generation community will continue.

REVIEW OF MIDP by relevant Regulatory Authorities

City of Toronto will conduct its own public consultation as part of their MIDP review

City of Toronto

Province of Ontario

Government of Canada

Application of all existing Legislation and Regulation*

*Including Development Applications, Building Codes, Environmental Assessments, etc. governed by the appropriate levels of government and informed by public consultation.

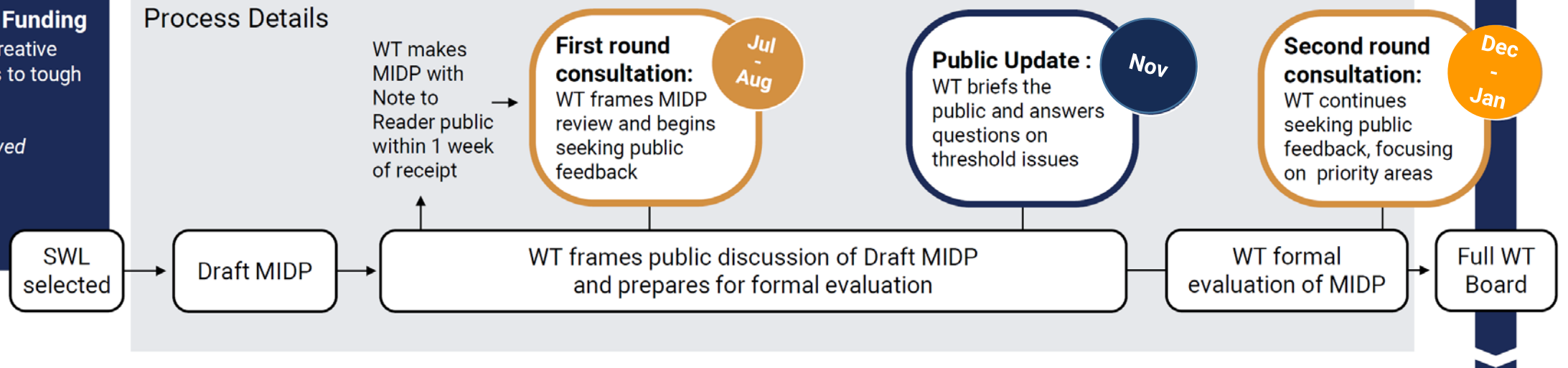
Process Overview

WT RFP seeks Innovation and Funding Partner to find creative and new solutions to tough urban challenges

6 responses received

DEVELOP DRAFT MIDP

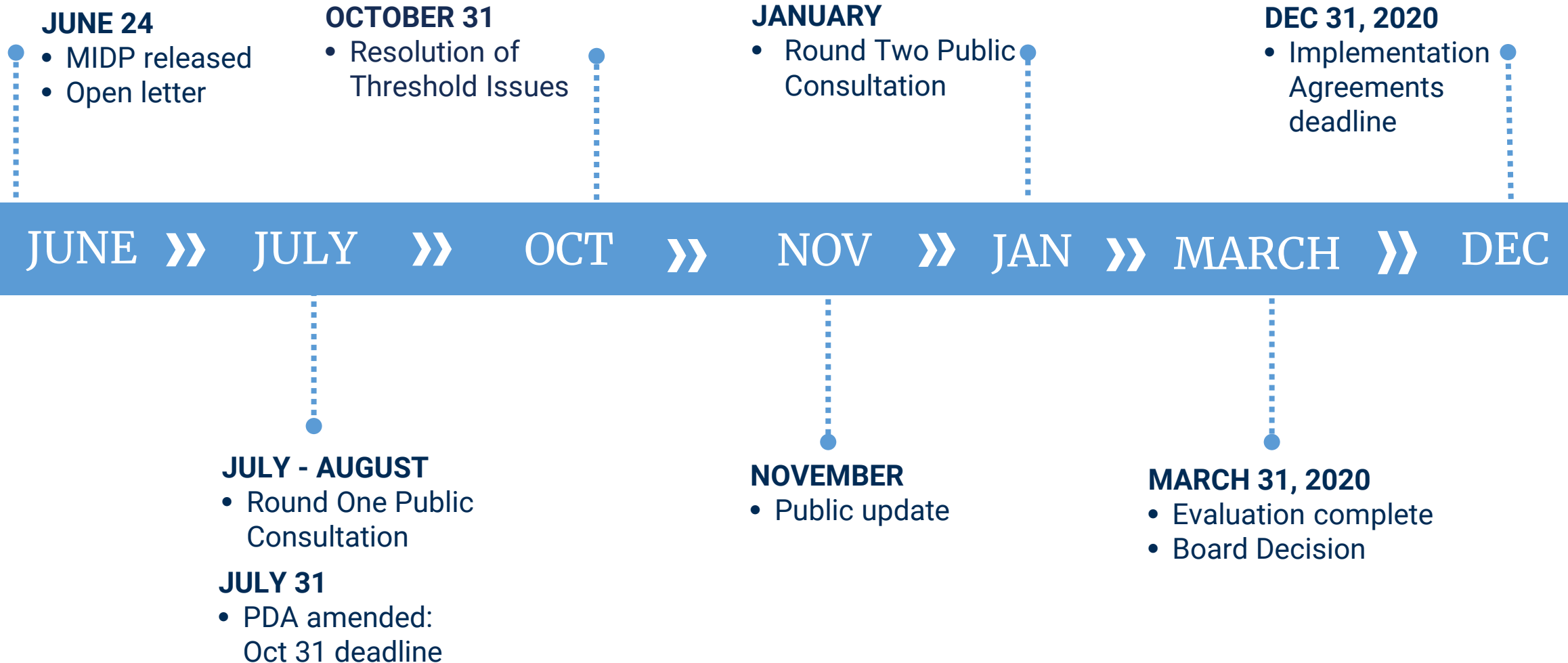
REVIEW OF DRAFT MIDP by Waterfront Toronto



Rationale for change:

- October 31 was a key moment
- Demonstrate Waterfront Toronto's commitment to transparency on resolution of threshold issues
- Public briefing is also important opportunity to explain what will be evaluated, given how threshold issues have been addressed
- Round Two of the consultation will take place in January, when Waterfront Toronto will share and seek feedback on how the proposals from Sidewalk Labs align with Waterfront Toronto Objectives (a priority identified by the public in July consultations)

Context & timing





Public Update: November

- Brief the public on the resolution of the threshold issues
- Explain how resolution of threshold issues influences what Waterfront Toronto will be reviewing during the formal evaluation
- Answer questions
- Livestreamed and recorded




Round Two Public Consultation: December 2019-January 2020

- Seeks feedback on priority areas to inform evaluation
- Public Meetings (2-3 meetings – TBD)
- Online consultation
- Discussion Guide mirroring in person consultation
- Opportunity for written submissions

City of Toronto Consultations on Digital Infrastructure Governance and Framework



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Contact Information

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[SmartCityTO](#)

Related Information

[Smart Cities Initiatives](#)

[Cities for Digital Rights](#)

[Smart Cities Presentation to Executive Committee](#)

The City is launching public consultations in **December 2019** to discuss the use of digital technologies in public places. Please subscribe using the box at the bottom of this page to receive updates about the upcoming consultations.

Smart Cities are about improving access to the information and data the City needs to help it become an economically, socially and environmentally connected community.

Our goal is to ensure that people are easily connected and included in our digital city. This could mean finding new ways for residents and businesses to improve navigating the city or accessing City services or even engaging with their City government.



DSAP Meeting – November 7, 2019
Item 6 – Waterfront Toronto Digital Principles
and Intelligent Community Guidelines

Agenda Item	6 – Waterfront Toronto Digital Principles and Intelligent Community Guidelines
Purpose	Digital Principles: Recommendation Intelligent Community Guidelines: Information & Discussion
Key Message	<p>Waterfront Toronto has developed a set of Digital Principles which – complementary to existing legislation – establish that in evaluating any project proposal must represent ethically responsible innovation that reflects public values and preserves or enhances the public good. These Principles are complementary to, and do not replace, existing legislation. We have held a public consultation process on the Digital Principles, and are seeking DSAP’s final comments and recommendation that the Principles be sent to Waterfront’s Board of Directors for approval.</p> <p>Expanding on this, we are also in the process of creating a set of Intelligent Community Guidelines the “how” to the Principles’ “what” and “why”. The development and consultation process – and DSAP’s role in it – will be put forward at this meeting.</p>
Areas of note/ Key issues	
Expected Outcome	<ol style="list-style-type: none"> 1. DSAP will recommend the Digital Principles for approval. 2. DSAP will be aware of the Intelligent Community Guidelines and the intended consultation process on them.
Key Takeaways/ Next Steps	

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 are informed by the work of cities around the world, including the efforts of the *Cities Coalition for Digital Rights*. They also incorporate feedback from a public consultation on a prior version. We will next engage our Digital Strategy Advisory Panel for their expertise and guidance, in late July.

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: Everyone will have access to, and benefit equally from, digital solutions

This includes:

- Universal access to affordable internet, inclusive design of digital solutions on equitable terms, and the digital literacy efforts to promote the skills to use these resources.
- Creating opportunities for individuals and groups to engage with their community through open, participatory and transparent digital processes.
- Identifying and, to the extent possible, mitigating any potential bias against or marginalization of an individual or group.
- Sharing, as appropriate, non-personal and de-identified data collected with government-provided open data portals, the research community or other third-party organizations who are contributing to the advancement of the public good.
- Designing digital solutions and accompanying commercial terms to minimize the impacts of information asymmetry.

Principle #2: Digital solutions will be open, ethical, and resilient

This includes:

- Use of protocols, standards and operating agreements that do not foster monopolies, barriers to entry, vendor lock-in, or dependency on a sole vendor to provide related products or services.
- Providing digital solutions through open and ethical digital service standards.
- Ensuring digital solutions are developed and operate using only ethically sourced data.
- Requiring that solutions – particularly those related to infrastructure – be secure and resilient, including the implementation of measures allowing for safe failure.

Principle #3: Everyone will be able to understand how their data is being collected and used, and how organizations can and will be held accountable for their practices

This includes:

- Specific measures to ensure transparency of collection, use, retention and disclosure of personal data.
- Mechanisms to proactively address concerns about the potential misuse of data by fulfilling individuals' rights to access, review and correct their data.
- Access to understandable and accurate information about the digital solutions (including underlying algorithms or artificial intelligence) that are proposed or adopted, and the ability to question and change unfair, biased or discriminatory systems.
- Ability to override automated decisions that are inconsistent with the public good.
- Review of any proposed project that could have a significant impact on a person or group by the Waterfront Toronto Digital Strategy Advisory Panel prior to implementation.
- Active monitoring of compliance with these principles to ensure the objectives are achieved and maintained, and public access to the results of these compliance reviews.
- Requiring that 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).

- Requiring that organizations be willing to comply with any investigation, audit or other compliance action by an applicable regulator, including where such cooperation is "voluntary" under the regulation.

Principle #4: Strong privacy protections will be in place at all times

This includes:

- 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.
- Embedding privacy 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.
- Minimization of collection, use, retention and disclosure to what is necessary for the provision of identified and approved services that demonstrate benefit to individuals. This includes limiting collection 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.
- De-identification of personal data at source, unless the collecting organization has obtained consent – or, in the case of government, demonstrated necessity – to store the data in identifiable form.
- Prohibiting profiling, without demonstrated necessity or informed consent by government or without informed consent by business, for any purpose.
- Prohibiting data collected within waterfront projects from being used for advertising purposes without express positive consent.
- Protecting data through appropriate security measures, mandatory breach notification, and prohibitions against disclosure without consent (except where explicitly permitted by law).

Principle #5: Data and systems will remain under local control and be subject to local laws

This includes:

- 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.
- As a first principle, data collected in waterfront neighbourhoods will remain in Canada.
- 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.
- Adaptability of solutions to new legislative or regulatory conditions that may emerge.

November 7, 2019

Waterfront Toronto Digital Principles & Intelligent Community Guidelines

Kristina Verner, Vice President, Innovation, Sustainability & Prosperity

Digital Principles



Waterfront Toronto Digital Principles

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.**

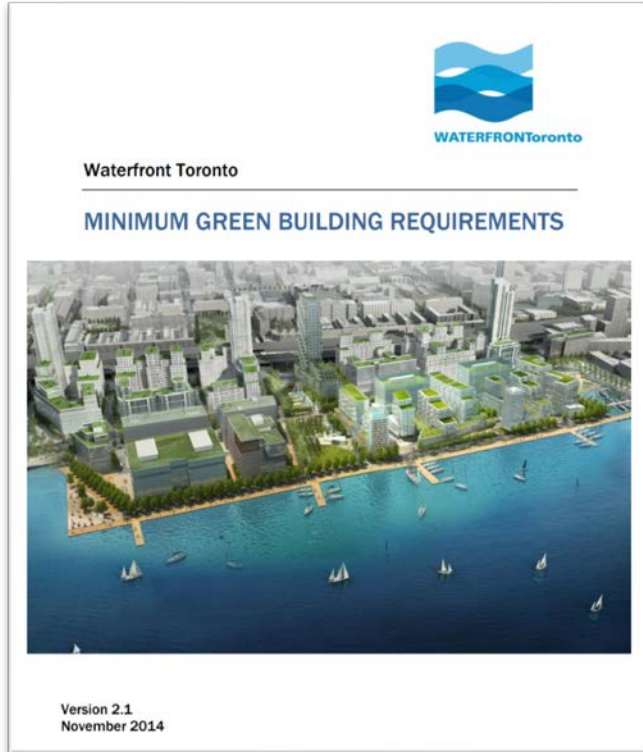
- Principle #1: Everyone will have access to, and benefit equally from, digital solutions
- Principle #2: Digital solutions will be open, ethical, and resilient
- Principle #3: Everyone will be able to understand how their data is being collected and used, and how organizations can and will be held accountable for their practices
- Principle #4: Strong privacy protections will be in place at all times
- Principle #5: Data and systems will remain under local control and be subject to local laws.

Intelligent Community Guidelines Overview



1. Context & Purpose
2. Proposed Structure
3. Timeline & Process
4. Example of Draft Guidelines
5. DSAP Role & Participation

Context & Purpose



- Modelled after the process Waterfront Toronto has established for Minimum Green building requirements, the Intelligent Community Guidelines will provide a framework for digital projects that builds on the baseline protections provided by applicable laws.
- Grounded in the Digital Principles, the Intelligent Community Guidelines will apply to all proponents doing projects with Waterfront Toronto.
- The guidelines are informed by the input received during the Civic Labs and public consultation sessions.
- Due to the objective of responsible data use and the desire to be a leading example of Intelligent Community design, the Intelligent Community Guidelines may commonly require a proponent to exceed the requirements of existing and laws and emerging ethical guidelines and standards based on the nature of the proposed solution.

Proposed Structure

1. Introduction

- a) Background
- b) Approach

2. Jurisdictional Context

- a) Applicable Legislation
- b) Regulatory Approvals

3. Digital Governance

- a) Purpose
- b) Transparency
- c) Consent & User Control
- d) Privacy & Security Measures
- e) Data Rights & Ownership
- f) Data Residency
- g) Transfer, Sale & Outsourcing
- h) Open Data, Data Exchanges & Cooperatives

4. Intellectual Property

- a) Purpose
- b) Patent Pledge
- c) Project Specific IP
- d) Co-created IP
- e) Data-enabled IP
- f) Revenue Sharing Methodologies
- g) Licensing
- h) Remedies

5. Review Process

- a) Process Overview
- b) Submission Requirements
- c) Role of DSAP

6. Definitions

Timeline & Process



Intelligent Community Guidelines Development Timeline

	November	December	January	February	March	April	May	June	July	August	September	October
Preliminary Guidelines	Yellow											
Presentation to Governments	Green			Green			Green				Green	Green
Industry & Expert Consultations	Brown	Light Brown	Light Brown	Brown			Brown	Light Brown	Light Brown	Brown		
Community Engagement		Light Blue	Dark Blue	Light Blue								
Version 1.0 Intelligent Community Guidelines					Yellow							
Presentation to DSAP	Purple		Purple		Purple		Purple				Purple	
DSAP Comment Period		Light Purple	Light Purple	Light Purple				Light Purple	Light Purple	Light Purple		
Board Presentation					Blue							Blue
Version 1.1 Intelligent Community Guidelines												Yellow

Example of Draft Guidelines

Privacy Protection Measures

- Proponents will adhere to and incorporate Privacy by Design principles and design, implement, maintain and follow privacy and security risk mitigation measures that exceed the minimum standards required by applicable Privacy Laws.
- Proponents will use best practices to de-identify Personal Information at source, at the moment of capture.
- Personal Data must be encrypted in transit and at rest.
- Proponents will use technical and organizational measures (including contractual prohibitions and remedies) to mitigate the potential for re-identification. Proponents must take into account and declare whether they have a practical inability to monitor and enforce contractual commitments prohibiting re-identification.
- Proponents will not use facial recognition technology in a solution. In the event facial detection technology is used, there will be a higher standard of review of the solution and the Proponent must propose clear notices to affected individuals.
- In the event that biometric technology is used, there will be a higher standard of review of the solution and the Proponent must propose clear notices to affected individuals and obtain express consent. Proponents will be prohibited from secondary uses of biometrics without separate consent.

DSAP Role & Participation in Guideline Development



- Propose that the Architecture & Standards Subcommittee work with Waterfront Toronto Management to advance draft guidelines.
- Key presentations to full DSAP as follows:
 - January – Consolidated first draft informed by first round of guidelines presented for discussion and comment
 - Informed by the first round of market sounding in preparation for public consultation.
 - March – Second draft informed by first round of public consultation and ongoing market sounding processes.
 - May – Summary of overall feedback through consultation and
 - September – Final Draft
- Open DSAP review and comment period: January – June 2020.



a waterfront for everyone





DSAP Meeting – November 7, 2019
Item 7 – Discussion of WT and SWL Responses
to DSAP Preliminary Commentary

Agenda Item	7 – Discussion of Responses to DSAP Preliminary Commentary
Purpose	Information & Discussion
Key Message	The DSAP Preliminary Commentary included an Appendix with 164 comments from Panelists. After an exercise to identify the most appropriate responder to each comment, Waterfront Toronto and Sidewalk Labs have each independently developed a set of responses. Here, both parties will respond to any Panelists questions or feedback about the response documents.
Areas of note/ Key issues	
Expected Outcome	Panelists will have had the opportunity to raise any clarifying questions about WT and SWL's responses to the Preliminary Commentary's appendix question.
Key Takeaways/ Next Steps	

Waterfront Toronto Response to Digital Strategy Advisory Panel Commentary

Waterfront Toronto (“WT”)’s management again thanks the Digital Strategy Advisory Panel (“DSAP”) for your efforts in developing a thoughtful and informative [Preliminary Commentary](#) on Sidewalk Labs (“SWL”)’s Master Innovation and Development Plan (“MIDP”).

With the assistance of the Report Writing Working Group, each of the 164 comments received were assigned to either SWL, WT (and its government partners), or both. Below, we have provided WT’s response to the latter two categories, and where appropriate provided comment on the former.

Before addressing individual comments, we felt that it would be worthwhile to provide an overview of the process we have undertaken related to digital issues leading up to the October 31, 2019 deadline to agree on “threshold issues.”¹

Both the DSAP Preliminary Commentary and the feedback received through our public consultations have made clear that there is an expectation that WT (and/or its government partners) must take a leadership role in defining governance for the Quayside project, and we have endeavoured to do so.

First, we established a clear expectation that SWL will not condition any of its solutions of the existence of an Urban Data Trust or modifications to existing legislation. While certain of its underlying principles (promoting responsible data sharing, for example) may be re-purposed and included within other mechanisms, an Urban Data Trust as envisioned in the MIDP will not move forward.

Second, WT engaged in detailed discussions with SWL which set out expectations and requirements for each of Privacy and Digital Governance, Intellectual Property, and Ecosystem Development. For instance, discussions on Privacy and Digital Governance covered issues including (but not limited to) transparency, consent and user control, security measures, a review process for Digitally-Enabled Solutions, data subject rights, data ownership, data residency, and the open sharing of data. WT and SWL agreed on the intention that the concepts, rights, and obligations set out during these discussions would be integrated into legally binding commitments, such as implementation agreements.

WT is also working to develop a set of Intelligent Community Guidelines, which expand upon our [Digital Principles](#). These Guidelines would, among other things:

- Have as their foundation the laws and regulations enacted by governments, and not establish additional requirements which would in any way conflict with or contradict those laws and regulations;
- Commit *all* current and future proponents to leading privacy and data governance measures;
- Foster open data and set out WT and its government partners’ expectations for mandatory open data sharing; and,
- Take into account the strong community concerns with respect to cross-border transfers of data.

¹ To be clear, for digital issues, agreement to proceed past October 31st would not suggest that WT has performed a full evaluation of the MIDP and given a passing grade. Rather, it would mean that we are of the opinion that there is sufficient likelihood that a passing grade is possible to make a full evaluation worthwhile. No final agreement has been reached. [October 31 update: WT’s Board of Directors has voted to move to evaluation of the MIDP. See Stephen Diamond’s [open letter](#) for details.]

The discussions with SWL, draft Guidelines and the responses that follow in this document also acknowledge the concerns raised by Ontario Information and Privacy Commissioner Brian Beamish in a [letter](#) to Stephen Diamond dated September 24, 2019, and will recognize and accommodate the fact that the relevant regulatory structure will vary depending on whether a Proponent is acting independently or as part of a P3 service delivery relationship. In the latter instance, the relevant government body or institution will have ultimate authority and responsibility for determining the appropriate data governance considerations. That said, it is intended that the data governance structure developed by WT *could* be used, at the discretion of a government body, as a preliminary review process, similar to WT's existing Design Review Panel process.

For clarity, it should also be noted that neither the Intelligent Community Guidelines nor any contractual obligations would supersede any future legislative or regulatory development. Should any future legislative development set a requirement that is higher than something described in the Guidelines or a contractual obligation, that higher legislative requirement would apply.

A first draft of the Intelligent Community Guidelines will be included in the materials for the November 7, 2019 DSAP Meeting, with the understanding that they will need to undergo significant consultation with the DSAP, members of the public, and government stakeholders, as well as undergoing a market sounding exercise with industry. Thus, these Guidelines are subject to change (as are any responses below which refer to content in the Guidelines).

Response to DSAP Comments

DSAP Comment #4: [P]lease make public a comprehensive inventory of the kinds of information SWL would provide to the UDT for approval about its purposeful solutions and core services, e.g. where would sensors of what kinds be located and with what data outputs? Where would the data from these sensors flow, how processed, for whom and for what purposes?

Waterfront Toronto response: Moving forward, the MIDP's envisioned Urban Data Trust will not be included in a proposal for Quayside.

However, WT's Intelligent Community Guidelines (which would apply to any proponent) have set out a review process for Digitally-Enabled Solutions (DES) proposed for the project area. While these Guidelines must undergo a consultation process, initial proposals include a requirement for proponents to (among other things) prepare and deliver:

- A demonstration that the DES is designed to implement the principles of *Privacy by Design* and to conform to Waterfront Toronto's Digital Principles and Intelligent Community Guidelines;
- A report on the content of feedback and advice received from community consultations, particularly from groups most impacted by a particular technology;
- For non-P3 proponents, a demonstration of the method by which express consent will be obtained, or (recognizing that express consent is the default condition) a justification of the use of implied consent;
- An assessment of the business case for the DES, including how the DES supports the public interest, how its implementation and maintenance costs compare with comparative services, and what incentives will be created or provided to encourage interoperability with other technologies;
- A Privacy Impact Assessment and Algorithmic Impact Assessment (as applicable), including an examination of whether there is a possibility that personal information will be collected from minors or will be used for surveillance by law enforcement;
- A threat and risk assessment and a resilience assessment including the proposed allocation of responsibilities for sustaining, maintaining and upgrading the technology over time;
- An assessment of the impact of the collection, use or disclosure on groups, with particular attention to the impacts on marginalized or over-surveilled groups (and mitigation measures to minimize risks of harm to these groups);
- Service-level commitments, uptime commitments, and other key performance indicators;
- A dataflow schematic which includes:
 - (i) the technical and organizational measures taken by proponents and sub-processors to protect privacy, confidentiality, integrity, and availability of the data;
 - (ii) the sub-processors or third parties that will have access to the data;
 - (iii) the measures taken to de-identify or anonymize personal information;
 - (iv) the physical location of the data at different points in the data flow schematic;
 - (v) identification of ownership/supplier of major portions of the DES;
 - (vi) measures to ensure fairness, transparency, explainability, non-discrimination, and auditing with respect to the application of AI to make decisions affecting individuals; and,
 - (vii) other such information as requested;
- Draft notices and privacy statements;

- An open data assessment, including proposals for sharing tools and resources such as data stories, an evaluation of how these proposals will meet open data objectives, and the risks of re-identification of releasing de-identified data.
- Information about the ownership and procurement of any material elements of the DES; and,
- An assessment of the projected ability of the DES to be scaled up or applied in other cities.

It is intended that, for each DES, proponents will provide the above information to WT and to DSAP for review and comment (except where the proponent is in a P3 relationship, and its government partner has waived this requirement).

DSAP Comment #5: Foundational to governing the wide range of digital assets mentioned in the Plan are questions of who would own them, what jurisdiction(s) would they be governed under and which parties would be responsible for developing, testing, operating, maintaining, funding and disposing of them. Please provide a comprehensive inventory of its various proposed digital assets (including all physical infrastructure, software systems and databases) that makes clear the relevant jurisdictions and responsibilities.

Waterfront Toronto response:

As noted in the response to Comment 4, proponents will be required to provide information about proposed ownership and procurement of any material elements of a DES. However, we have opted not to place specific requirements on ownership and operation of these technologies, except to require that proponents acting within a P3 relationship will acknowledge that their government partner is in control of personal information (unless the government partner agrees otherwise).

With respect to jurisdiction, proponents for DES' which collect or use personal information are required to acknowledge and submit to the jurisdiction of the appropriate privacy commissioner (OIPC-Ontario for P3 relationships with the City of Toronto or Province of Ontario; OPC-Canada for independent proponents and P3 relationships with federal agencies or bodies).

Ownership is an issue that will be resolved through the implementation agreements and prevailing ownership and partnership models will serve as baseline expectations for WT's government stakeholders.

DSAP Comment #6: Obsolescence, currency, and refresh are all considerations that need to be dealt with in depth in the implementation and operating agreements. In addition, technology replacement provisions are required should the implementation fail to operate reliably or meet its targets in contributing to the RFP goals.

Waterfront Toronto response:

As noted in the response to Comment 4, proponents will be required to submit a proposed allocation of responsibilities for sustaining, maintaining and upgrading a technology over time. WT will evaluate on a case-by-case basis the appropriateness of the proposed allocation, with advice from DSAP.

With respect to failure, WT is examining appropriate remedies. Should the project move forward, these will be included and defined in implementation agreements.

DSAP Comment #7: The plans should not just outline the new technologies being proposed, but also more detail on how those technologies will be sourced, evaluated, maintained and secured. The sustaining, maintenance and upgrading of urban technologies are the largest expense over the lifetime of any asset. I would like to see more here on how this will be addressed and by whom.

Waterfront Toronto response:

As noted in the response to Comment 4, proponents will be required to submit:

- Information about the ownership and procurement of any material elements of the DES; and,
- A proposed allocation of responsibilities for sustaining, maintaining and upgrading the technology over time.

WT has opted not to define specific, site-wide requirements at this time, but will review each proposal on its own merits, with the assistance of DSAP and other third-party experts as appropriate.

DSAP Comment #8: The MIDP gives the strong impression that it was developed with little direct involvement with the range of relevant Toronto community actors or with attention to inter-operability with existing (digital) infrastructures. This raises the prospect of Quayside becoming a ‘digital island’ within Toronto. Please provide a comprehensive inventory of the status of its relationships with relevant actors, how its proposed digital innovations will benefit the various stakeholders and work with existing infrastructures?

Waterfront Toronto response:

Waterfront Toronto has maintained frequent contact with a wide variety of stakeholders throughout this project, including but not limited to:

- Representatives from all three levels of government through regular ADM meetings and the convening of an Intergovernmental Data Governance Working Group
- The City of Toronto’s Waterfront Secretariat
- MaRS, Communitel and similar incubators

We have also sought to engage critical voices, such as BlockSidewalk, in conversation, to ensure they have access to accurate information and that we fully understand the concerns they raise.

We also consider our public consultations to be an important mechanism by which we have been able to engage the community in these discussions. Waterfront Toronto published its report on the first round of consultation on September 19, 2019. The report can be downloaded at:

<https://quaysideto.ca/get-involved/midp-consultations/>

DSAP Comment #9: How much consideration is being given to extending the innovations in the IDEA district to the rest of the City?

Waterfront Toronto response:

Waterfront Toronto is prepared to support an Innovation Plan to advance and achieve our priority outcomes, but there will be no further reference to an “IDEA District.” However, as has always been our mandate, we are committed to sharing lessons learned and outcomes beyond the Designated Waterfront Area.

No commitments have been made by the City of Toronto to broadly adopt an innovation proposed for the Quayside project. Of course, we have been in frequent contact with multiple agencies throughout the City of Toronto to ensure they are aware of developments in the project.

As well, we have established an expectation that DES proponents will provide information about how their solution *could* be adopted on a broader scale. Waterfront Toronto will also remain in frequent discussion with the City about its experiences with innovations deployed in Quayside, with the goal of allowing our learnings (and, if desired, the innovations piloted in Quayside) to be applied more broadly.

DSAP Comment #10: SWL makes numerous “commitments” in the Digital Innovations chapter and throughout the MIDP more generally (e.g. on open standards, patents, desisting from facial recognition, etc.). What contractual language would SL propose to give these commitments the force of law?

Waterfront Toronto response:

WT uses implementation agreements to create legally binding commitments, and will do so with respect to the concepts, rights, obligations and responsibilities set out in detailed discussions with SWL and Intelligent Community Guidelines. For example, we have used this strategy with respect to our Minimum Green Building Requirements.

Of course, all applicable legislations and regulations will continue to apply.

DSAP Comment #11: How will SWL ensure that WT and the City will be well protected (in terms of infrastructure, investments, system integration, etc) if it or its subcontractors, affiliates, etc. pull out of the project? See Google Fibre pull out in Louisville KY.

Waterfront Toronto response:

WT is keenly aware of the need to establish strong remedies for the various elements of this project and will do so through implementation agreements. Where appropriate, parental guarantees may be pursued in a manner consistent with Waterfront Toronto’s existing business practices.

The precise form/scale of any remedies are still to be determined.

DSAP Comment #12: Interoperability is inadequately addressed. Without interoperability with personal alternative access systems, the data innovations proposed for individuals with disabilities will not function. How will interoperability be planned and assured?

Waterfront Toronto response:

The first of Waterfront Toronto’s Digital Principles establishes that everyone will have access to, and benefit equally from, digital solutions. This includes a requirement for inclusive design of digital solutions on equitable terms.

That said, we appreciate this note, and will look to specifically incorporate a requirement for interoperability with personal alternative access systems into our Intelligent Community Guidelines.

<p>Once draft language has been developed, we will reach out to the author of this comment to discuss whether it is adequate/appropriate and share it more broadly in the course of the DSAP materials related to the guideline development process.</p>
<p>DSAP Comment #13: Frustrated by how over-sold this proposal on digital innovation is at times. For example, the MIDP states: “But digital innovation raises a number of challenges that cities like Toronto are just starting to address. These include making sure basic digital infrastructure is affordable and open to everyone, making sure data is standardized and publicly accessible, and making sure there is a transparent process for protecting privacy and the good of the city.” How does this proposal achieve that? How does a slice of the Waterfront make basic digital infrastructure available to everyone? How does this improve our existing privacy laws at the provincial level or PIPEDA?</p>
<p>Waterfront Toronto response:</p> <p>WT believes that the establishment of a testbed area for matters such as improved data governance can have an important and broad impact on cities, by creating an evidence base for further change.</p>
<p>DSAP Comment #32: Why do we need Quayside or this project for more innovative mounts [i.e. Koala mounts]? If a good idea, could be pilot project anywhere in the city.</p>
<p>Waterfront Toronto response:</p> <p>You are likely correct, that an innovative mount could be tested in a multitude of locations – it doesn’t <i>need</i> to be in Quayside. However, to the extent that the mount (or any other technology) supports WT’s objectives, we may <i>want</i> it to be tested here.</p>
<p>DSAP Comment #34: Given the understandable sensitivities around the management of personal credentials, it will be vital for maintaining public trust that agency for overseeing distributed digital credentials be publicly accountable and independent of other infrastructure or service providers. How heavily is SWL willing to invest in making distributed digital credentials work, while staying entirely at arms-length from any such independent, accountable credentialing agency?</p>
<p>Waterfront Toronto response:</p> <p>This is an interesting thought.</p> <p>In theory, a decentralized credential system could be overseen by a relatively focused body which provides review and/or certification of the legitimacy of credential issuers (i.e. “What credentials can <i>Organization A</i> legitimately issue?”). The body would not need to be involved in the actual issuance of credentials (which could be negotiated between the individual and the issuing organization).</p> <p>As well, the necessity for this body to be independent will be <i>highly</i> dependent on whether this decentralized credential system is truly optional for individuals. If it is simply one service offering among many (and traditional means of establishing credentials – such as government-issued ID – remain accepted), public trust in the system will impact its adoption as opposed to causing issues within Quayside. Of course, if one or more services are exclusively (or more easily) accessed via the proposed credential system, independent oversight becomes much more important.</p>

That said, WT will need further information about the proposed decentralized credential system and its intended use within Quayside to be able to evaluate the need for, and appropriate structure of, an independent credentialing agency. In addition, this is an area that will be brought forward for discussion with our government stakeholders.

DSAP Comment #47: Why does WT need to incentivize [SeedSpace]? Why don't they just go partner with Oxford or another large property owner/manager and do it among themselves?

Waterfront Toronto response:

WT will consider deployment of this innovation but will not incentivize it.

We will need further information from SWL on whether it is envisioned that this system will receive special status of some sort, or if it will be competitively procured. We will also reach out to other jurisdictions to understand their approaches to similar initiatives.

DSAP Comment #49: Bringing speed and scale to these observations has pros and cons. We can build better public spaces if we know more but gathering too much data that is readily joined to data lakes of other information presents challenges. The ACLU has a model ordinance for proposals for technology that include surveillance elements (see https://www.aclunc.org/sites/default/files/20141112-model_ordinance.pdf for example). The driver behind this ordinance is that when we bring new technologies to public spaces there are big implications.

Waterfront Toronto response:

Thank you for bringing this ordinance to our attention. Certain of the elements (such as public consultation) are present in our existing approach, but we will examine whether/how they can be more explicitly incorporated into the Intelligent Community Guidelines.

Of course, WT cannot *require* that the City of Toronto adopt such an ordinance, nor impose it for law enforcement activities in the project area. However, we can advocate for its key principles to be followed (and require it for non-P3 proponents, as appropriate).

We will also begin to collect documents such as this as resources which may help to inform DSAP's review of any future DES.

DSAP Comment #51: SWL makes part of the case for digital infrastructure [public realm maintenance map] claiming that public space service operators can't keep up with maintenance. I would argue back the problem isn't that they lack the data they need (e.g. check out the 311 calls on Toronto Open Data portal and any See Click Fix list), when things need to be fixed, the City knows. The problem is the City doesn't have the money it needs to hire the people and do the work. Yes, some efficiencies could be gained (e.g. plan garbage pick up differently in parks because on sensor-gated garbage cans) but gaps in data/tech aren't the biggest barriers. There is a sentence that talks about budget but it reads like a throwaway.

In a world of competing resources, I think we need to make sure we're not throwing public money (or private money that comes with a significant public give/return later) around at technology that is \$\$ and comes with risk before first sorting if we spent that money on actual maintenance first could we have better outcomes.

<p>Waterfront Toronto response:</p> <p>Through the evaluation process, WT will be assessing proposals in the context of the existing baseline solutions to determine what incremental benefits might be achieved. In addition, WT’s evaluation of the proposal will factor in costs to WT or its government stakeholders throughout the product lifecycle.</p> <p>However, we appreciate the feedback that the benefits of this system may be minimal and will ensure we frame the baseline conditions appropriately.</p>
<p>DSAP Comment #60: An issue that I see is that the Urban Data Trust (UDT) will be charged with determining who can collect data in the IDEA District and under what terms and conditions. This will expressly apply to government as well (I asked the question and the answer was that it would). This creates a scenario in which the City of Toronto might decide to collect a certain type of data throughout the City - this could go through its own approval processes – but it would have to ask separate permission from the UDT to collect the same data in the IDEA District. Conceivably, the UDT could decide against this collection (or it could impose certain terms and conditions), producing a strange (and I would suggest, unacceptable) result. Why should an appointed body trump an elected body when it comes to determining whether data should be collected to serve a public policy goal? I realize that one response to this hypothetical is “that will never happen”, but it could. And I think the issue gets at the problem of the legitimacy of the UDT. SWL indicates that it will not be a public body at the outset but that it could evolve into one. Would it not be simpler if it were a public body, established by legislation or regulation, with a specific mandate? MFIPPA or FIPPA’s transparency rules could then apply to the entity and whatever authority was needed to make decisions around collection and use of data could be delegated to it within this legislative frame. It might be possible in the same way also to bring those private sector companies that want to collect data in the IDEA district under the same governance body.</p>
<p>Waterfront Toronto response:</p> <p>As discussed in the introduction in these comments, moving forward, the MIDP’s envisioned Urban Data Trust will not be included in a proposal for Quayside.</p> <p>Instead, Waterfront Toronto will develop (with the input of DSAP and other stakeholders) a set of Intelligent Community Guidelines that will commit proponents to leading privacy and data governance measures. Waterfront Toronto has successfully used this strategy in the past in the area of sustainability, through our Minimum Green Building Requirements.</p> <p>Data collection by government (or by private sector organizations operating in a P3 relationship) would not be required to abide by these guidelines or any associated data governance structure. However, our intention is to design the process in such a way that it could be have value for by government bodies or institutions as a preliminary form of review (at their sole discretion), and will encourage this use.</p>
<p>DSAP Comment #61: In one of the scenarios provided in the MIDP to illustrate the functioning of the MIDP, the example was given of a garage operator leasing space in the development area who has a misconceived idea about collecting and using data from security cameras in the garage. The example is meant to show how by being required to apply for permission to collect the data, and to complete an RDUA, the garage owner will be stopped from engaging in this improper collection and use of data. The</p>

garage owner would, of course, be subject to PIPEDA, and the proposed collection and use of the data would clearly violate PIPEDA, but we are told throughout that the UDT provides a separate and possibly higher level of protection than PIPEDA.

I have two difficulties with this example and its implications. The first is with the definition of ‘urban data’. If it includes security camera data from small businesses, then in my view it is overinclusive. Part of the rationale for the UDT was to facilitate data sharing for innovation purposes. In my view, security camera data is just that - security camera data. It should not be considered for further sharing. Its collection, use and disclosure can be governed by PIPEDA.

This overbreadth issue leads into my second concern with this scenario, which is the duplicative nature of some of the functions of the UDT. The federal Privacy Commissioner has provided some pretty clear guidance on the collection of data through security cameras. PIPEDA covers this situation. If there is no data sharing dimension, why should the UDT play a role? One of the classic reasons for not amending PIPEDA to strengthen it is that to do so would impose a stifling compliance burden on small businesses. But the approach proposed in the MIDP would require the garage owner to comply with both PIPEDA and with the UDT. We’re also told that there would be a fee imposed for the collection of data under a RDUJ – and so the additional compliance burden comes with a cost as well. This seems to me to be fundamentally duplicative and creating a problematic burden.

SWL has suggested that the value-added of the UDT is that it helps small businesses comply because many don’t understand PIPEDA. The OPC provides all kinds of guidance and information for small businesses and even opened an office in Toronto to have more of a presence for businesses that needed to seek advice. I’m not convinced that there is a justification for increasing the compliance burden and creating duplicative privacy obligations.

Waterfront Toronto response:

On the question of scope, WT’s Intelligent Community Guidelines are aimed at the deployment of “digitally-enabled services (DES).” We acknowledge your concern that routine practices such as video surveillance in a parking garage are adequately covered by PIPEDA, and that it would be unnecessarily burdensome to apply additional requirements on such a deployment. As such, we will have to cautiously define what is captured by the term “DES.” Currently, the definition refers to digital innovations which are proposed to improve sustainability, affordability, mobility, or other public policy objectives set by Waterfront Toronto or its government partners (meaning that a simple video surveillance system would likely not be covered, though it would still be subject to all applicable legal and regulatory requirements). Of course, it is possible that this definition can be further refined through the consultation process.

On the potentially burdensome nature of the initially proposed UDT (or as may be translated into the Intelligent Community Guidelines) – we are very cognizant of the risk of establishing burdens that will prevent Canadian innovators and/or small businesses from operating in the project area. For the former group, our goal is to promote the public good – which includes both heightened privacy compliance obligations and the development of an ecosystem that supports innovation. We have, for instance, considered the possibility of tiered expectations / requirements for part of the Guidelines. As part of our market-sounding for the Guidelines, we will seek to determine whether the Guidelines have struck the appropriate balance between the two. For the latter group, our Guidelines generally would not impact the day-to-day functioning of a small business operating in the project area.

DSAP Comment #62: Here's another issue that relates to the relationship of the data governance regime to civil liberties issues. PIPEDA simply does not apply to certain types of actors or certain types of data collection (eg data collection for journalistic purposes, non-commercial activity, purely personal purposes, etc.) While the commercial activity limitation has more to do with jurisdictional issues, even in Alberta, for example, PIPA only applies to non-profits with respect to the collection, use or disclosure of personal information in the course of commercial activity. One reason for these exclusions is to carve out a space for freedom of expression - which includes not just the right to speak, but the right to inform oneself. I am really concerned about the view of SWL that non-profits, civil society groups – basically anyone who collects data within the boundaries of the development – will have to apply to the UDT for permission to collect. I don't care how routine or simple the application process is made for non-profits, academics, civil society groups, etc. - there should not have to be an application. To place a burden on someone to identify themselves and to ask permission to engage in an activity that they should be perfectly free to engage in is not appropriate. Everyone should be free to walk down to the waterfront and collect a test tube full of water to send to a lab to find out if there are contaminants in it. This doesn't change if it's organized through a public participatory data collection program. The UDT and the RDU process as conceived of is over-inclusive in a number of ways and this is one of them. There has to be an explicit carve out for non-commercial activity (or however it is framed).

Waterfront Toronto response:

In general, Waterfront Toronto's Intelligent Community Guidelines would not apply to the regular activities of non-commercial actors (though, as with government actors, we would promote the voluntary adoption of the principles and processes set out therein), nor prevent them from collecting data in the project area.

On the other hand, if a not-for-profit organization were (for example) selected by Waterfront Toronto to provide a digitally-enabled service, the Intelligent Community Guidelines would generally apply. However, WT has reserved the option to waive some or all of the Intelligent Community Guidelines (to the extent that they exceed legal or regulatory requirements) for a project, which may allow for the relaxing of certain provisions for not-for-profit proponents.

DSAP Comment #63: The composition of the UDT is going to be a point of contention, it seems to me. I am not sure how SWL arrived at 5 as the magic number. The 5 are meant to represent different stakeholders in the data: one is an IP/privacy expert (so not really a stakeholder - which is a bit anomalous); the remaining 4 represent: academia, the public sector, the private sector, and the community. This seems to presume that these are each constituencies that speak with a single voice. 3 levels of government have an interest in the lands at issue, so there is no single "public sector" voice. As for academia - are we talking comp sci prof, sociologist, data scientist, law prof? Or is it meant to be someone who uses data for research? the competencies vary as do the interests. Is the academic member meant to represent the interests of academic researchers? How will one community rep be able to speak for such a complex and diverse city? There's a lot of diversity within the private sector as well. Bottom line, representativeness on this proposed trust seems fraught with problems. Beyond this, what does it mean if the trust is meant to address, in part, concerns over the use of human behavioural data when 3 of 4 "stakeholders" who form part of the trust are users of data and only one 'represents' data subjects?

Waterfront Toronto response:

Moving forward, the MIDP's envisioned Urban Data Trust will not be included in a proposal for Quayside.

A primary role of the proposed 5-person panel was to develop Responsible Data Use Guidelines, against which proposals would be measured. By replacing this with the development of Intelligent Community Guidelines by Waterfront Toronto, we will be able to engage a much broader group of stakeholders in the process. A full, public consultation will be held for these Guidelines.

For the subsequent review of proposals, the Digital Strategy Advisory Panel will also play a key role in reviewing proposals; it is our intention that that Panel remain a body of experts across a broad range of fields which will conduct its activities openly (allowing for scrutiny by other voices).

Lastly, we have established an expectation further documented, facilitated consultation with community stakeholders will occur during the development process, with an emphasis on ensuring engagement with groups most impacted by a particular technology.

We believe that this trio of actions – Guidelines developed in consultation with the community; an open review panel with a broad range of expertise; and an expectation for public engagement on a solution *before* it is proposed – will allow for significant and meaningful opportunities for individuals to provide inputs to the process.

DSAP Comment #64: Enforcement of the UDT decisions a significant concern for me. Under privacy law, the commissioner has some enforcement powers with recent promises that those will be extended in new reforms to come. Order making power, penalties, audit powers, ability to apply to the federal courts are all part of an enforcement toolkit that is essential to compliance. The UDT enforcement is very sketchy - largely just enforcement of contract. Canada does not even have an FTC (like in the US) that might be able to take action on failure to meet obligations. Without real enforcement mechanisms, there is reason to doubt the UDT effectiveness.

Waterfront Toronto response:

WT will introduce two complementary mechanisms which will support enforcement of our Intelligent Community Guidelines.

First, the expectations set out in the Guidelines will be incorporated into binding contracts with proponents, which will be backstopped by meaningful remedies.

Second, proponents (including SWL) will be required to grant WT or government bodies a right to audit or require additional information during an on-site review regarding security safeguards and compliance with privacy requirements.

We believe that these provisions – the ability to audit to check for compliance, and meaningful remedies established via contract – create the potential for effective enforcement.

Again, for clarity, Waterfront Toronto is not proposing a regulatory structure that would in any way contradict or supplant regulatory bodies.

DSAP Comment #65: Struggling to understand how the UDT would align with the privacy commissioner(s). The law must surely trump anything the UDT rules. Yet it gets confusing when aspects of a proposal may involve PII and other aspects do not. This speaks to the broader issue of privacy laws vs. private governance. The proposal envisions considerable private governance - the UDT,

contract binding users of data - but the lines are not clear and raise concerns about attempts to override or sideline the law.

Waterfront Toronto response:

Moving forward, the MIDP's envisioned Urban Data Trust will not be included in a proposal for Quayside.

With respect to the Intelligent Community Guidelines, nothing they contain (or that is contained in any other data governance structure) will override existing law; **proponents will be required to comply with all existing and future regulatory obligations, and to acknowledge and submit to the jurisdiction of the appropriate privacy commissioner.**

In some instances, in order to address concerns raised during the consultation process on a project, Waterfront Toronto may impose additional requirements, as set out in our Intelligent Community Guidelines. These will be enforced by contract.

DSAP Comment #66: Urban Data into an Urban Data Trust that would or could evolve into a public sector or quasi-public agency over time. On this topic it was ambiguous what SWL considered, after all consultations, was a Day One construct that would then evolve alongside the 'known' and already changing Data landscape within Canada - here they even cited the Federal Digital Charter and Provincial and local consultations regarding data governance but made no Day One model suggestions for operation. (Digital Twin should be built here).

In the execution of this project there will be required Data Use reviews from Day One.

The recommendation of a licence fee cost structure that would/could ultimately be used to fund the Urban Data Trust operation and the key CDO role within it was suggested with no model or example to exemplify how such an operating model would exist. Even with nominal fees modelled against one technology deployment (see comments in general impressions regarding Koala mounts) a fee structure, operating model and ROI proposal could have shown how Government funding would be required to stand up such a Trust initially with the Horizon 2 model of a quasi public agency as a transitory state to proceed towards.

The MIDP discusses an innovative Urban Data Trust model without example of Day 1 operations nor any reference to Day 2 possibility apart from Public or quasi Public suggestions.

One example of Data Collection to Usage Admin fee would be beneficial to review the cost and operating model - not just the decision tree and suggested responsible data use questionnaires.

The digital credentials technology and partnerships discussed to protect privacy would also be a good example of a Data arrangement to flow through the Urban Data Trust. It is not just about the collection of Data that the Trust would have Decision Authority over but in stewardship on behalf of the urban residents/dwellers. Here, in order to manage and govern appropriately 'Actors' who Authenticate would be a unique opportunity to show the Value and Data for Good that the Urban Data Trust would have over the Quayside project. Also an opportunity to have Corporate players pay licencing fees to become licenced authenticators that also comply with the responsible data use principles upheld by the Urban Data Trust.

Waterfront Toronto response:

<p>WT's Intelligent Community Guidelines will apply from Day One in the project area.</p> <p>With respect to the funding of an eventual responsible data sharing mechanism – you are correct that this is an area that needs to be explored, and we will consider your comments as we move forward and engage a broader group of stakeholders in discussion on this topic.</p>
<p>DSAP Comment #67: Will the trust have a feedback loop to determine whether the expected / anticipated benefits that were articulated in the original submissions have materialized? For example, a regular review of projects to evaluate outcomes (not just compliance)?</p>
<p>Waterfront Toronto response:</p> <p>Moving forward, the MIDP's envisioned Urban Data Trust will not be included in a proposal for Quayside.</p> <p>That said, WT will establish key performance indicator (KPI) requirements for all project outcomes. We will examine the appropriate mechanisms by which we can keep advisory bodies such as the DSAP can be kept updated on whether and to what extent anticipated benefits have materialized.</p>
<p>DSAP Comment #68: Wouldn't having a public registry of all sensors also create a security risk and make matters easier for malicious actors who would want to sabotage a commercial entity's prospects, or to damage the reputation of the district? The idea of having a public registry of devices should be reconsidered or at least heavily qualified.</p>
<p>Waterfront Toronto response:</p> <p>We are of the opinion that a publicly accessible register of sensors and devices is an important transparency mechanism. That said, we take your point, and will consider both what security risks are posed by such a register and how they can be mitigated, while still meeting the overall objective.</p>
<p>DSAP Comment #69: Oversight and accountability of the UDT itself are missing from the MIDP. What does SWL propose to address this lack?</p>
<p>DSAP Comment #70: Explain how the proposed "Urban Data Trust" would be bound by PIPEDA and (M)FIPPA laws.</p>
<p>Waterfront Toronto response:</p> <p>As noted, the Urban Data Trust proposal will not move forward. However, in any future process in which a responsible data sharing mechanism is developed, accountability and oversight will be clearly established.</p>
<p>DSAP Comment #71: The UDT appears mainly intended to benefit prospective data users, and less so the data subjects. Why is this?</p>
<p>Waterfront Toronto response:</p>

<p>Moving forward, the MIDP’s envisioned Urban Data Trust will not be included in a proposal for Quayside.</p> <p>We believe that splitting the data governance and responsible data sharing mechanisms into separate processes will help to show the benefit to data subjects. In particular, this allows for strong data governance rules to be developed independently of data sharing initiatives, and for the benefits of each to be evaluated separately.</p> <p>That said, we are of the opinion that both improved data governance and responsible data sharing can be beneficial to users, if properly constructed.</p>
<p>DSAP Comment #72: The trust’s role seems to evolve into creating a market for data (e.g. page 435) to manage data licensing. That is an interesting idea but seems to diverge from the initial principles of the trust.</p>
<p>Waterfront Toronto response:</p> <p>Though the “Urban Data Trust” as an entity has been removed, WT’s commitment to the promotion and enabling of responsible data sharing remains. WT will share further information about specific data sharing strategies, protections, mechanisms, etc., as they are developed.</p>
<p>DSAP Comment #73: In contrast to the claims in the sidebar on p. 423, SWL appears to have mis-understood the Open Data Institutes definition of ‘data trust’. Why is there no mention in the MIDP of legal responsibility to beneficiaries, as the ODI promotes?</p> <p>DSAP Comment #74: Given this absence of legal responsibility to serve the interests of its intended beneficiaries, why is it not misleading to use the word “trust” in the name?</p>
<p>Waterfront Toronto response:</p> <p>WT is sensitive to the expectations individuals would have from a data “trust”, and will be cautious should we opt to use the term in developing any responsible data sharing mechanisms or schema.</p>
<p>DSAP Comment #75: The urban data trust appears linked to the creation of the IDEA District. There is a need for a proposal that specifically addresses these issues if the project is limited to Quayside.</p>
<p>Waterfront Toronto response:</p> <p>Both the Intelligent Community Guidelines and the responsible data sharing schema / mechanisms developed for the project will apply at the scope of Quayside. However, it is also recognized that specifically with respect to data sharing, an expanded scope will be more likely to promote urban innovation. As such, our general intention would be to explore mechanisms by which we can expand it and/or integrate it into existing open data portals.</p>
<p>DSAP Comment #76: Have the efforts of the Province (Ontario Data Strategy), the Feds (Canada’s Digital Charter) and the City of Toronto (e.g. open data) been taken into account when designing the UDT/data strategy?</p>

Waterfront Toronto response:

Yes – WT has been careful to ensure alignment between our Digital Principles (and subsequent Intelligent Community Guidelines) and government efforts in this area. We also regularly provide updated information to a tri-government data governance working group and reporting to the Intergovernmental Steering Committee (IGSC). Both of these structures enable us to have ongoing discussions with our government stakeholders about our digital strategy work.

DSAP Comment #77: For the trust, would a solely commercial purpose be acceptable? For example, if there is a proposal to collect data whose main outcome would be bringing more traffic into a private parking lot or to sell more tickets to a private amusement park – would these be deemed acceptable? Approving projects only if they have a public good will limit commercial innovations and possible the ability of companies and startups to thrive in this environment.

DSAP Comment #78: (Volume 2, Page 424) Re: Beneficial Purpose, does this mean that a company cannot use urban data to create a product that benefits them? That is, can they use the data to create their product/service for the sole purpose of driving revenue and profit?

Waterfront Toronto response:

Moving forward, the MIDP’s envisioned Urban Data Trust will not be included in a proposal for Quayside.

To the broader point, it is unlikely that a Digitally-Enabled Solution (those technologies to which the Intelligent Community Guidelines would apply) would have a solely commercial purpose, though it would not be unusual for revenue and profit to be among the proposed purposes for deployment of a DES. For example, development of a better traffic management system might serve both the purpose of meeting a WT objective around mobility *and* create a product that benefits an organization. Similarly, the promotion of Canadian innovation is one of the objectives for Quayside – so, to the extent that a commercial technology supports that innovation goal, it would not be “solely commercial.”

That said, a DES with a non-innovative and solely commercial purpose would not explicitly be disqualifying; for instance, if it were in some way argued that the net impact of the DES on the public interest is highly positive, it might be acceptable. However, this would be a difficult argument to make.

DSAP Comment #79: The role of public security agencies and their access to data needs elaboration. What process would be followed for access to data if requested by a public security agency?

Waterfront Toronto response:

WT recognizes the importance of highlighting potential access to data by law enforcement agencies. For example, we have established a requirement that PIAs provided to the DSAP include, as a standing item, an examination of the potential for personal information from the DES to be used for surveillance by law enforcement (and/or otherwise be subject to lawful access requests), and for proponents to maintain and publish quarterly information about the number and type of requests

<p>and orders for information received from law enforcement or other government agencies, and how they were handled.</p>
<p>DSAP Comment #80: The CDO is a critical role, and a very operational one. I think it would be useful to define job description more precisely. It is a combination of a COO with a legal background who understands data. This is definitely not a person with a purely policy background.</p>
<p>Waterfront Toronto response:</p> <p>In absence of the Urban Data Trust, the CDO role is no longer immediately contemplated. However, should a similar role emerge as part of the discussion regarding a potential responsible data sharing mechanism, we will take this comment into account.</p>
<p>DSAP Comment #82: SWL is proposing a new category of data - “urban data”. ...</p>
<p>SWL has agreed not to use the term “urban data”, and will instead use recognized, Canadian terminology.</p>
<p>DSAP Comment #84: Given that information collected in public spaces is effectively ‘owned’ by the City, on what basis would the UDT have any authority over it?</p>
<p>Waterfront Toronto response:</p> <p>In the new approach to data governance, authority over the data isn’t contemplated so much as authority over project proponents. The source of this authority will vary depending on the service delivery model.</p> <p>Where a proponent is acting independently, WT will establish the requirement for organizations to abide by Intelligent Community Guidelines via contract.</p> <p>Where a proponent is acting as part of a P3 relationship, the proponent will be required to acknowledge the jurisdiction of their government partner to determine its operational needs and policies (in accordance with applicable legislation), as to agree that in general the government partner will control and own any personal information or environmental data collected through the DES (unless otherwise agreed to by the government partner).</p>
<p>DSAP Comment #86: Explain how a policy of “open by default” is always in the public interest. In particular, explain how “open data” policies won’t disproportionately help the large social media and tech companies, given the structural asymmetries in the data-driven economy.</p>
<p>Waterfront Toronto response:</p> <p>WT acknowledges this challenge. Our objective is to design an efficient open data distribution system with incentives for data sharing, for the purposes of fostering an innovation ecosystem. However, we are also aware of the potential that a fully-open data sharing mechanism could exacerbate existing asymmetries.</p>

As we work towards the development of such a system, we will continue to explore ways in which we can maximize our objectives while mitigating against negative externalities. We are open to DSAP input on strategies and/or mechanisms that would support this effort to create an innovative ecosystem which benefits a wide variety of stakeholders. This will also be an area of exploration in our upcoming market soundings with industry.

DSAP Comment #87: Due to the nature of the project there is an obvious interest in maximizing economic elements to open data, but to echo previous feedback it is essential to democratize benefits of data widely, not just those who are able to reap those benefits or those who are charitable enough to use their skills to develop this. It is a sticking point for me that the MIDP include a commitment to sharing tools like data stories with the wider public, particularly with the people who chose to make this neighbourhood of the future their home. From a public benefit perspective this requires minimal effort and provides large public benefit. It could be a suggested feature or role of the Urban Innovation Institute, but something I would like to see in the final draft.

Note: SWL may also wish to comment about its own practices.

Waterfront Toronto response:

As part of the materials to be submitted to WT when proposing a Digitally-Enabled Solution, proponents must include an “open data assessment” that includes: (i) proposals for sharing tools and resources (such as data stories), (ii) an evaluation of how the data will meet open data objectives agreed upon with WT or required by P3 governmental partners; (iii) the risks of re-identification of de-identified data.

Specific requirements to share data (and/or tools such as data stories) will likely not be put in place – but measures that strongly encourage this sharing (potentially with costs associated with not sharing) will be established.

DSAP Comment #88: Given the existing US Department of Justice and European Union Competition Bureau investigations into the anticompetitive practices of large social media and tech companies, how should the Urban Data Trust place specific restrictions on the access to data by those types of companies to ensure competitive markets for innovators in the Toronto ecosystem?

Waterfront Toronto response:

Moving forward, the MIDP’s envisioned Urban Data Trust will not be included in a proposal for Quayside.

As noted in the response to Comments 86 and 87, as WT and its partners seek to develop a data sharing system, we will be very cognizant of the challenge we face in creating an ecosystem that supports Canadian innovators (and in particular, SMEs). However, at this time we can’t commit to any particular measure without further study of its impacts.

DSAP Comment #89: Urban data will be made publicly accessible. As open data? For a fee? How will the model be financially sustainable?

DSAP Comment #91: (Volume 2, Page 383) What does “shared publicly” mean in this context? As open data? What is the governance model behind sharing data publicly?

DSAP Comment #92: (Volume 2, Page 402) I assume that “anyone else” mean large corporates too? Is equal access for everyone the right way to go? Does asymmetry need to be taken into consideration?

Waterfront Toronto response:

As noted in the prior responses, each of these are decisions that will need to be taken into account in the design of a responsible data sharing system.

DSAP Comment #93: (Volume 2, Page 403) I think all data needs to have an owner to ensure quality, context, etc. It’s the requirement to share data that should be up for discussion

Waterfront Toronto response:

We agree. Data ownership in general is a matter that will require further discussion (with the note that it will be expected that where a service is provided on behalf of a government agency, that agency will be the data owner unless it decides otherwise), but will be clearly set out for each Digitally-Enabled Service.

DSAP Comment #94: We had a discussion about data localization and SWL’s commitment to it. I note that in the discussion of the UDT in the MIDP (page 434) SWL does not necessarily contemplate the UDT having control over all of the data it governs. It states, “Facilitating access could be accomplished in a variety of ways from having the Urban Data Trust actually hold the data to having it set rules that require collectors to publish de-identified, aggregate or non-personal data in real time.” What does this approach mean for data localization? Could the UDT impose local storage as a condition? I did not find this in the RDU or principles, but I might have missed it somewhere in the documents.

Waterfront Toronto response:

WT acknowledges the strong sentiment from both DSAP and the public that personal information from Quayside remain in Canada. As such, with *very* limited, defined exceptions, we have established an expectation that such information be both stored in and (where technically feasible) routed through Canada. Where proponents (or their affiliates) are leading cloud service providers, a lack of technical capacity or trained staff will not be acceptable reasons not to store data within Canada.

Whether data localization will be operationalized in part by allowing a data sharing system to maintain custody of data (as opposed to acting as a conduit to it) is yet to be determined but will be a consideration in the development process.

DSAP Comment #95: If SWL cannot guarantee that data remains exclusively within Canadian jurisdiction, in light of the (foreign) surveillance provisions contained in the U.S Patriot Act, the FISA Amendments Act and Executive Order 12333, how can it give assurance that the privacy and security of Torontonians will be protected in any cases where their data may reside in or transit via the United States?

DSAP Comment #96: The public has spoken loudly in favour of data residency. While there is reason to debate whether data residency provides iron clad safeguards (it doesn’t), the public clearly feels more comfortable with data resident in Canada. Best effort isn’t good enough. A clear commitment is needed.

<p>Waterfront Toronto response:</p> <p>As noted in the above comment, WT’s Intelligent Community Guidelines (and any potential implementation agreements) will include a strong requirement for data residency, except in <i>very</i> limited, defined circumstances, which will be considered in a very granular context.</p>
<p>DSAP Comment #101: When entities are making claims about de-identification, there should be a mechanism to certify that they have implemented good practices. There are many cases where entities make claims about de-identification but under further examination the practices are not very robust. Given the role of de-identification in maintaining public trust in the data ecosystem, this should be accompanied by a certification mechanism (say, by third parties) as part of the requirements. The same would be for the creation of synthetic data.</p>
<p>Waterfront Toronto response:</p> <p>This is a valuable point. As a general rule, WT will be sensitive to the provability / auditability of any claims or assertions made related to a privacy practice, including de-identification.</p>
<p>DSAP Comment #106: Assuming the security by design results in a system that is different than the City’s systems of today, will this tax city staff to maintain? Will it make the rest of the City’s systems more vulnerable? How will the two systems be integrated given that legacy systems are likely proprietary?</p>
<p>Waterfront Toronto response:</p> <p>Each of these factors – costs to City staff, and integration with and impact on legacy systems – will be important points that we consider during our evaluation of each element of the proposal and, if appropriate, our development of implementation agreements.</p> <p>It is unclear that we have sufficient information (before the Digital Innovation Appendix) to comment on the impacts of current proposals.</p>
<p>DSAP Comment #107: This strikes me as a weak offer. It’s not the percentage that’s the problem, it’s the term. City building takes time and innovations that involve city development play out over decades, not years. Ten years is too short a time frame to fully benefit. Moreover, as others have noted, there is reason to doubt the utility of the patent pledge given its jurisdictional limitations.</p>
<p>Waterfront Toronto response:</p> <p>We agree. On your first point, we have required the SWL agree that the long deployment cycles for cities will necessitate a longer revenue sharing arrangement than what has been proposed. Specific details will be negotiated as part of the broader commercial negotiations and resolved through appropriate implementation agreements, should the project progress to that point.</p> <p>On your second point, we have required that the patent pledge be extended to a global scope and Sidewalk Labs has agreed to this.</p>
<p>DSAP Comment #108: As the movie business learned long ago % of net profit is hard to measure and easily manipulated particularly when a product’s profits needed to be extracted from overall corporate</p>

<p>accounts with relatively arbitrary allocation of overhead costs. This is very hard to value in the overall business case for the public sector. Should Waterfront Toronto wish to pursue this it necessarily needs to be a % of gross including associated services. This does not feel like a priority to me. A more tangible commitment to fostering Canadian, Ontario, Toronto companies would be more impactful.</p>
<p>Waterfront Toronto response:</p> <p>While specifics remain to be negotiated, we have required that any value share be based on revenue, not profit. In addition, we have requested additional information be included in the Digital Innovation Appendix regarding SWL’s approach to working with Canadian companies.</p>
<p>DSAP Comment #109: Overall, I think there are a number of highly questionable financial arrangements in the proposal. Providing anything software-related at cost is not a concession, it is an imposition. The 10% for 10 years is also unlikely to be appropriate as (1) most profits are likely to be beyond the 10 year horizon given the timelines of development and (2) it is easy to manipulate the profitability of complex/custom software by dividing the contract into provision of the technology license and provision of the services to support its roll-out.</p>
<p>Waterfront Toronto response:</p> <p>As noted in prior comments, we have required changes to both the 10-year horizon and the share of profit.</p> <p>With respect to your first note, on provision of software at cost, we appreciate that you’ve raised this and this is a matter that we have been discussing in the broader context of the proposal.</p>
<p>DSAP Comment #111: Has the feeling of university tech transfer strategies that have largely failed. Those strategies envision universities benefiting with a percentage of revenues from patents. But the data suggests that few do. A better public-interest strategy may be open science that emphasizes public availability of new technologies. In other words, is there a better public interest option to benefit from new innovation and commercialization?</p>
<p>Waterfront Toronto response:</p> <p>Thank you for providing this context. WT will continue discussions on intellectual property matters – which require significant effort – in parallel with the evaluation process.</p>
<p>DSAP Comment #112: Testbed Enabled Technology also applies to the entire project of Quayside and the extended proposal by SWL in response to the RFP. There is no other Urban Testbed that will utilize technology to enable an urban development like this project. To that end my view is that this entire MIDP is candidate for being described as Testbed Enabled Technology.</p> <p>With this it is stated that all IP associated will be shared at 10 percent upon the sale of the solution to the Second customer. SWL will generate enormous shared IP in the execution of the MIDP at scale and overall in the design, plan and execution of the many component parts of this initiative, but the most valuable will become the overall IP gain in the process of being selected as a partner.</p> <p>WT cannot execute a second program at scale in the same manner as SWL will be able to as a global company with niche experience and resources and IP experienced on the testbed of Quayside. It is here that I would suggest that the share of Program/Project IP in the overall execution of this process</p>

<p>to a second city should be considered for WT. As a minimum this would fund an Urban Data Trust in Quayside and truly create the opportunity for Data to serve as Good for Canada.</p>
<p>Waterfront Toronto response:</p> <p>Thank you for providing this context. Intellectual Property matters – including any value-share for the Plan itself – will continue to require significant effort to resolve in parallel with the evaluation process.</p>
<p>DSAP Comment #113: I share the concerns of panelists, but I also want to take a moment to mention that it really cannot be underscored enough how unique this commitment is for Sidewalk to recognize the role of the public sector in value creation and that it should translate to financial benefits. At the same time, since this type of arrangement is unique, for Waterfront Toronto to decide whether or not this is appropriate given the concessions Sidewalk’s MIDP requests there needs to be a greater understanding of the organization’s business model, its resources and strategy for scale of innovations past Toronto.</p> <p>This is not your regular technology or product; much of what has been proposed potentially shifts how cities operate, are planned and are built. It is not something cities will be eager to adopt immediately, and with this type of technology it is not the first or the second customer that will be challenging, it is achieving scale, which will take a long time. My recommendation would be to extend the timeline for benefits and thoroughly understand their future ambition and the resources that will be allocated in the midst of undertaking the massive development of Quayside/the IDEA district and navigating growing pains of Sidewalk Labs as an organization. Given the limited information on Sidewalk’s future, it is puzzling to know whether or not this will be a deal whose benefits justify the concessions that need to be made by our institutions to achieve Sidewalk’s vision of the IDEA district.</p>
<p>Waterfront Toronto response:</p> <p>Thank you for this comment – we agree, and have discussed an extension to the timeline for benefits as recommended as noted above.</p>
<p>DSAP Comment #114: There was a lack of any form of a valuation model for data collected. Pg. 221 - 10 percent of profits shared when product was sold to second city post WT. This valuation is based on product models only - there was no mention of how any data valuation would be monetized. For example - not selling the actual product or data from that specific product - but the vaster data collected for the overall execution of this project, stage by stage and gate by gate. Here could be the most valuable data set available for valuation - the actual run book and insights from the execution of the MIDP. Would this also become profit shared when SWL advises the next city on such a program based off the initiation and early success of this MIDP.</p>
<p>Waterfront Toronto response:</p> <p>Thank you for providing this context. Data ownership and Intellectual Property matters will require significant effort in parallel with the evaluation process, including valuation models.</p>
<p>DSAP Comment #115: I worry that agreeing to this could partially tie the success of Waterfront Toronto as an organization to the financial returns of Sidewalk Labs. How valuable would a testimonial from Waterfront Toronto or the City of Toronto be about a Sidewalk Labs product or technology be when the world knows any purchase may result in % gain? Cities have an open policy of communication despite borders largely because of the shared mission to public interest. This point should not be underemphasized, particularly when you consider Sidewalk Labs has limited experience with</p>

<p>developments. There are talented people on staff, but their collective track record will be built alongside this project. All important pieces to consider when thinking about the value vs concessions being made, particularly if any commitment is made to the desired IDEA district.</p>
<p>Waterfront Toronto response:</p> <p>This is a very valid point, and one that we will have to keep front of mind as we move forward in any revenue sharing arrangement. At minimum, WT can commit to ensuring full disclosure of any financial interest it may have in the adoption of a technology should we be asked to comment on our experiences with it.</p>
<p>DSAP Comment #118: (Vol 3, Page 113): “With respect to advanced systems, SWL would notify the relevant administrative unit within the public administrator if it intends to utilize a product or service in which it holds a financial interest within Quayside or Villiers West.” In this case does the Public Administrator have unilateral veto rights or is it just about providing notice of an intended action?</p>
<p>Waterfront Toronto response:</p> <p>As noted in the threshold issues response, there will be no public administrator. However, this is a good suggestion for inclusion as to the type of information that should be brought to WT/DSAP when a DES is being reviewed.</p>
<p>DSAP Comment #119: “The only condition is that those taking advantage of the pledge not assert their Canadian patents against Sidewalk Labs or its affiliated companies.” – This condition, emphasized in the presentation, is not nearly as equitable as it sounds. It effectively means that in order to use SWL tech, you have to give them all of yours – it basically removes the ability of small firms to exercise or patent anything. This is a higher imposition on the small firm than the large.</p>
<p>Waterfront Toronto response:</p> <p>Thank you for this context. As noted in prior responses, matters related to Intellectual Property continue to require discussion moving forward, and we will raise this issue.</p>
<p>DSAP Comment #120: I also struggle with the patent pledge. The pledge is: “Sidewalk Labs would pledge not to assert Sidewalk Labs’ digital-innovation-related hardware or software patents issued in Canada (“Canadian Patents”) against third parties who develop and sell innovations that utilize such patents”. The pledge is for SWL not to assert its Canadian patents – presumably it would be free to assert its US or European (etc.) patents for the same technologies if those developers try to patent, sell and/or use their technology in other jurisdictions. So how valuable is this patent pledge? Anyone who is limited to the Canadian market is going to be pretty limited. And how does this patent pledge work if the technology involves the routing of data that might cross international borders? (I’m thinking here of the patent infringement litigation that was launched against RIM all those years ago - it might be possible that technology used in Canada could be subject to claims of infringement of US patents simply because of the way the invention functions and the way in which information is routed). Anyhow, this is not really my area of specialty - but I do wonder whether these are issues.</p>
<p>Waterfront Toronto response:</p>

We agree, and come to agreement with SWL on an expanded patent pledge that will provide Canadian innovators operating globally with the right to use all Sidewalk Labs' Canadian and foreign patents covering hardware and software digital innovations.

DSAP Comment #122: Their "General approach: Buy rather than build, wherever possible" raises a few flags in my view. Why is Sidewalk Labs purchasing the technology? While I don't expect all details to be ironed out just yet, and there will be scenarios in the MIDP where Sidewalk Labs will purchase technology to fulfill its role in the project, this section reads as if Sidewalk Labs will be procuring a large amount of technology and "give priority to technology that is local to Toronto, Ontario, or Canada".

Will this be at odds with Ontario Broader Public Sector Procurement Directive that Waterfront Toronto must follow? I recognize the value of acting as a catalyst to the innovation ecosystem, but the Public Sector Procurement Directive has stipulations like "contracting and purchasing activities must be fair, transparent and conducted with a view to obtaining the best value for public money" - which would limit the ability to prioritize local firms. Will this mean that to follow this commitment Sidewalk Labs would need to do most of the procurement? Sidewalk Labs would be free from this Directive, but I would expect, given the nature of the project, that there be a clear commitment of full transparency in its decision-making. In the final draft I expect such a commitment be explicit - how else will Sidewalk Labs be held accountable that there are (or aren't) giving priority to technology that is local to Toronto, Ontario, or Canada?

Waterfront Toronto response:

Waterfront Toronto remains committed to our procurement policies (see: <https://waterfrontoronto.ca/nbe/portal/waterfront/Home/waterfronthome/procurement>). We have asked Sidewalk Labs to provide additional information regarding their procurement approach both in the DIA as well as more broadly for the project.

DSAP Comment #131: This document got the attention of a grand unveiling, and over the last few months, I have heard again and again about how "hard" Sidewalk's job was to balance detail required, but the level of detail that was expected of them was laid out entirely in the Plan Development Agreement. Based on the PDA never in the wildest of scenarios could anyone have predicted this document would be 1500+ pages.

They made the choice to go way beyond that, often in completely inappropriate ways, partially justified as feedback heard over the course of their consultation. They heard a variety of concerns and felt they should acknowledge those concerns and address them in the proposal. Except, no one asked them to do so - they were right to acknowledge those concerns, but they should have known their role and directed those concerns to the correct institutions, or used this as an opportunity to grow public sector capacity and expedite conversations that are desperately needed in cities across the world. They had the opportunity to build sustainability into the project, to contribute to the challenging work of navigating "smart cities" and prove critics wrong from the start and have instead chosen to prioritize their interests. I understand they have worked with various stakeholders and circulated elements of the plan prior to its release, but this issue persists.

Take the Data Trust - until well into the project the discourse did not point to this being a key part of the MIDP. Under the plan development agreement a data trust is mentioned a total of once in Schedule I with the caveat that it will "Explore novel forms of data governance". Based on Schedule B I get how it could fit under the digital platform, but again, no one asked for anything past an exploration. Government adapts based on public feedback, successful proponents don't. Schedule B, also lays out in 1.04 that "the plan may require revisions of, or other approvals under, such existing applicable laws

and existing policy framework, in which case the implementation of any such plans will be subject to the relevant Governmental Authorities making or granting such revision or approval. The MIDP will be developed through a process of co-creation and collaboration between the Parties, informed by a robust public engagement process and close collaboration with the City of Toronto and other governmental agencies and stakeholders.” Feedback from other panelists on their proposed Urban Data Trust shows how their proposal falls short in several regards and would have benefited from proper collaboration with existing entities already working in the space.

DSAP Comment #132: Overall their work so far shows the PDA wasn’t followed as intended. Unfortunately they have opened up Waterfront Toronto, their organization, and the entire project to criticism that a private entity is driving public policy in the City of Toronto. The public draft should not have anything other than recommendations on what elements are required or essential to the development of Quayside. The fact that Waterfront Toronto had to release a “note to the reader” outlining their concerns over 66 pages is baffling. At the scope of the IDEA District, with the concessions being requested, I guarantee a number of actors would be willing to come to the table. It is a serious concern to me that with hindsight this RFP will be seen as a “backdoor” for Sidewalk Labs.

Waterfront Toronto response:

WT takes these points, and are hopeful that the significant re-scaling of the proposal (including the removal of governance mechanisms such as the urban data trust) that has occurred will address many of these concerns. As well, it is worth noting that WT will be evaluating the proposal based on how it meets the priorities and objectives established in the RFP.

DSAP Comment #137: Shadow City and Civic Governance Infrastructure: the MIDP has lots of calls for new organizations to be invented. They seem like parallel inventions to institutions we already have in part/full (e.g. public administrator for the IDEA district - economic and development and planning departments; Open Space Alliance - Park People / parks and rec departments. I think a fundamental principle moving forward is that we don’t invent new organizations / institutions until we first invest the government/NGO ones to see if we can grow them first. Page 71 of the V 3 states: “The innovative solutions needed to achieve Waterfront Toronto’s priority outcomes require management and oversight by dedicated, accountable, and financially self-sustaining, community-based governance structures.” I would argue that given the complexity of data-governance elements of this plan, it will be expensive and technically difficult to build the right capacity inside discrete organizations, especially for a 12-acre site. Every new organization that is set up has operations costs. The capacity to innovate needs to be focused inside government organizations first so that the lessons learned can be scaled and so that innovation emerges from democratically accountable processes. Similarly, why invent new NFP orgs what will require funding when perhaps some/the better part of what is proposed could be integrated, more economically, into existing ones with proper funding.

Waterfront Toronto response:

Proposed new governance mechanisms have been removed from the proposal.

DSAP Comment #141: How does this project affect the rest of the City’s operations - infrastructure, inclusion, mobility, etc.? Are we creating a siloed Utopia that could be the target of disdain by the rest of the City?

Waterfront Toronto response:

While there will be new projects and technologies tested and deployed in the project area, Quayside will not operate in a fundamentally different way than most of the City (with the exception of certain additional requirements – such as abiding by Intelligent Community Guidelines – and certain economic development and innovation measures).

The nature of a testbed is such that certain advances may first occur in the area – but if they are successful, they can be deployed more broadly. It is essential that should we move forward on Quayside with SWL, the project must stitch into the fabric of the broader City.

DSAP Comment #148: ... Substance aside, how comfortable is WT feeling about choosing a development partner who behaves like this? I know WT staff have tried to corral the effort but feels like you have been usurped on many fronts. The Board Chair’s letter and the recent amendment to the PDA are curious developments.

WT is keenly aware of the issues raised. We are hopeful that the resolutions put forward to the threshold issues show that WT has the ability manage the process. We are also optimistic that we will be able to put the appropriate conditions in place to ensure a productive and accountable relationship moving forward – though this will be an element of our overall evaluation of the MIDP and any potential implementation agreements, should the project progress to implementation.

DSAP Comment #149: Tied to the aspirations set out in the PDA that the project would set new standards in urban technologies and city-building, if the plan is serious about public engagement and literacy it should be more forward about creating an engagement model with the public. This includes helping the public frame the discussion with a civic digital literacy onramp into the issues and to assist the public in contributing to the design and implementation of the plan. This should be enabled and delivered by a trusted, and preferably public-sector or non-profit entity that can partner with citizens/residents in an inclusive and empowering way.

Waterfront Toronto response:

We agree, and as part of our discussions WT has committed to taking a strong role in civic education on digital issues, which it may execute in partnership with other stakeholders.

Sidewalk Labs Response to Digital Strategy Advisory Panel Preliminary Commentary and Questions

Dear Waterfront Toronto Digital Strategy Advisory Panel,

As Sidewalk Labs, we wanted to thank you again for the Preliminary Commentary and Questions that you provided to Waterfront Toronto in August. Your insights have significantly shaped our thinking, and we hope you see this in the evolution of the proposal since the release of the draft MIDP in June. In this document, we have provided responses to the questions you raised in your Preliminary Commentary and Questions. Under Waterfront Toronto's guidance, we have only answered the questions appropriate for us to answer. These responses reflect Sidewalk Labs' current thinking and are in no way meant to represent final viewpoints which will be developed through further consultation with Waterfront Toronto along with other stakeholders. The responses we have provided reflect both changes to the proposal that have resulted from the resolution of Threshold Issues process, as well as additional information.

In addition to these questions, we will be providing you with the Digital Innovation Appendix (DIA) on November 7th. This new document will form the core content on Digital Innovation that will be formally evaluated by Waterfront Toronto, and thus is the primary document for your review going forward. The questions provided here are based upon the work we have done for the DIA, which has been shaped by a number of inputs: the DSAP Preliminary Commentary and Questions; Waterfront Toronto Board Chair Steve Diamond's open letter on June 24th; Waterfront Toronto's "A Note to Reader" for the draft MIDP on June 28th; Waterfront Toronto's Feedback Report summarizing the first round of public consultation on September 19th; and the materials voted upon by Waterfront Toronto's board on October 31st that address the resolution of the Threshold Issues raised by Steve Diamond in his June open letter.

Thank you again for all of your work on behalf of Waterfront Toronto, and we look forward to engaging with you and reading the final review you provide to Waterfront Toronto.

Sincerely,

Alyssa Harvey Dawson, Eugene Kim, Jacqueline Lu, Jesse Shapins and the Sidewalk Labs team

Response to DSAP Comments

DIGITAL INNOVATIONS – Chapter 5, Volume 2

Digital Innovations – General

DSAP Comment #1: (SWL) In contrast to the specificity of the Urban Data Trust proposal, the MIDP is relatively thin in its details about the proposed digital infrastructures, software and databases. Please provide comprehensive dataflow and systems architecture overviews. Use layered or stack models, where appropriate.

DSAP Comment #2: (SWL) The digital innovations need to be updated to include all digital innovations not just those that Sidewalk plans to implement itself. Scattered throughout the documents are digital systems, some of which Sidewalk proposes to RFP, some of which it will 'partner' to implement. For example, systems are proposed for Digital Fabrication for the wood buildings, affordable housing, robot delivery, offsite parking, energy management (Perform), new utility bills, thermal grid and power grid. In order to get a comprehensive view of the economic opportunity and the scope of data governance a comprehensive map is required of all digital systems.

DSAP Comment #3: (SWL) Totally agree. Need a more comprehensive approach to bringing together the various innovations across chapters. The current approach means the "digital innovation" chapter is too narrowly defined and misses many of the innovations and their policy implications.

DSAP Comment #5: (Both) Foundational to governing the wide range of digital assets mentioned in the Plan are questions of who would own them, what jurisdiction(s) would they be governed under and which parties would be responsible for developing, testing, operating, maintaining, funding and disposing of them. Please provide a comprehensive inventory of its various proposed digital assets (including all physical infrastructure, software systems and databases) that makes clear the relevant jurisdictions and responsibilities.

Sidewalk Labs Response:

DSAP Comments #1, #2, #3 and #5 have similar underlying questions, and thus are being addressed together.

We have synthesized a response below that first addresses providing a comprehensive listing of the digitally-enabled innovations and an initial set of details, and second, a process for providing further details around digital architecture.

Listing Digitally-Enabled Innovations

The Master Innovation and Development Plan (MIDP) proposes a wide set of urban innovations designed to positively impact quality of life in Quayside from day one. The Digital Innovation chapter in MIDP Volume 2 provided an initial list of digitally enabled Launch Services to support achieving Waterfront Toronto's Priority Outcomes. Recognizing that this list was not exhaustive, Sidewalk Labs has compiled a unified list of digitally enabled innovation services proposed for Quayside, and referenced throughout the MIDP. This list will be published with the forthcoming Digital Innovation Appendix.

This list represents the first step in the development of a comprehensive set of digital innovation materials for the project, and provides a base for iterative design, development, and reviews by

Waterfront Toronto, the City and other stakeholders moving forward. The list aims to identify not only the *what* and the *why* of proposed digital innovations, but also the *how* and the *who*. Among other things, this includes: which Waterfront Toronto Priority Outcome(s) it advances; municipal precedents; what data would be generated; how the data would physically be generated; whether the innovation would be bought, built, or a combination of the two; the proposed lead for procurement; who has typical operational oversight; who is suggested for operational oversight; etc. Notably, suggested operational oversight for the great majority of district-wide infrastructure services proposed for Quayside is same as today: government, non-profits, or other regulated bodies such as private utilities. The list also helps provide a clear, single source for what data collection activities are proposed — and what activities are not. For example, the list makes it clear that no facial recognition is included in Sidewalk Labs’ proposal, nor is there anything that tracks the individual movements of people.

A process for providing digital architecture details

It should be noted that the MIDP is a document that incorporates a build program, site plan, and development strategy at a conceptual level. It does not reflect the detailed level of design that would be required for the city’s formal development application process. Similarly, Volume 2 of the MIDP provides conceptual designs for the digital architecture needed to achieve Waterfront Toronto’s Priority Outcomes. It does not reflect the detailed design of the full digital architecture that is proposed - this would be further detailed and designed in parallel with the development of the Quayside build program.

Subject to the approval of the MIDP, Sidewalk Labs would work with a full design and engineering consultant team to prepare a detailed development plan and accompanying infrastructure and transportation master plan for Quayside, as currently required by the development application process. The detailed development plan would advance the plans as conceptualized in the MIDP to the level of detail needed to proceed with the approvals process, which includes the completion of development applications subject to formal review by various government staff and agencies, public consultation, and final approval by the City of Toronto Council.

Further to direction from Waterfront Toronto and the City of Toronto, the digital architecture materials that Sidewalk Labs could provide would identify, classify, and map physical locations of the digital infrastructure that is encompassed within the Quayside Development Plan, and include a list of associated data that could be collected. All proposals to collect or use data would proceed through existing processes, such as any processes required by Waterfront Toronto’s Intelligent Communities Guidelines, and other assessments as required by City or Provincial regulators, to ensure that the digital services achieve responsible data use and abide by regulatory requirements. Section 1.2 of the forthcoming Digital Innovation Appendix sets out further details.

Among other things, Sidewalk Labs would prepare a series of drawings and illustrations that articulate the integration of digital architecture in the physical building and systems design, as part of the detailed development plan. Sidewalk Labs sees these digital architecture studies as necessary for fully understanding the integration of physical and digital systems, and to ensure these systems are responsibly implemented and have appropriate evaluation and consultation. Section 1.3.2 of the forthcoming Digital Innovation Appendix provides detail and includes an initial set of conceptual site diagrams (including axonometric diagrams and section diagrams) that illustrate the integrated digital and physical layers of the systems proposed for the project, and which intend to provide an early understanding of the spatial location of sensors and related technology in the neighbourhood.

Subject to project approvals, Sidewalk Labs looks forward to working with Waterfront Toronto and the City to refine an appropriate approach to the scope and timing of digital architecture submittals during the development application process, and any other requirements.

DSAP Comment #4: (Both) Related to this, please make public a comprehensive inventory of the kinds of information SWL would provide to the UDT for approval about its purposeful solutions and core services, e.g. where would sensors of what kinds be located and with what data outputs? Where would the data from these sensors flow, how processed, for whom and for what purposes?

Sidewalk Labs Response:

A consistent theme of feedback has been encouragement for existing, government-established entities to take the lead on data governance. The intent for Sidewalk Labs' Urban Data Trust proposal was to ensure responsible data use and support trusted data sharing, but the clear feedback was that creating a new standalone entity for both these functions was not a preferred path. The agreed-upon approach from the Threshold Issues resolution process is responsive to this feedback and recognizes that Waterfront Toronto and its government stakeholders lead on data governance. It also reaffirms Sidewalk Labs' commitment to comply with all applicable Canadian laws, Waterfront Toronto's Digital Principles and forthcoming Intelligent Community Guidelines, and applicable policy frameworks.

As noted above, further to direction from Waterfront Toronto and the City of Toronto, Sidewalk Labs would provide digital architecture materials that identify, classify, and map physical locations of the digital infrastructure and include a list of associated data that could be collected. An initial set of conceptual site diagrams that illustrate the integrated digital and physical layers of the systems proposed for the project is included in section 1.3.2 of the forthcoming Digital Innovation Appendix, with the intent of providing an early understanding of the spatial location of sensors and related technology in the neighbourhood, the types of data generated, the purpose, and other details.

DSAP Comment #6: (Both) Obsolescence, currency, and refresh are all considerations that need to be dealt with in depth in the implementation and operating agreements. In addition, technology replacement provisions are required should the implementation fail to operate reliably or meet its targets in contributing to the RFP goals.

DSAP Comment #11: (Both) How will SWL ensure that WT and the City will be well protected (in terms of infrastructure, investments, system integration, etc) if it or its subcontractors, affiliates, etc. pull out of the project? See Google Fibre pull out in Louisville KY.

Sidewalk Labs Response:

DSAP Comments #6 and #11 have similar underlying questions, and thus are being addressed together.

If the project is approved to move forward, Waterfront Toronto and Sidewalk Labs would enter into a set of agreements ("Principal Implementation Agreements") to implement the project. Future implementation agreements might also be needed for the project. Among other things, these implementation agreements would include commercial terms agreed upon by the parties regarding matters such as intellectual property, liability for infrastructure systems, systems integration, obsolescence, currency, refresh, etc.

DSAP Comment #7: (Both) The plans should not just outline the new technologies being proposed, but also more detail on how those technologies will be sourced, evaluated, maintained and secured. The sustaining, maintenance and upgrading of urban technologies are the largest expense over the lifetime of any asset. I would like to see more here on how this will be addressed and by whom.

Sidewalk Labs Response:

The first part of the response below responds to the procurement-related aspects of the question, and the second provides additional detail around Sidewalk Labs' approach to securing technologies.

Procurement

The List of Digitally Enabled Services for Quayside, which will be published with the forthcoming Digital Innovation Appendix, provides details on typical operational oversight, suggested operational oversight, and proposed procurement lead for each of Digitally-Enabled Services. Accountabilities regarding sustaining, maintenance and upgrading these technologies would be detailed in legally binding agreements. The form of agreement will depend on the technology being sourced. Depending on the system being purchased, it is anticipated that some procurements may be led by Waterfront Toronto on its own behalf or on behalf of governments, while other procurements may be led by Sidewalk Labs.

These procurements would be governed by various principles, depending on the organization conducting the procurement, since public-sector organizations, broader-public-sector organizations, and private-sector organizations each have a different set of default rules from various sources that apply to them.

Should the MIDP receive the required approvals, Sidewalk Labs would need to procure third-party goods and services in order to execute its commitments in the Plan Development Agreement and subsequent Principal Implementation Agreements. Some of these procurements would include procurement of technology. As a privately held company, only the common law of tendering applies to procurements by Sidewalk Labs except to the extent that it agrees otherwise by contract. When entering into the Plan Development Agreement, Sidewalk Labs agreed to abide by certain additional standards after execution of the Principal Implementation Agreements, namely, fair and arm's-length procurement standards, which "will seek to balance — in the public interest — the use of market-based sourcing, on the one hand, and the direct facilitation of Purposeful Solutions for innovation, on the other hand." For every technology that Sidewalk Labs procures through market-based sourcing (which includes all technologies not produced by Sidewalk Labs), Sidewalk Labs would abide by fair and arm's-length procurement standards informed by the principles enumerated in Schedule D of the Plan Development Agreement, namely, consultation, flexibility, value, fairness, and compliance.

Sidewalk Labs could be procuring technologies in its role as lead vertical developer. For example, Sidewalk Labs may procure a technology for use in tall timber buildings, which would be physically integrated into buildings by vertical development partner(s) for Quayside. Additionally, Sidewalk Labs would lead implementation of advanced infrastructure systems in accordance with the Innovation Plan, subject to Waterfront Toronto's review and approval. "Advanced infrastructure" includes the thermal grid, pneumatic waste systems, and other non-traditional systems as proposed in the MIDP. To the extent Sidewalk Labs would propose to move forward with advanced infrastructure, with Waterfront Toronto's approval, Waterfront Toronto would not be held responsible for delivery or operation of such advanced infrastructure.

As one potential example of how overall procurement and operational oversight would work for advanced systems: in the case of the waste management systems, Sidewalk Labs would manage the design and engineering, subject to reviews and approvals by the City. Sidewalk Labs would procure and manage construction based on the approved plans, and as permitted by the City. In operation, waste would be picked up by a hauler at a consolidation center on Quayside.

In these procurements, Sidewalk Labs would seek to ensure the Canadian ecosystem is aware of all procurements and prioritize Canadian companies by breaking ties in their favour. The specific mechanisms to achieve this, while ensuring best-in-class and fair value, will be further clarified through engagement with the industry.

Securing technology and ensuring reliability

Sidewalk Labs leverages best practices as well as public and open standards to ensure that digital systems are not only secure and protected from deliberate cyber-security threats but also function reliably in the face of unusual events.

Sidewalk Labs' approach to digital reliability emphasizes three design goals:

- Prevent disruption and loss of functionality.
- Enable rapid detection of actual loss or increased risk of loss of functionality.
- Prepare to rapidly restore functionality to services that are disrupted.

Wherever possible, Sidewalk Labs uses public standards and open source software with strong institutional and community support, enabling collaboration with practitioners around the world to address problems as they arise. Sidewalk Labs would also use the Common Vulnerabilities and Exposures system to stay abreast of potential problems.

Additionally, Sidewalk Labs will give preference to modularity of systems whenever possible, enabled by its commitments to open standards and interoperability detailed in the previous section. Modularity and reliance on open-source hardware and software makes it easier to isolate, replace, or upgrade individual components.

Given the rapid evolution of best practices as new technologies emerge, Sidewalk Labs' strategy is to follow general best practices as established by the security community for all the technologies it develops or maintains, such as the benchmark security standards, SOC 2 compliance and ISO27001 for applicable products and services.

DSAP Comment #8: (Both) The MIDP gives the strong impression that it was developed with little direct involvement with the range of relevant Toronto community actors or with attention to inter-operability with existing (digital) infrastructures. This raises the prospect of Quayside becoming a 'digital island' within Toronto. Please provide a comprehensive inventory of the status of its relationships with relevant actors, how its proposed digital innovations will benefit the various stakeholders and work with existing infrastructures?

Sidewalk Labs Response:

The MIDP incorporates a build program, site plan, and development strategy at a conceptual level, and does not reflect the detailed level of design required for the City's formal development application process. Likewise, it provides conceptual designs for the digital architecture needed to achieve Waterfront Toronto's Priority Outcomes. It does not reflect the detailed design of the full digital architecture that is proposed. This would be further detailed and designed in parallel with the development of the Quayside build program.

The existing regulatory development process does not require specific studies or reports focused on the digital and data-collecting components of the proposed development. Thus underlying digital architecture of developments is typically not comprehensively understood either during or after the development application process or after approvals are granted.

In an effort to provide clarity and transparency on the digital architecture proposed for Quayside, Sidewalk Labs is planning to prepare materials as part of the development application process. These materials will detail the underlying digital architecture and data systems as the overall Quayside project is designed and undergoes municipal approvals. This consolidated digital architecture package would strive to provide a strong understanding of the digitally-enabled services proposed in the development, and enable appropriate consideration of interoperability with existing digital infrastructure.

Further to direction from Waterfront Toronto and the City of Toronto, digital architecture materials provided by Sidewalk Labs could identify, classify, and map physical locations of the digital infrastructure integrated in the Quayside Development Plan, and include a list of associated data that could be collected. All proposals to collect or use data would proceed through processes as required by Waterfront Toronto, the City, Provincial regulators, and other authorities.

The progression of these materials is initially envisioned as:

- Level 1 - Digital design goals defined with basic architecture layouts (as provided in the MIDP and in the forthcoming DIA)
- Level 2 - General architecture defined allowing design flexibility for each element
- Level 3 - Specific location, purpose, type, and communication protocol for each architectural element complete
- Level 4 - Specifications and construction drawings

Further details are available in section 1.2 of the forthcoming Digital Innovation Appendix.

Additionally, Sidewalk Labs intends to further engage work underway by groups such as the CIO Strategy Council and the Open City Network to establish standards that value inclusiveness, openness, public interest, and respect for individual rights and privacy. These standards include the ethical design and use of automated decision systems and third-party access to data. The CIO Strategy Council is accredited by the Standards Council of Canada (SCC) to develop and submit standards to SCC for acceptance as National Standards of Canada.

Finally, Sidewalk Labs would comply with Waterfront Toronto's Digital Principles and forthcoming Intelligent Community Guidelines, as well as applicable policy frameworks.

DSAP Comment #9: (Both) How much consideration is being given to extending the innovations in the IDEA district to the rest of the City?

Sidewalk Labs Response:

Our current focus is on the Quayside project as indicated in the resolution of Threshold Issues released October 31.

DSAP Comment #12: (Both) Interoperability is inadequately addressed. Without interoperability with personal alternative access systems, the data innovations proposed for individuals with disabilities will not function. **How will interoperability be planned and assured?**

Sidewalk Labs Response:

Thank you for this comment. With respect to interoperability for the project, Sidewalk Labs has committed to:

- *Open architecture*: providing data in standard formats and via well-defined, public application programming interfaces. Where relevant standards do not exist, it would work with other companies, researchers, and standards bodies to create those standards.
- *Open source*: the software source code required for others to integrate with each of these systems would be made publicly available under a free software licence.

These approaches support aspects of Waterfront Toronto’s *Digital Principle #1: Everyone will have access to, and benefit equally from, digital solutions* by enabling participation in digital activities through open digital processes and the sharing of data as appropriate. They also support *Digital Principle #2: Digital solutions will be open, ethical, and resilient* by advancing open standards, interoperability, and protocols that do not foster vendor lock-in and dependency.

Additionally, we are committed to applying the 22 accessibility principles outlined in the MIDP, including the principle “use the best digital accessibility standards available and set new, higher standards wherever possible.” When the next phase of master planning commences, if the MIDP is approved, Sidewalk Labs anticipates creating a working group consisting of people with disabilities who has stewardship of these principles and direct input into the design process.

DSAP Comment #13: (Both) Frustrated by how over-sold this proposal on digital innovation is at times. For example, the MIDP states: “But digital innovation raises a number of challenges that cities like Toronto are just starting to address. These include making sure basic digital infrastructure is affordable and open to everyone, making sure data is standardized and publicly accessible, and making sure there is a transparent process for protecting privacy and the good of the city.” How does this proposal achieve that? How does a slice of the Waterfront make basic digital infrastructure available to everyone? How does this improve our existing privacy laws at the provincial level or PIPEDA?

Sidewalk Labs Response:

While the MIDP acknowledges the challenge that cities like Toronto face in making basic digital infrastructure affordable and open to everyone, the scope of the project is focused on addressing these challenges with the project geography, rather than all of Toronto. This is consistent with Waterfront Toronto’s aspirations and work over the course of a decade to bridge the digital divide in its new communities. The opportunity that Waterfront Toronto outlined in their original RFP was to explore how to use this slice of the waterfront to try some new approaches to achieving public benefits, that if successful, could hopefully be expanded upon. We hope that the evolution of the proposal based on the resolution of the Threshold Issues further makes clear that Sidewalk Labs is committed to working to ensure the project supports these public benefits.

With respect to privacy laws - Sidewalk Labs believes that its role is to comply with all applicable privacy laws. And through the resolution of Threshold Issues, Waterfront Toronto is now taking the lead on data governance. Building on their Digital Principles, this will include Intelligent Community Guidelines that will advance a higher standard for responsible data use in cities, similar to how their Minimum Green Buildings Standards have raised the bar for sustainable development.

Digital Innovations – Infrastructure – General

DSAP Comment #14: (SWL) Volume 3 states that without the proposed Digital Network ‘standard broadband services available in Toronto’ would be the Business as Usual result. This is both incorrect and seriously misleading. East Bayfront already has the advanced capabilities of the Beanfield network which surpasses standard Toronto broadband services and includes public WiFi. It also

includes TV and phone services which despite the rapid growth of over-the-top services are still required. The comparison of the proposed Digital Network needs to be updated to the correct BAU case for evaluation purposes. This volume does later acknowledge that the digital network ‘would be implemented directly by Waterfront Toronto’s broadband internet partner’.

Sidewalk Labs Response:

We acknowledge that Toronto’s waterfront currently incorporates world-leading internet speeds, thanks to the work of Waterfront Toronto with its telecommunications partner Beanfield Metroconnect.

Sidewalk Labs’ vision of ubiquitous connectivity for Quayside builds on this foundation, proposing abundant, secure, and seamless connectivity both indoors and outdoors for people and infrastructure systems. The network to support this must be state-of-the-art when deployed, but also built to be future-proof and flexible so it can be upgraded both in terms of speed and adaptability to new technologies. Sidewalk Labs has had preliminary discussions with Beanfield Metroconnect, which has expressed interest in Super-PON - a novel technology that could be used to build out the ubiquitous network at Quayside by multiplying the capacity of access fibres and extending the passive footprint of fibre access network for improved reliability and lower operational cost.

DSAP Comment #15: (SWL) The lack of discussion of the evolution of mobile network technologies to support IOT is surprising. LTE-M and NB-IoT are already in wide global deployment. Additionally there is 5G – this technology has widespread industry and government support and is already in trial in various locations. IOT Device manufacturers will likely invest in these technologies ahead of Koala. What role would these new mobile technologies play in the vision for Quayside given?

Sidewalk Labs Response:

The cost and ease of implementation for new communication technologies can be impacted by Koala. Koala would allow flexibility in allowing the newest systems to be used, by providing ease of mounting, power, and connectivity in the public realm, which can be beneficial for these new technologies, especially 5G. We are excited to see the growth of LTE-M, NB-IoT and the promise of 5G, and note that it will require a dense array of modems that with current approaches to mounting make deployments and upgrades slow and costly. Sidewalk Labs has had discussions with telecommunications companies about Koala and there is interest in exploring the solution to support the testing and roll-out of 5G networks.

DSAP Comment #16: (SWL) As one of the panelists correctly stated at the last meeting (July 22), there is very little in this digital innovation chapter that does not have an existing technology solution/alternative, and yet Sidewalk Labs states that ubiquitous connectivity “would only become financially sustainable at a larger service area, given the number of residents or businesses needed to recoup the initial investment.” This seems unlikely given Waterfront Toronto’s existing contract with Beanfield.

Metroconnect accomplishes this scale using traditional fibre-based technologies. I believe the final MIDP would benefit greatly from elaborating on the issue of economy of scale. For instance, what is the minimum viable product assuming only Quayside and not the larger IDEA District? Does anything fall apart if we don’t hire SWL to develop new technology? SWL partially answered this question on July 22nd, saying: “The plan can still be achieved successfully, but with less gains,” and “It is challenging to achieve market rate returns when only considering Quayside, but more reasonable when adding Villiers.” However, I recommend that the final MIDP dig into this issue further.

DSAP Comment #40: (SWL) The overall process rightly sets out that Sidewalk would need to achieve specific performance goals in Quayside in order to earn the right to proceed to Villiers West. Solutions that are not in the digital innovations chapter are often quite clear what those goals are. For affordable housing, greenhouse gas emissions and electricity consumption Sidewalk has analysed the impact of its proposals. This quantification and analysis is notably lacking for the proposed launch services in the digital innovation chapter with the exception of Schedulers and Koala.

For example the mobility management system claims that it will ‘reduce congestion and improve safety’. Specific outcomes requiring a complex and sophisticated set of sensors, software and policies at a not inconsiderable capital and operating expense are absent. Without some quantification of current state and goals it will not be possible to evaluate this potential digital service. For example, when considering safety, how will this be compared with other approaches typically included in Vision Zero programs? It could also be argued that a certain level ‘congestion’ is a symptom of urban success and not a problem to be solved. Sidewalk has recognised that at the Quayside scale the impact of this system will be ‘meaningful but modest’ (page 85) and then provides some targets at the scale of the IDEA district only.

Each of the proposed launch services requires specific targets at the Quayside scale, and where the impact is limited at that scale, at the Quayside plus Villiers scale.

DSAP Comment #142: (SWL) I would encourage Sidewalk to prepare a “Minimum Viable Plan”. There is a lot being proposed, but hard to know what the interdependencies are, what is prioritized, and what are the minimum number of proposals that would make for a viable plan. Also, and was asked in the previous set of questions on the digital chapter specifically, it would also help to outline interim solutions or approaches that might allow the project to move forward where the time frame for either governance or technology dependencies to be resolved might be prolonged.

Sidewalk Labs Response:

DSAP Comments #16, #40 and #142 have similar underlying questions, and thus are being addressed together.

Underlying this group of questions is how the project’s geographic scale impacts the outcomes that can be achieved, and the viability of the digital innovations proposed.

Sidewalk Labs is focused at the moment on Quayside, where this project would start if the parties are able to agree on the open issues necessary to reach definitive agreements. Our alignment with Waterfront Toronto recognizes the potential for expansion, including to Villiers West, to meet our shared economic goals. We know that in order for our role to expand beyond Quayside, we need to prove ourselves first.

We note that the City of Toronto’s letter of October 21st to Waterfront Toronto proposes a significantly different timing for the evaluation and potential disposition process of the land within Villiers West than had previously been assumed would be possible. That timing change has an impact on the innovation agenda and economic underpinnings of our proposal. We therefore note the importance, as stated in the Threshold Issues document, of agreeing on the economics and innovation program to achieve Waterfront Toronto’s objectives at Quayside. We look forward to continuing our collaboration as we work toward defining a successful, highly innovative project on Toronto’s waterfront.

DSAP Comment #17: (SWL) Is Quayside big enough to start to deploy digital infrastructure in a financially sustainable fashion?

Sidewalk Labs Response:

Some aspects of the digital infrastructure proposals are likely viable at the Quayside scale. Others may not be. The MIDP contemplated both Quayside and Villiers West. As stated in our statement regarding the Threshold Issues resolution, in light of the City's recent letter to WT regarding Villiers West, we need to evaluate what is feasible at Quayside and what is not.

Digital Innovations – Infrastructure – Super-PON

DSAP Comment #18: (SWL) The potential value of this seems to be purely economic for the carrier in implementing a fibre network. It does not seem in any way essential for any of the proposed digital innovations and could even potentially be retro-fitted in time over existing fibre.

DSAP Comment #19: (SWL) The Super-PON technology promises impressive capabilities, but who will benefit? Given the difficulties Google Fibre has encountered in deploying its advanced fibre services in the US (cited (inadvertently?) in endnote #10) it is clear how SWL's corporate sibling will profit from a Quayside deployment. What is much less clear is whether Quaysiders will enjoy any advantage over the gigabit bandwidth service already offered by Waterfront Toronto's contracted provider, Beanfield Metroconnect.

DSAP Comment #20: (SWL) How will the residents of Quayside benefit from the Super-PON network in comparison with the network infrastructure Beanfield already provides? Please provide a systematic comparison of the various costs and benefits of Super-PON versus Beanfield service in the Quayside context.

DSAP Comment #23: (SWL) This aspect of the proposal seems irrelevant to the overall plan. Use Beanfield for networking and undertake to develop community WiFi networks. That's all.

Sidewalk Labs Response:

DSAP Comments #18, #19, #20 and #23 have similar underlying questions, and thus are being addressed together.

Thank you for your questions.

Super-PON is not strictly a necessity for the proposed innovations. While a systematic comparison of the various costs and benefits of Super-PON versus Beanfield's existing service in the Quayside context is not available at this time, the benefits of Super-PON are described in brief below and further detail is available in section 1.4.4 of the forthcoming Digital Innovation Appendix.

Super-PON fibre access architecture multiplies the capacity of access fibres, improving the passive footprint of fibre access networks, bandwidth, number of endpoints, reliability, and operational costs. For comparison, conventional fibre-optic networks are constructed with a stranded fibre-optic cable running from the network provider's central office to the user's site, typically a single building. This type of system can reach 32 or 64 users per fibre strand, with 20km of transmission reach.¹ In

¹ GPON, "[How GPON Works.](#)"

contrast, Super-PON technology is capable of supporting 768 users per strand and extending the reach to 50 kilometres, thus a single cable could provide connectivity to multiple buildings across a neighbourhood or district.

It also reduces the quantity of material required, equipment space requirements in buildings, and energy requirements. Real estate owners need to give less space to telco equipment - previously at that distance there would have had to be additional rooms along the way to add more power to the fiber optic cables. Improved performance and decreased costs supports more cost effective implementation of digital infrastructure that supports Waterfront Priority Outcomes such as ubiquitous internet connectivity, and results in shared benefits for service providers and users alike.

For example, the deployment of 5G will support a higher density of endpoints, higher bandwidth, and lower latency, which are important factors for IoT operations and deployment. However, 5G wireless networks require substantial fibre backbone infrastructure to support the requirements for large numbers of antennas with different frequencies, and base stations of much higher bandwidths and densities. By multiplying the capacity of the types of access fibres that are being installed already today, Super-PON enables the ability to build networks that can scale to meet the increased demands of technologies such as 5G.

Super-PON is being studied by the IEEE as a new standard and deploying it on Toronto's waterfront would put it at the forefront of this technology. The intent is to continue to build on the world-leading work Waterfront Toronto has done in this area, which garnered them the award of Intelligent Community of the Year in 2014.

Note Sidewalk Labs does not wish to be the ISP of record, nor does the independent Alphabet entity Google Fiber.

DSAP Comment #21: (SWL) An SWL representative stated that one possible advantage of SuperPON is "future proofing." What is the basis for this claim given that Super-PON appears not to have undergone extensive field testing and has yet to be approved by the relevant IEEE standards body? Would not a more reliable and cost-effective form of future-proofing be to specify generous conduit diameters and abundant access points?

Sidewalk Labs Response:

[This Super-PON specification is now being studied by the IEEE Standards Association](#), the world's largest technical professional organization, for possible inclusion in its 802.3 international standards for telecommunications. The underlying proposal for Super-PON is indeed driven by starting from how to achieve a cost-effective, future-proof system. If applied in Quayside, Super-PON would make Toronto the first Canadian city with this technology (it currently exists in San Antonio, Texas), and would help ensure fast connectivity throughout the project area.

We are open to alternatives to Super-PON. If the process of detailing the network services in the next stage of the project, including conversations with Beanfield Metroconnect, results in alternative solutions that achieve the objectives of ubiquitous, reliable, and affordable connectivity, we would strongly consider them.

DSAP Comment #22: (SWL) What is the status of SWL's discussions with Beanfield? Is Beanfield supportive of Super-PON deployment. If Super-PON is not deployed and Beanfield technologies used instead, what effect would this have on fulfilling other aspects of the Plan?

Sidewalk Labs Response:

Sidewalk Labs does not wish to be the ISP of record in the geography nor does the independent Alphabet entity Google Fiber. Waterfront Toronto has worked with Beanfield Metroconnect to provide high-speed fibre to residents and businesses within the Toronto waterfront.

Over the past year, Sidewalk Labs has met with Beanfield Metroconnect and other leading telecom companies that operate in Toronto to discuss technologies including Super-PON, Software-Defined Networks, and Koala. Beanfield Metroconnect has expressed interest in possibly using a technology like Super-PON to advance their service offering. Sidewalk Labs will respect any existing contracts between Waterfront Toronto and Beanfield Metroconnect, and is excited to collaborate with local operators to innovate in an already excellent networking environment.

Super-PON could reduce the need for hardware repeaters, signal boosters, and building space to hold those items over large neighbourhoods that existing technologies cannot cover. Super-PON's upper bandwidth limit is equal to GPON, the current standard.

As noted above, Super-PON is not a strict necessity for the proposed innovations in the MIDP, but includes many benefits including: improved passive footprint, increased bandwidth, a greater number of endpoints, improved reliability, lower operational costs, reduced equipment space requirements in buildings, and reduced energy requirements.

Super-PON is currently progressing through the IEEE Standards processes. Sidewalk Labs believes that as denser fibre network build-outs occur in urban areas globally, Super-PON will emerge as the preferred technology, and is excited to introduce and enable local ISPs with this technology.

Digital Innovations – Infrastructure – Software-Defined Networking

DSAP Comment #24: (SWL) Vol 2. It states that “at the core of SWL proposed network is the belief that residents, workers and visitors should have continuous access to their own secure Wi Fi connection wherever they go...”. This assumption needs to be validated. I am under the impression that this did not come up in public consultations.

Sidewalk Labs Response:

Waterfront Toronto has been endeavouring to deploy free public Wi-Fi for years, as related to its innovation mandate. There have been challenges in coordinating vendors and the amount of space within light poles for running power and data for Wi-Fi equipment.

The desire for free Wi-Fi was also expressed by residents at public consultation events and through feedback cards at Sidewalk Labs' Toronto office and experimental workspace, and public pavillion at 307 Lake Shore Blvd. East. Provided below are some examples.

- The first instance recorded can be found on page 9 of the [Town Hall Summary Report](#), held on November 1, 2017, where it states “...while others wanted to see city-wide free Wi-Fi to increase digital connectivity.” More than 530 people attended, with another 5,700 more participating via livestream. The objective of this event was to introduce Sidewalk Labs to the community, outline process on the project, and get an early indication of community expectations, aspirations, and concerns to inform the development of the public engagement plan.
- Sidewalk Labs spent over 75 hours co-designing public amenities with over 200 members of the disability and accessibility communities in Toronto, including professional designers,

advocates, and especially people who self-identify as having lived experience of disability. The co-design program, Designing Inclusive Cities, was the result of a partnership with the Ontario College of Art and Design University's Inclusive Design Research Centre. At the PARC (Parkdale Activity and Recreation Centre) Co-design Session held on September 26, 2018 participants noted that "Free Wi-Fi everywhere was another thing that could help individuals thrive in their community."

DSAP Comment #25: (SWL) Minor point but it seems that the features described in the table are for Super PON and SDN. My impression is that Super PON is about splitting light into its components to enable more users on the same fibre.

Sidewalk Labs Response:

The table does combine features for both Super-PON and SDN.

Super-PON does achieve substantial improvements over conventional fibre optic networks by splitting light into many different colours (or wavelengths) over a single strand of fibre-optic cable, with each colour serving as its own signal.

DSAP Comment #26: (SWL) For some reason this is bundled with Super-PON. It would seem that this could be implemented on any fibre network and does not require Super-PON. There may be some value in a centrally managed network but this should be separately assessed for the business case and vulnerabilities. There are costs currently borne by users to manage their own networks which would be assumed in a centrally managed system that would need to be recovered. Again it does not seem in any way essential for any of the proposed digital innovations.

DSAP Comment #27: (SWL) An interesting proposal, but similarly unnecessary for the plan. The networking aspects of the MIDP are not integral to the plan.

Sidewalk Labs Response:

DSAP Comments #26 and #27 have similar underlying questions, and thus are being addressed together.

Yes, SDNs do not require the deployment of Super-PON. Strictly speaking, SDNs are not a necessity for the proposed digital innovations. We do believe both technologies should be deployed in the geography to improve security.

Sidewalk Labs' proposal for digital inclusion in urban innovation builds on Waterfront Toronto's track record of public Wi-Fi and affordable broadband towards a vision of ubiquitous connectivity that is highly secure and easier to use while increasing performance and reducing hardware needs. In high-density neighbourhoods, cluttered Wi-Fi bands reduce internet performance. The proliferation of end-user-managed home routers pose both security risks and operational burdens for Internet Service Providers (ISPs), and internet firewalls are typically too complicated for most to configure leaving them open to security vulnerabilities.

SDNs provide a new approach to routing on the internet that enables better management and control over a network, as well as more security. As part of a set of digital infrastructure proposals for Quayside, SDNs support Waterfront Toronto's urban innovation priority outcome for Quayside, with a particular focus on inclusive communities. SDNs support aspects of *Waterfront Toronto Digital*

Principle #1: Everyone will have access to, and benefit equally from, digital solutions by making it easier for residents and consumers to access secure, high-performance internet connections throughout the development and *Digital Principle #4: Strong privacy protections will be in place at all times* by providing greater control over connected devices, and by enabling greater visibility of and control over any potential security breaches.

A key feature of SDNs that is critical in the context of the MIDP is enhanced security for Internet of Things (IoT) devices, whether they are public or commercial systems or personal devices. Ensuring the security of IoT devices is paramount, but challenging through a traditional network. Currently, these devices are only reachable while on the same local network, or through a third-party API that connects them to the cloud.

For example, in a resident’s apartment, all the devices should behave as they do today: as if they are on a single, private local-area network (LAN). For building infrastructure equipment, like Building Management Systems (BMS) and their attached devices, those devices should be allowed to communicate with each other and with the relevant cloud-based infrastructure management system, but not third-party vendors or other, non-authorized equipment on the network.

Because the software network could be configured to monitor the aggregate stats of data each device is supposed to be transmitting, it would be able to detect if any of them have been compromised. For example, if a thermostat that normally sends a few bytes every minute starts streaming megabytes per second, the software-defined network could quickly disconnect the device from the network — putting it in a kind of quarantine.

This ability could help avoid “distributed denial of service” attacks and other exploits aimed at vulnerabilities in connected devices. Additionally, devices of the same type could be grouped into Virtual Local-Area Networks (VLANs), isolating them from other network devices. City and personal IoT devices would also benefit from better security and more tightly integrated management. A detailed treatment of this topic can be found in section 1.4.3.2 of the forthcoming Digital Innovation Appendix.

Digital Innovations – Infrastructure – Koala

DSAP Comment #28: (SWL) Koala may or may not be a cost saving as it depends on what assumptions are made about ubiquitous or on-demand deployment. If ubiquitous then there is a significant initial capital cost which may be recovered over time from a different actor who is deploying devices. If on-demand then there is likely no initial savings. The business model and business case for deployment needs to be clear and viable. Again it does not seem in any way essential for any of the proposed digital innovations.

Sidewalk Labs Response:

While it is not strictly required, Koala is a key enabling infrastructure for achieving the original RFP’s objective to create a globally significant demonstration project that incorporates technology advancements that enhance efficiencies and improve overall quality of life. Koala standardizes access to power, connectivity, and mounts to reduce the costs of deploying and maintaining technology in the urban environment, and to improve adaptability.

It specifically supports aspects of Waterfront Toronto’s *Digital Principle #2: Digital solutions will be open, ethical and resilient* by making it possible for infrastructure managers to easily deploy and use a wide range of devices in the public realm. It also supports *Digital Principle #4: Strong privacy*

protections will be in place at all times by enabling greater visibility and control over data collection efforts and security breaches, by allowing infrastructure managers to permit power and connectivity to devices.

In locations like Quayside, where Sidewalk Labs has proposed high-quality, reliable wireless connectivity, most devices might not need hard-wired data connections, but for higher bandwidth tasks or potentially critical items, a wired connection is often preferred. Koala can securely send data, as permitted by privacy regulations and any other applicable data governance rules, back to the cloud or a central server as determined by the device manufacturer. Koala also provides physical device authentication and data encryption. Security features would allow for infrastructure managers to permit who can turn on devices in the public realm by allowing or denying power and connectivity.

Cost savings

Sidewalk Labs expects significant capital cost savings derived from the fact that devices can be installed in an hour, plus another hour for approvals — down from 30 hours today, with associated costs to close down a street for hours, install new wires for power and connectivity within the pole, and possibly in a new excavated trench to the nearest point-of-service connection within the street right-of-way. Assuming labour costs of \$75 an hour, installing a device on a proposed mount would cost \$150, compared with \$1,980 for a standard traffic installation².

Ownership and operator roles

There are several operating models Koala could adopt, and the deployment would be subject to further negotiations with Waterfront Toronto and the City. These models would impact the financial arrangements and costs for Koala. An important factor will be the willingness for risk and need for control taken on by each party.

Below, a couple of models are provided as examples of how Koala could be deployed, which are similar to how the City has deployed existing products in the public realm, such as cameras from Miovision for traffic management, Axis Communications for road emergency services, and the Toronto Police Service's CCTV for public safety:

Model 1: Owned and operated by the local governing entity

In one model, Sidewalk Labs would provide the Koala hardware and an associated software suite to the public infrastructure manager or building manager in accordance with the data governance rules dictating processes for permitting, approvals, and monitoring of attached client devices.

In this model, the local governing entity would pay a fixed payment per Koala device at cost, where cost is defined as the cost per hardware unit. The software suite is sold at a to-be-negotiated annual fee. In this model, the public infrastructure manager or building manager would be responsible for identifying, managing, and operating the Koala devices, which includes sustaining the costs for their installation and maintenance over time. Ideally, maintenance contracts would be negotiated at the time of purchase as a reasonable percentage of cost per device. All client devices, such as 5G antennas, lights, or sensors, would negotiate directly with the public infrastructure manager or building manager for placement on Koala and any associated fees.

Model 2: Owned and operated by Sidewalk Labs

In an alternate model, Sidewalk Labs would pay for the initial outlay, installation, and ongoing maintenance of Koala hosts.

Client devices that wish to attach to Koala devices would still need to gain approval through the mandated data processes and any other relevant regulatory authorities. In addition, it is likely that the

² Master Innovation and Development Plan, Volume 2, page 395.

local infrastructure manager would still need to pay for the software suite to help manage and monitor the deployed devices.

In this model, Sidewalk Labs would be responsible for negotiating fees for client devices. In other words, Sidewalk Labs could sublease the space on the Koala to third-party devices with details to be worked out with the City. However, the fees would inherently need to be lower than a business-as-usual installation (described above) to attract clients, marking a benefit in the deployment of the various devices.

If Koala does not succeed as a product, or is not adopted as a standard, the equipment would still be maintained in Quayside, according to the agreement between the entity managing the light poles and street furniture. Alternatively, it could be replaced with current mounting techniques — a simple fixed, physical mount and permanent power and network connections.

The City would have the ability through both contractual arrangements and the formal development application process to determine the conditions upon which Koala will be deployed and any conditions related to replacement should the product not succeed.

DSAP Comment #29: (SWL) The initial USB standard was created by a consortium of dominant hardware companies who had a strong incentive for inter-operability and the market power to make the standard universal (Compaq, DEC, IBM, Intel, Microsoft, NEC, and Nortel). Sidewalk does not seem to have formed any such consortium nor is it clear that such a consortium is possible given the wide variety of devices that may be attached. In its absence it is unclear that there is any incentive for hardware providers to make the investment required to support Koala. Sidewalk will likely need to subsidise that investment.

Sidewalk Labs Response:

The USB standard began as a concept at Intel in 1992 and took until 1998 to begin gaining widespread adoption. There was not initially the incentive for interoperability but rather a cost savings and ease of use that made USB a winning standard.

Koala would make it much easier and less expensive to deploy and maintain technology in the service of improving a neighbourhood. But, as implied in the comment, new hardware standards require significant geographic distribution to gain the wide adoption needed for device manufacturers to incorporate the standard into their own designs; for example, a Wi-Fi antenna producer would not change its design for a small handful of cases.

Sidewalk Labs expects that Koala's offering of cost savings in device cost, repair, and replacement at scale will drive market adoption. We agree that it will also be incumbent on Koala to create a consortium of partners who see value in the standard. For example, a 5G rollout may be an interesting starting partnership. There is a major incentive for the 5G hardware providers and telecommunication providers to reduce costs of installation and maintenance. Sidewalk Labs has engaged in preliminary conversations with providers, who have acknowledged this benefit and are interested in Koala for this reason. In this way, we believe it is the roll-out of 5G globally that would be the vehicle through which the standardization offered by Koala would take place.

DSAP Comment #30: (SWL) Architects have been using standardized kit-of-parts schemes for decades (example: Habraken in the 1970s) but often run into issues implementing if other players don't follow suit. While the successful proliferation of the USB port provides a useful precedent in the

IT field, can we think of any precedence in the built environment space? How can the life span of these standardized mounts be extended to avoid early obsolescence?

Sidewalk Labs Response:

Koala is designed for enhanced durability that exceeds existing options. Quick-connecting Cat6e cable and power connections are not sealed — these connectors can get water, dust, and other elements that create interference at best, and at worst prevent functioning of devices (and while there are some Cat6e cables that are sealed, a bucket truck is still needed to access and connect devices). While some existing lampposts have three-port power plugs, often they are not protected from the elements while in use. The Koala mount is robust to wind, dust, precipitation, temperature, and other environmental challenges.

Sidewalk Labs is still in the prototype stage and has not done ruggedized field testing, which will begin before the end of 2019. We are targeting a small-scale deployment in early 2020 (outside of Toronto) to begin testing these devices. We have identified an initial, non-exhaustive list of proposed tests and certifications that would be completed prior to large-scale deployment. This list, available in section 1.4.2.5 of the forthcoming Digital Innovation Appendix, shows the current test plan for the device, and includes testing standards related to: electromagnetic emissions, electromagnetic susceptibility, safety, and environmental testing.

Over the next year, Sidewalk Labs will be looking for partners to test and co-design Koala with:

- Locations to test Koala in, with a range of weather, and in different urban design contexts.
- Manufacturers of light poles, traffic light poles and street furniture to test the integration of the mount, power, and networking.
- Manufacturers of devices such as Wi-Fi access points, cellular access points, lights, and sensors.

Initially, Sidewalk Labs will have to partner with device manufacturers interested in exploring this idea in order to have compatible devices to use. In addition, Sidewalk Labs will build adaptors for existing devices. For example, for devices that use Power over Ethernet (PoE) and simple screws for mounting, Sidewalk Labs will create a PoE to Koala adaptor made of a material that can be screwed into. This can bootstrap the ecosystem in order to prove out the technology and the economics.

If Koala does not succeed as a product, or is not adopted as a standard, the equipment would still be maintained in Quayside, according to the agreement between the entity managing the light poles and street furniture. Alternatively, it could be replaced with current mounting techniques — a simple fixed, physical mount and permanent power and network connections.

DSAP Comment #31: (SWL) Deliver 5G at lower costs with digital mounts? Is this realistic given timing of deployment of 5G? Will it make any difference to the broader wireless infrastructure in Toronto?

Sidewalk Labs Response:

Yes. We think it is realistic.

Sidewalk Labs currently plans to have a fully tested system ready for wide release by the end of 2022. At a high level, the development roadmap anticipates completing Proofs of Concept (PoC) for both the connection hardware as well as the management system by the end of 2020 (System 1). By the

end of 2021, Sidewalk Labs plans to have incorporated installation systems and iterated on both the connection hardware and the management System (System 2). Sidewalk Labs will then conduct additional tests and continue to refine the integrated systems until ready for release by the end of 2022. If there is interest from the market to use Koala in other parts of Toronto, that discussion would unfold through standard commercial conversations.

DSAP Comment #32: (Both) Why do we need Quayside or this project for more innovative mounts? If a good idea, could be pilot project anywhere in the city.

Sidewalk Labs Response:

It is true that Koala could be piloted before the construction of Quayside, and to de-risk the technology, this is something we are considering. The benefit at Quayside would be that it becomes a foundational part of the infrastructure to support the many other innovations proposed.

Digital Innovations – Infrastructure – Distributed Credentials

DSAP Comment #33: (SWL) The proposal to experiment with distributed digital credentials (DDC) and related minimally disclosing ID technologies is a welcome one since if adopted it offers a promising approach to greatly reducing privacy risks and giving individuals more control over their personal information. There have been several similar attempts at this approach to authentication in the past decade (e.g. by IBM and Microsoft). How will this particular approach address the pitfalls these earlier attempts encountered?

Sidewalk Labs Response:

While investigating how to enable this vision for a new type of neighbourhood and community, Sidewalk Labs explored several existing approaches to user data and identity management. Leading technology companies and governments are innovating in this space, but offer only partial solutions. As it stands, present-day digital authentication and authorization systems are insufficient and risky for enabling new innovation in city-focused digital services.

OAuth and other common systems

OAuth, short for “open authorization,” is a protocol that allows a user’s account information to be used by third-party services without exposing a user’s password. The promise these federated systems offer is having one account, but access to many services. This means only remembering one password and login method. This subset includes now-ubiquitous approaches like Facebook Connect and Google Sign-In. In enterprise contexts there has been a rise in single sign-on systems, such as Okta or OneLogin. Canadians have had a single sign-on process to file taxes via SecureKey for years. In general, these systems work well, and relieve service developers of the need to manage a database of usernames and passwords, with its associated security and privacy risks.

However, these systems also rely on management by a single authority that provides all identity verification for the ecosystem. If that authority is breached, they might leak data. If that authority loses connectivity to the rest of the ecosystem, no one can authenticate or prove attributes about themselves. Also, every single authentication transaction in the ecosystem must involve that authority, which can make users vulnerable to breaches to that single authority. For example, in the context of a smart lock for building access, using an authentication system like this might involve alerting / logging / recording with the city or the central management authority every time you open

your front door. Sidewalk Labs does not view this as a viable, privacy-safe environment for managing a system of service controls.

Government-level authentication systems

Few national governments have fully embraced digital IDs, but Estonia is a notable exception. Over the past decade, the country has issued ID cards that allow residents to authenticate to government services over the internet and in person.

Sidewalk Labs applauds Estonia's approach to ID and hopes to see many of its innovations adopted globally, notably fraud-proof transactions, ubiquitous digital service delivery, and integrations with physical experiences. However, Sidewalk Labs intends to improve on the Estonian model in several ways, most notably with more open standards and a set of issuers larger than just the government.

Other attribute-based credential systems

Attribute-based credential issuance and verification systems like U-Prove and Idemix have many useful properties, including selective disclosure and zero-knowledge proofs of attributes. However, they are so far only credential-issuance and verification protocols, and much additional infrastructure is required to make them work in a city context: recovery, schema management, backup tools, and verification and issuance infrastructure.

Distributed, verifiable credentials may possess a range of properties that address the above challenges, including: verifiability, optional anonymity, on-device storage, user-controlled selective disclosure, enabling proofs over attributes using zero knowledge proofs, machine readability, accessible and offline use, Public Key Infrastructure and transparency. A detailed treatment of this topic is available in section 1.4.5 of the forthcoming Digital Innovation Appendix, and section 1.4.5.4 contains a technical details which may be particularly relevant to this discussion.

With that context, specifically regarding the pitfalls to date, distributed digital credentials have largely struggled for adoption because it is an ecosystem problem that requires a network of trustworthy organizations to adopt, after which network effects can be achieved for the system to become widely valuable. Earlier attempts are either centralized (SecureKey), or too technically complex to be of value to the average person (Blockchain), or require a national ID which many countries aren't willing to adopt. Through Sidewalk Labs' research and engagement with the growing ecosystem, we are confident that this technology will reach adoption by the ecosystem in time for Quayside.

DSAP Comment #34: (Both) Given the understandable sensitivities around the management of personal credentials, it will be vital for maintaining public trust that agency for overseeing distributed digital credentials be publicly accountable and independent of other infrastructure or service providers. How heavily is SWL willing to invest in making distributed digital credentials work, while staying entirely at arms-length from any such independent, accountable credentialing agency?

Sidewalk Labs Response:

Thank you for your comment. We agree that trusted institutions already responsible for managing personal info are essential. Regulated institutions like banks, governments, and telecom companies are required to store validated information about their customers. Banks, for example, have Know Your Customer (KYC) compliance programs with comprehensive processes to verify a person's identity. They demand extensive documentation and undergo rigorous checks of clients in order to estimate risk, whether it is in lending money or to avoid being used for money laundering or other illegal activities. They are stewards of data and personal information, accountable to and trusted by both service providers and individuals. However, there is presently no easy and effective way for

consumers to create, manage, and use their trusted identity profiles online and in-person for services, which could be an opportunity for these trusted institutions, if a data standard and transaction format can be developed and can be widely adopted.

Based on our investigation of the use cases and needs for digital credentials in cities, Sidewalk Labs would not build this technology, but instead would focus on understanding the space and what a desired solution should look like. A desired architecture might include privacy-preserving verifiable credentials, connected by an auditable and resilient public key infrastructure, and an open standard for managing credential schemas. Credentials would not be managed by a single authority or stored in a central repository, rather, they would reside in a user's device — a smartphone, smart card, or key fob, for example — and would be shared with a relying party at the user's discretion. Section 1.4.5 of the forthcoming Digital Innovation Appendix includes a detailed discussion of distributed verifiable credentials, its benefits, implementation scenarios for Quayside, and technical description and design specifications, and overview of existing systems.

DSAP Comment #35: (SWL) Notwithstanding its virtues, it appears that like the other elements of proposed digital infrastructure, it is not clear what services will actually depend on it. Please specify which core and other services will rely on a distributed digital credential infrastructure, and what benefits it will offer over more conventional identification and authentication approaches.

Sidewalk Labs Response:

These types of digital identity credentials would allow any type of transaction where one had to prove their identity/authority/attributes in a privacy-preserving way. Distributed credentials are a critical technical component on Sidewalk Labs' privacy innovation roadmap. Verifiable credentials, data minimization, and zero-knowledge proofs will be crucial components of how Sidewalk Labs could enable the protection of personal data within cities and provide people with secure and convenient access to services with reliable data privacy controls.

While not an exhaustive list of potential uses, Sidewalk Labs has explored several examples of using distributed verifiable credentials, including housing applications, reserving a pick-up or drop-off space at a dynamic curb, and reporting anonymous household energy consumption. These use cases are illustrative of how a distributed verifiable credentials solution would be beneficial for residents.

- Housing applications are often onerous processes that requires the exchange of highly sensitive financial information, like employment pay stubs and bank statements. Especially in the competitive housing markets of cities, people are incentivized to disclose even more personal information in order to appear as attractive tenants to a property management leasing office. User research performed by Sidewalk Labs concluded that people prefer to share less personal financial data, in fear of fraud and identity theft, and that they feel especially vulnerable if there are many disparate leasing offices holding copies of their data.

An identity management system that leverages verifiable credentials gives people greater control over their financial privacy during the leasing process by allowing users to prove that information is true, like their ability to afford the lease, without disclosing the actual data behind it, like net worth and salary. In such a system, banks could issue a digitally signed certificate attesting to the financial solvency of the prospective tenant without sharing the dollar amount of their savings account or biweekly direct deposit — this would be instead of the prospective tenant sharing copies of their bank statements to the leasing office.

- With a dynamic curb that governs access to scarce curb space, people seeking to use the curb (for parking, pick-ups, or drop-offs) could be issued a reservation without linking the reservation to a personal parking account. A blind curb reservation system would be just as effective at managing space without requiring users to sign up for a personal parking account (that might track the location of every reservation).
- In the home, people might be incentivized to report their household energy consumption in order to help optimize the demand-response profile of the grid, and could do so with minimal personal data exposure. With distributed verifiable credentials, a user could prove that their household energy consumption contributed to the net energy consumption of a particular geography (such as a block, ward, or neighbourhood) without disclosing their exact address or further information about how the energy was used.

Digital Innovations – Open Standards

DSAP Comment #36: (SWL) The specific license under which source material is provided matters. For example the Apache License (Version 2.0) explicitly grants patent licenses in addition to copyright licenses. The MIT License does not. Making patents available is generally what allows others to create equivalent source code to implement standards such as the World Wide Web examples cited.

Sidewalk Labs Response:

Sidewalk Labs is committed not only to supporting the development of Canadian intellectual property, but in fact investing its own intellectual property to support the growth of the Canadian innovation ecosystem. In the MIDP, Sidewalk Labs offered a patent pledge that declared it would allow Canadian-resident innovators to build on top of any digital innovation patents covering software or hardware that Sidewalk Labs files in Canada. While many in the ecosystem appreciated a patent pledge, there was concern that restricting the pledge exclusively to Canada would in fact limit the potential growth of Canadian companies that took advantage of the pledge. It is well-known that one of the most significant challenges facing Canadian innovators is reaching substantial scale and expanding beyond the Canadian market; thus, if the pledge was only applicable to Canadian patents, promising innovations that would reasonably seek to scale might be inhibited. Based on this feedback, rather than limiting the pledge to Canadian patents, Sidewalk Labs has decided to also include all of its digital innovation software and hardware patents across the globe, ensuring that the pledge aligns with the foundational objectives of supporting Canadian-resident innovators. Sidewalk Labs proposes to make its patented digital urban innovations available to Canadian-resident innovators without fear of patent infringement, enabling them to independently leverage its proprietary technologies and thereby accelerating the development of city-enhancing initiatives. This pledge would go into effect immediately after the signing of Principal Implementation Agreements with Waterfront Toronto, and would be subject to defensive termination as further described in Section 3.2.1.3 of the forthcoming Digital Innovation Appendix.

DSAP Comment #37: (SWL) For the commitments to open standards through established standard-setting bodies, will SWL provide assurances that any standard-setting body it utilizes be accredited through the Standards Council of Canada? This includes standard-setting for open-data APIs and data formats.

Sidewalk Labs Response:

Sidewalk Labs has committed to working with standard-setting bodies in Canada to support their work for a global responsible technology standard. This engagement demonstrates a genuine commitment to following Canadian-set standards and a collaborative approach to the further development of standards with Canadian partners.

This standard setting is already underway, and using the project as a vehicle can help advance this work. Sidewalk Labs intends to further engage with the work underway by groups such as the CIO Strategy Council and Open City Network to build on their existing efforts to establish standards that value inclusiveness, openness, public interest, and respect for individual rights and privacy.

The CIO Strategy Council is accredited by the Standards Council of Canada (SCC) to develop and submit standards to SCC for acceptance as National Standards of Canada. The first set of these standards – CAN/CIOSC 101 on the Ethical design and use of automated decision systems was recently approved and published. Efforts to develop several other standards are underway, and the draft standard for privacy and third party access to data is currently available for public review.

Our engagement is intended to focus on the role that Sidewalk Labs can play in spurring standards (where necessary), and otherwise supporting the development of related standards, and in addition on the ways in which this process can feed into the work Sidewalk Labs is already undertaking in engaging the wider Canadian innovation ecosystem.

DSAP Comment #38: (SWL) The MIDP talks about Gehl Institute’s Public Life Data Protocol as a guide to their work. It all sounds good but some food for thought: April 1, 2019 Gehl Institute reorganized to focus singularly on the Protocol but there has been nothing released on it since the 2017 beta version. If you look into the Protocol and its details it is going to be a challenge to implement here (e.g. here’s the link, <https://gehl.institute.org/tool/public-life-data-protocol/> download and read, for example, the directions for “Perceived Gender” documentation or any other element of the evaluation in the tool). I flag this not to nit-pick but to highlight for every idea in the MIDP the potential for challenging things to be under the hood exists.

Sidewalk Labs Response:

Sidewalk Labs is committed to the use of widely-used open industry standards and protocols. This is what led us to use the Gehl Institute’s Public Life Data Protocol. We were not involved in developing the protocol. The comment, in identifying a challenge around the directions for “Perceived Gender”, rightly highlights challenges that may exist with this long-used methodology for studying public spaces. In the public space and data ethics community these challenges are being actively discussed. The underlying rationale for trying to have some form of information about gender, recognizing the many challenges, stems from an intersectional feminist perspective on urban spaces and trying to understand how well-used spaces are by people other than men.

DSAP Comment #39: (SWL) SWL says current urban data is outdated or stored in “messy file formats”? Evidence?

Sidewalk Labs Response:

See, for example, the MISA Ontario and OpenNorth’s [2018 Open Data Standards Pilot for Municipalities](#), which was initiated in response to the observation that: “Many municipalities across

Canada have experienced issues and challenges with open data standards. Data that is not standardized in terms of content, structure, and metadata, creates more overhead for application developers and analysts who wish to create value. For example, road network data sets that do not join up between jurisdictions make it difficult to perform network and routing analyses.” The [Final Report](#) notes: “There were significant differences among the municipal participants in the use of names, categories, tags, and attributes. Some municipalities did not have categories or tags for their open data”

Digital Innovations – Launch Services – General

DSAP Comment #41: (SWL) (Volume 2, page 380) Are the SWL participation blocks in the chart exclusive to SWL? It is unclear how much input other stakeholders will have in the development of these capabilities.

Sidewalk Labs Response:

No. Sidewalk Labs plans to work with third parties to build out many of these capabilities, as noted at Page 381 of the MIDP (see emphasis):

Digital infrastructure role

[...]

For other infrastructure components, Sidewalk Labs expects to play a larger role that still involves others. These include standardized mounts that would reduce the cost of deploying digital innovations [...] While Sidewalk Labs does not expect others to have sufficient incentives to create this infrastructure alone, it believes these components would play a critical role in boosting the success of digital innovations that address urban challenges.

Sidewalk Labs also expects third parties alone to provide other aspects of digital infrastructure that include 5G cellular connectivity, other advanced communications networks, and additional privacy-enhancing infrastructure.

Digital Services Role

To achieve fundamental quality-of-life goals through innovations the market has not pursued, Sidewalk Labs plans to offer a limited set of core digital services related to its essential programs for transportation, affordability, housing, energy, or public space. These services would rely on application-specific hardware devices created primarily by third parties but adapted or extended by Sidewalk Labs, working closely with these device manufacturers.

These launch services could still involve working with partners and buying existing technology. For example, the proposed mobility management system (see Page 452) could require computer-vision technology that performs de-identification at source, retaining an aggregate count of travellers but deleting any footage or images. Local companies are working on such technology, and Sidewalk Labs would explore options for purchasing those devices as this mobility system (or other proposed services) may require them.

Sidewalk Labs believes the data generated by these services would catalyze third parties to create countless other applications to improve quality of life, along with the application-specific hardware designed to support them.

For that to occur, this data must be shared publicly, and there are many companies and organizations in Toronto and beyond that specialize in making data available, such as ThinkData Works, the City of Toronto's Open Data Portal, and others detailed in section 3.2.3.2 of the forthcoming Digital Innovation Appendix. Sidewalk Labs hopes to work with them to help provide the services necessary for the Sidewalk Toronto project.

DSAP Comment #42: (SWL) Sidewalk software development is primarily located in New York at this time. Sidewalk should commit that the majority of the software development missions for the Launch Services will be located in Toronto.

Sidewalk Labs Response:

Sidewalk Labs agrees that it will be essential to have appropriate resources in Toronto to successfully manage the project. It is important to note that Sidewalk Labs will not be building the vast majority of digital systems deployed at Quayside, which will also have an impact on where the major service providers are based. A key principle in our approach to digital services is buy rather than build, including prioritizing Canadian companies wherever possible. Of the 52 subsystems proposed for the project, 75% would be substantially purchased from third parties, which is anticipated to be largely Canadian firms.

DSAP Comment #43: (SWL) The MIDP suggests that it will catalyze services not currently pursued by the market. But some of the examples - next generation bike-sharing or pop-up stores surely are being pursued by the market. What makes this so special that would lead to something different?

Sidewalk Labs Response:

It is true that many of these services are currently being pursued by the market. A key difference at Quayside is that the neighbourhood would be designed to support early trials and the deployment of new services. This was one of the fundamental goals of the original RFP. This testbed approach is relevant for Sidewalk Labs, but especially to the broader ecosystem. As a principle, we buy rather than build, which means looking to the market first for solutions that might achieve the priority outcomes.

Digital Innovations – Launch Services – Perform

DSAP Comment #44: (SWL) The real-time modelling tool 'Perform' is listed as a purposeful solution in Volume 3 page 124. However, it is not included in the proposed list of launch services 444-447 of Volume 2. Schedulers are listed there. Can Sidewalk please clarify what its plan is for Perform?

Sidewalk Labs Response:

Perform is a digital tool to compare real-time building energy usage against an energy budget, based on Toronto Green Standard performance targets, that adjusts dynamically based on occupancy, the weather, and other factors. It is a subsystem of the Building Energy Management System. The objective is to enable building operator to validate that buildings meet performance objectives in operation and not just design, and provide reporting to regulators. This supports achieving Waterfront Toronto's Sustainability and Climate-Positive Development Priority Outcomes. The system would use data inputs from the market on energy supply, data voluntarily provided by building operators, public

data required by government policy, and data from other sub-systems mentioned under Building - Energy Management mentioned above.

Digital Innovations – Launch Services – Seedspace

DSAP Comment #45: (SWL) Foot traffic is an interesting metric to consider when designing the flexible retail platform. For instance, foot traffic data could be used to develop a dynamic billing system or to identify retail areas suffering from low foot traffic that could be remedied by reconfiguring the space or selecting a stronger anchor tenant.

Sidewalk Labs Response:

Thank you for your suggestion. We are exploring privacy-preserving means for implementing this and other ideas for how to make small businesses most successful in brick and mortar.

DSAP Comment #46: (SWL) There are launch services that duplicate (sort of) things we already have but with technology platforms. SEEDSPACE - it seems to pull together what landlords and BIAs do. City of Hamilton is already piloting temporary business licenses. Pop up shop management is occurring everywhere. My concern here is SWL is proposing a technology solution (which they want reward for) to problems/issues for which non-tech solutions are already in play. And they are inventing tech solutions for things that aren't top priorities. As with Koala, if SWL wants to go off and do this stuff on their own or with private sector partners, ok fine. But when this stuff is bundled in here as part of a too aggressive ask for land (e.g. we can't do these things at the scale of Quayside, we need more land) and a return on their investment (e.g. a piece of property tax), we're spending public money/resources on things that aren't top priorities or solving problems that distract attention/divert resources from bigger issues (e.g. actual affordable housing). In the Partnership document (volume 3), objective 3 is "not tech for tech's sake" (p. 22) - I think there is a lot of tech for tech's sake in here.

DSAP Comment #53: (SWL) This is one example of many in the MIDP where SWL has a proposed a complex technology innovation for a problem: a) that isn't necessarily really a problem; b) a thing that may not need a technology solution; c) doesn't necessarily need to be in a plan that requires significant government investment. Is radical mixed use a top drawer public priority in this neighbourhood / city / region / province / country / the world?

It's cool and important to think about new ways to help small businesses and entrepreneurs get going. City of Hamilton has a temporary business license program. Lots of BIAs have pop up programming. The Downsview Flea is a happening place. All of these things are happening right now with a combination of human ingenuity, a willing municipal partner, creative private sector thinking/doing, and people willing to spend their disposable income.

These comments are not intended to suggest planning can't change or evolve. The future of Toronto requires an innovative planning regime. But what we invent needs to focus on the big issues that matter. There are lots of examples of how zoning is too aggressive and we've over-regulated. So, in spirit I'm keen on the thinking behind the outcomes-based code. I think the building technology innovations around finding new ways to move walls and the water/wiring inside are really interesting - but SWL probably won't wait until Quayside is built to try these. They are good ideas now that could be piloted right away.

I think they have proposed a complex technology solution to a situation that mostly doesn't need it. People can help make a bunch of these things happen through a combination of initiative and just not zealously enforcing rules. I fully understand why a commercial landlord would want these data and as

commercial landowners move more and more toward offering building services to their tenants, the data they could gather is of high value to them. But again, what's the significant public good outcome for us to warrant our overall investment/risk management mitigation in this project.

Sidewalk Labs Response:

DSAP Comments #46 and #53 have similar underlying questions, and thus are being addressed together.

Sidewalk Labs Response:

Thanks for your comment. We are sensitive to ensuring that digital technologies are not proposed for situations where they only add complexity and don't achieve real benefit. Sidewalk Labs recognizes that technology alone cannot solve urban challenges, and that digital technology should only be proposed when it truly can make a meaningful impact on key public policy outcomes and risks can be managed. Our approach is grounded in "digital restraint." Each digitally enabled service proposed for Quayside maps back directly to one of Waterfront Toronto's Priority Outcomes, and the "objectives" (beneficial purpose) of each system and subsystem have been further refined to show how these components work to achieve these quality-of-life goals. Sidewalk Labs is focused on the outcomes that these systems can help to achieve, not implementing tech for tech's sake.

DSAP Comment #47: (Both) Why does WT need to incentivize this? Why don't they just go partner with Oxford or another large property owner/manager and do it among themselves?

Sidewalk Labs Response:

One of Waterfront Toronto's long-standing objectives has been to support active ground floor spaces on the waterfront. Active ground floors have many public benefits, from safer, more vibrant streets to greater economic opportunities. With the rise of ecommerce and changing retail landscape, how to achieve this street activation is a challenge facing cities and developers today. It is in response to this challenge that Sidewalk Labs has devised the Stoa concept, which combines physical design, programming and technology to support more diverse and flexible uses of ground floors. One of the reasons why approaches like Stoa are not commonplace today is that having shorter term leases and many tenants can cause higher overheads and create risk for property managers and real estate investors. An application like Seed Space can help address this by using technology to help better manage the complexity of these leases and range of users from restaurants to retailers. There are applications already in development in the market that have many features we imagine, and it is likely that this is a product that Sidewalk Labs does not build itself, but rather procures and integrates into a single tenant solution.

Digital Innovations – Launch Services – Commonsplace

DSAP Comment #48: (SWL) Commonsplace is a technology update of analog technology planners use all the time (e.g. clipboard, paper, pencils). We've been observing how people use public space for a long time guided by the work of people like William Whyte, Kevin Lynch, Jane Jacobs and more recently Gehl. When we make these observations at the speed of human recording they are labour intensive, time limited and subject to human discretion. We have lots of quick and good tools for seeing how people use public spaces (e.g. not sure where to put a path in a new park? plant grass and give it 2 months, go back, see where people tramped the grass down - called desire lines - and

off you go, build your path there). Can we get better? Sure, of course. But let's tread carefully about what kinds of tech we use.

Sidewalk Labs Response:

We strongly agree that it is important to tread carefully in this domain. Not only is it important to be cognizant of existing tools we have, non-digital and digital. But also to be aware of ensuring multiple forms of knowledge contribute to any evaluation of public space, and not only relying on quantifiable insights. The underlying motivation for exploring CommonSpace was a recognition that many community groups experimenting in public space programming don't have the resources to run traditional studies, but it might be possible to reduce the barriers by making the process more efficient. CommonSpace still requires labour investment and the same amount of time spent observing public life. But it makes it faster to derive insights by eliminating data entry steps. The outcome is that more community groups have quality data about their work, and this can inform better programming, as well as their advocacy for their work.

DSAP Comment #49: (Both) Bringing speed and scale to these observations has pros and cons. We can build better public spaces if we know more, but gathering too much data that is readily joined to data lakes of other information presents challenges. The ACLU has a model ordinance for proposals for technology that include surveillance elements (see https://www.aclunc.org/sites/default/files/20141112-model_ordinance.pdf for example). The driver behind this ordinance is that when we bring new technologies to public spaces there are big implications.

Sidewalk Labs Response:

In the resolution of the "Threshold Issues, Sidewalk Labs has reaffirmed its commitment to compliance with all applicable laws, including municipal ordinances, Waterfront Toronto's Digital Principles and forthcoming Intelligent Community Guidelines, and applicable policy frameworks.

Moreover, Sidewalk Labs believes that people and cities deserve the highest standard of ethical and responsible data use. We put that belief into action by internally applying our Responsible Data Use Guidelines and Responsible Data Use Assessments to our projects and pilots - whether or not they include personal information. A detailed description of our Guidelines and Responsible Data Use Assessment tool can be found in section 2.2 of the forthcoming Digital Innovation Appendix.

Additionally, we have worked with more than 100 participants across several cities to co-create a visual language designed to increase public awareness and understanding of digital technologies in the public realm. This [Digital Transparency in the Public Realm](#) project includes icons, a signage system, and a digital channel for communication, that collectively help visualize and convey a taxonomy of key concepts.

Digital Innovations – Launch Services – Scheduler

DSAP Comment #50: (SWL) In addition to automating energy use to optimize heating, cooling, and electricity systems, tenant comfort could be further increasing by allowing them to regulate light and temperature settings via their smartphones. These settings could then be saved and used to calibrate all the spaces they occupy. Bringing energy management down to the user level also helps promote behavioral change as users see how their daily routine and personal preferences impact energy consumption.

Sidewalk Labs Response:

Thank you for the helpful suggestion. We are excited to implement sustainable energy management solutions, and are considering ways to empower individuals to better understand and manage their own energy consumption.

Digital Innovations – Launch Services – Real-time Maintenance Map

DSAP Comment #51: (Both) SWL makes part of the case for digital infrastructure claiming that public space service operators can't keep up with maintenance. I would argue back the problem isn't that they lack the data they need (e.g. check out the 311 calls on Toronto Open Data portal and any See Click Fix list), when things need to be fixed, the City knows. The problem is the City doesn't have the money it needs to hire the people and do the work. Yes, some efficiencies could be gained (e.g. plan garbage pick up differently in parks because on sensed garbage cans) but gaps in data/tech aren't the biggest barriers. There is a sentence that talks about budget but it reads like a throwaway.

In a world of competing resources, I think we need to make sure we're not throwing public money (or private money that comes with a significant public give/return later) around at technology that is \$\$ and comes with risk before first sorting if we spent that money on actual maintenance first could we have better outcomes.

Sidewalk Labs Response:

Sidewalk Labs is staffed with many individuals who have spent their career working in, or with, municipal governments; we strongly believe that cities need to be properly resourced to operate effectively, support a vibrant public realm, and maintain healthy communities. A fundamental goal is to enable better maintenance. An opportunity is how appropriate use of data and technology can help anticipate problems, better target preventative maintenance and integrate with maintenance operations. Some of the challenges involved in actioning 311 data is having that input turned directly into tools that help workers on the ground.

Digital Innovations – Launch Services – Outcomes-based Building Code

DSAP Comment #52: (SWL) In addition to noise, nuisances and structural integrity, I recommend adding foot traffic to the parameters monitored by the outcome-based building code. For instance, one of the common deterrents to live-work scenarios is the added foot traffic that work environments bring. This can be positive as well as negative (for instance more foot traffic may help to improve safety), but is worth monitoring nonetheless.

Sidewalk Labs Response:

Thank you very much for your suggestion — we are considering it.

Digital Innovations – Launch Services – Collab

DSAP Comment #54: (SWL) Collab is another example of a shadow/parallel process designed to mirror the work that public officials and delegated authority bodies of the City already do. Also, who is accountable when their public programming goes sideways? I really don't understand the drive to

move these things out of regular public governance if the desire is to work on behalf of the public good.

It's also similar to other elements of this plan - it gathers processes already taking place in other communities, sometimes partially or fully enabled with tech, and presents a new SWL solution to them without actually really: a) making the case for why more tech is needed; b) why their tech is needed; c) what public good void this tool fills. If the business model for this entire adventure didn't ask for significant public concessions I wouldn't care so much. But they want a lot, so I care more and have higher expectations.

Sidewalk Labs Response:

Collab does not change public governance. It is a software product like any other product a city, non-profit or other form of organization might use. For Quayside, the choice to use any civic tools like Collab would be at the complete discretion of government and local community organizations. As they are today, these organizations would be accountable for public programming outcomes.

The rationale for Collab is that there are many ways that digital tools — in coordination with strong in-person and more traditional approaches — can unlock greater civic participation. Work in cities like Barcelona and elsewhere have demonstrated this. One promising approach is leveraging technology to bring transparency into processes and decision points that could allow community members to better understand the issues at hand, provide input, and, hopefully, feel satisfied that their voices have been heard. Sidewalk Labs believes that by providing community members with an informed, nuanced understanding of the required trade-offs of a decision, digital tools could even encourage more decisions that put collective good ahead of individual interests.

In scanning the landscape of technologies that support local decision-making, Sidewalk Labs was unable to identify a tool focused explicitly on making trade-offs transparent. Informed by this opportunity, Sidewalk Labs decided to create a prototype — one small contribution towards a more civically engaged urban future — through a digital tool that could support communities hoping to increase participation and make more inclusive, collaborative decisions.

Digital Innovations – Within Pillars

Digital Innovations – Within Pillars - Mobility

DSAP Comment #55: (SWL) On mobility subscription, not at all clear what innovation is being established here nor why this is needed for the plan. A mobility subscription might be a good idea, but we don't need Quayside for it. Don't we already have an open eco-system for ride hailing services? What is new here? Several new mobility related innovations – bike counting, adaptive signals, green waves. Need stronger assurances on privacy safeguards and anonymization. Is the no cars estimate (30% have cars) really realistic? What does this mean for sensing traffic patterns? How do we benefit from data on streets in a community that is very different from others? Emphasis on self-driving technology but few streets and few cars?

Sidewalk Labs Response:

We acknowledge that there are precedents for aspects of the innovations we've proposed, including MaaS, and note them in the list of Digitally-Enabled Services contained in Section 1.3 of the forthcoming Digital Innovation Appendix. The reason this is included for Quayside is to try to pilot

approaches that address the key public policy objectives established by Waterfront Toronto to test new mobility solutions that enhance diversity of modes and result in greater sustainability outcomes.

The mobility subscription is expected to lower the cost of mobility services for people, since the bundled cost of multi-modal mobility services would be cheaper than what people would have to pay, had they purchased the same amount of services on their own with the individual providers for respective modes. This is because the mobility subscription provider would purchase in bulk on behalf of all subscribers, and would hence receive volume purchasing discounts. This is similar to the TTC's former Volume Incentive Pass Program, or Toronto Bike Share's Corporate Membership discounts. However, unlike these programs that only benefit employees of certain organizations, all residents and employees in Quayside would be eligible for the mobility subscription service and hence the cost savings.

Moreover our transportation modelling results confirm the common wisdom that, when people pay for services via a subscription, rather than on a per-use basis, they are much more likely to consume a service. For example, car owners are much more likely to use their car for a trip because their per-trip out-of-pocket cost is very low. With a mobility subscription, it is anticipated that users would perceive the cost of using transit, bike-share, and other alternatives to driving a private car as free / very low for each trip. This hence results in lower propensity and dependence on driving and higher use of more sustainable modes of travel.

Details on the types of data collection that supports functionality like adaptive traffic signals and bicycle green wave are described in section 1.3.2 of the forthcoming Digital Innovation Appendix. Detection of bicycles, vehicles or pedestrians is subject to the application of Waterfront Toronto's Digital Principles and forthcoming Intelligent Community Guidelines, Sidewalk Labs' Responsible Data Use Guidelines (which incorporates Privacy by Design principles) and subject to a Responsible Data Use Assessment. The detection of bicycles would be used as an input to the bicycle green wave pacing system - no personal information is necessary. Likewise, no personal information is required to dynamically allocate crossing time to the more vulnerable modes - pedestrians and bikes - when necessary.

We are not aware of any zero car estimate or zero car presence on the streets of Quayside.³ Though we do expect to see a lower volume of vehicles, this should not affect the ability of vehicle detectors to sense the presence or number of vehicles. If this comment is related to coordination with nearby traffic signals, we have not proposed to link the operation of the traffic signals at these intersections with adjacent intersections as this is outside of the area - though there is a potential benefit of greater coordination of traffic in doing so.

We are not proposing self-driving vehicles or infrastructure for the Quayside site. The designs and the technology proposed for Quayside will deliver user feedback on the efficacy of new mobility systems, as well as performance (reliability, lead/lag time, maintenance and/or replacement required). While the street designs of Quayside are proposed to be different than the surrounding areas, the learnings from the demonstration of these technologies could be useful in multiple applications throughout the City of Toronto and other cities.

DSAP Comment #56: (SWL) I want to use the example of e-scooters as an example of a persistent tension in this document for me. I found the discussion of e-scooter technology underdeveloped and siloed.

³ For more information on the modelling for Quayside, please see [Mobility Technical Appendix G: Modelling and Traffic Analysis](#).

In the mobility section (p. 50) e-scooters are flagged to say they aren't allowed yet and if they aren't by the time the project is built, we'll try to bring them. Ok, fair enough. I know that trying to write a document that keeps up with emerging trends is hard (e.g. hello practice of urban planning) but then on the page beside the discussion focuses on "how much space should be devoted to bike lanes?". Well, what about how much space should be imagined/planned/designed for mobility and logistics innovations we can't yet see?

Sidewalks, right now, are designed for movement that is human powered. [The one big exception would be people who use powered mobility devices (e.g. wheel chairs, scooters) and sidewalks and other public realm elements need to be better designed for these people. Full stop]. Bike lanes are already challenged by e-bikes. The speed, silence and rhythm of that ridership creates a tension in already very crowded space. In Toronto we now anticipate e-scooters here by fall. Where do they go? Sidewalks current struggle with small humans on their human powered scooters. The arrival of e-scooters is going to be a real challenge in the public realm.

And then what happens with robots doing last mile delivery? Where are they going to go? Sidewalk? Bike lane? Road? The MIDP has them underground in tunnels (p. 83) but if you think about SWL's need to scale up innovations here elsewhere, I'm going to guess there will be surface delivery options needed too [aside: who controls how deliveries happen? do all delivery operators have to use their tunnels? who pays for the system? maybe it's in the MIDP but I didn't see it yet.

I think the MIDP needs to work harder to present solutions that anticipate managing an increasingly complex public realm. Is a "bike lane" a thing in the public realm of the future? Or do we have surfaces for feet, human powered wheels, low speed electric powered wheels (for small stuff and 1-2 humans), and bigger passenger/stuff with more power wheels? It sort of comes up in page 96 with their 4 street types and on page 128 where they talk about more space for people instead of vehicles. But they talk about pedestrians and cyclists (the mobility of the future has more user types I think, how do you categorize an e-bike or e-scooter rider?).

This e-scooter discussion is shared to say that in the mobility section there is a curious mix of new sort-of-future thinking but not particularly innovative responses.

Sidewalk Labs Response:

In terms of "space" in the right-of-way, our [Street Design Principles](#) and the MIDP do not allocate space in the right-of-way by technology, nor mode, but rather by speed. So there would be a space for transit vehicles moving at stop-and-go speeds; a space for autos, moving around 40 kph; space for pedestrians, moving around 4 kph; and space for micro-mobility moving between 10 kph and 25 kph. Traditionally this space has been used by bicycles, but as innovation in this realm proceeds, it may also be used by scooters or whatever the future holds. A fundamental principle for Sidewalk Labs is how technology can enable flexibility in space design to create the potential to adapt to new models.

In terms of "space" in the public realm for parking micro-mobility devices, this will depend on how the physical requirements for micro-mobility evolve. If the micro-mobility devices require docks, we can allocate more space in the public realm; we can reallocate short-term bike parking, of which we are currently planning to provide 170% of what is required; or we can replace scooter docks with docks for whatever the future holds. The current excitement in the space is for dockless micro-mobility devices, ultimately to be replaced by autonomous micro-mobility devices that you hail by app, come to you autonomously, and return to a charging station autonomously, in which case space in the public realm may be reallocated appropriately. In these cases, the appropriate allocation of public space

depends on how these technologies are regulated, but it seems reasonable to suppose that current space for traditional bikes and scooters may be reassigned as necessary to accommodate future trends.

With respect to last-mile delivery, while it is true that tunnels (or connected basements) are not replicable everywhere, the MIDP proposes connected basements. In one scenario, carriers would schedule deliveries to the Urban Consolidation Centre (UCC) and anything considered a "direct delivery" would be required to purchase a special permit to use building loading docks, since they will be bypassing the UCC. Since this would put more vehicles on the road, they would be held accountable for their impact. No delivery operator would use the tunnels. Instead, all carriers would deliver to the UCC and the freight system would handle the rest of the journey (the last-mile). Like other UCCs, carriers no longer have to deal with the burdens associated with the last mile, such as congestion, parking, failed first attempts at delivery, etc. Instead, they would be able to use delivery vehicles more efficiently and deliver goods to a single location. One model for funding the entire freight system would be revenue from its many value added services, including personal storage, retail inventory and fulfillment and more.

While surface delivery options are not a part of the MIDP, a great deal of innovation is being made in cargo bicycles and Autonomous Delivery Vehicles that travel in bike lanes or streets.

DSAP Comment #57: (SWL) The brief history of self-driving vehicle technology is potentially misleading in suggesting that by 2035 "Self-driving taxis become ubiquitous in Toronto." This estimate is highly speculative and contingent on many un-known factors. The report this estimate was based on, MaRS' Framing the Automated Vehicle Landscape, presents no substantive basis for this time estimate. Prepared over a 6-week period in late 2018, it was funded by SWL to investigate the problem of "How might we create market and policy conditions that enable automated vehicles to support safe, equitable, and efficient transportation models for Toronto and Ontario?" Rather than critically examine whether AVs was the best approach to addressing urban mobility issues in comparison to alternatives, this study assumed the inevitability of AVs and focused on how to facilitate this outcome.

In light of the weak basis for SWL's foundational "assumption that self-driving vehicles can form the backbone of the ride-hail system by roughly 2035," why is it prudent for Toronto to already begin reducing vehicular street space as contemplated in the MIDP?

Sidewalk Labs Response:

The Toronto City Council has recently approved its [Autonomous Vehicle Tactical Plan](#), which aims to ensure "that Toronto is well-placed to both maximize opportunities and mitigate impacts arising from the arrival of AVs in the City". We are aligned with City of Toronto's prioritization of enhancing the city's AV-readiness, and embrace the city's leadership in this area. This alignment was the motivation for our funding support to MaRS' AV study, recognizing MaRS' distinct strength at convening and facilitating dialogue among diverse stakeholders.

We clarify that the assertion that the proposed street design - which features more pedestrian and cyclist space and less vehicular space than the current norm - is not tied to assumptions about self-driving vehicles. The proposed mobility system, including the streets, is designed to work on Day One, without AVs.

DSAP Comment #58: (SWL) Do we need the WTMA? I would argue, again, I'm not convinced, yet - especially if you look at its functions (Implement objectives; Oversee planning, operations, and maintenance; Manage daily movement patterns) and remember Quayside is 12 acres that needs to

connect to a massive urban region transportation system. The site needs to be integrated, the people inside the public institutions (e.g. TTC, Metrolinx) that manage the other big system need to be in charge here. They need the data. The culture of innovation and experimentation needs to infiltrate the orgs we have and be shared. That's how we take innovation to scale.

What roles will other Alphabet firms/technologies like Replica and Coord play here? It's really time we dig into both as the DSAP if they are in play.

Sidewalk Labs Response:

We agree that the Quayside project presents a significant opportunity for building innovation capacity within public institutions. This was an original objective of Waterfront Toronto's RFP. This has been further affirmed in the resolution of the Threshold Issues process, through which Waterfront Toronto has committed to advocating for government Task Forces that bring together the relevant parties to establish appropriate governance of the Innovation Plan. Sidewalk Labs is committed to working with Waterfront Toronto, and its government stakeholders, and through this process determining what (if any) new management capacities might be appropriate.

There are no Alphabet companies or Sidewalk affiliate technologies noted as part of our proposal. To the extent that those companies offer solutions capable of achieving the desired outcomes, they would have to be evaluated and procured like any other solution.

Digital Innovations – Within Pillars - Public Realm

DSAP Comment #59: (SWL) Create more open space p. 126 – Why isn't it called public space? Words matter here (e.g. see the comments on the "urban data" vs. public data). Is open space really a privately owned public space (POPS - we use that language here in Toronto)? The ownership and control of these spaces are important issues to clarify.

Sidewalk Labs Response:

Open space in the MIDP does not mean privately owned public space. There are no plans to privatize public space in the proposal. Per the resolution of Threshold Issues, Waterfront Toronto will lead planning, design and delivery of municipal infrastructure, such as parks and waterfront promenades. Any parks built in Quayside would be owned by the City of Toronto's Parks, Forestry and Recreation (PF&R) department. The proposal also includes converting existing right-of-way spaces to pedestrian plazas, and for these spaces, it would be considered whether a non-profit programming, operations and management entity would make sense, as has done for spaces like The Bentway or Evergreen Brick Works. This right-of-way space would remain publicly-owned. Anyone in Quayside would have the same rights in these public spaces as they would in any other public space in the City of Toronto, including freedom of association, freedom of expression, equitable treatment of marginalized groups, public engagement and participation and other fundamental rights and freedoms, as applicable.

Urban Data Trust / Responsible Data Use Assessment / Data Governance

UDT/RDUA/Data Governance – Urban Data Trust

DSAP Comment #61: (Both) In one of the scenarios provided in the MIDP to illustrate the functioning of the MIDP, the example was given of a garage operator leasing space in the development area who has a misconceived idea about collecting and using data from security

cameras in the garage. The example is meant to show how by being required to apply for permission to collect the data, and to complete an RDU, the garage owner will be stopped from engaging in this improper collection and use of data. The garage owner would, of course, be subject to PIPEDA, and the proposed collection and use of the data would clearly violate PIPEDA, but we are told throughout that the UDT provides a separate and possibly higher level of protection than PIPEDA.

I have two difficulties with this example and its implications. The first is with the definition of 'urban data'. If it includes security camera data from small businesses, then in my view it is overinclusive. Part of the rationale for the UDT was to facilitate data sharing for innovation purposes. In my view, security camera data is just that - security camera data. It should not be considered for further sharing. Its collection, use and disclosure can be governed by PIPEDA.

This overbreadth issue leads into my second concern with this scenario, which is the duplicative nature of some of the functions of the UDT. The federal Privacy Commissioner has provided some pretty clear guidance on the collection of data through security cameras. PIPEDA covers this situation. If there is no data sharing dimension, why should the UDT play a role? One of the classic reasons for not amending PIPEDA to strengthen it is that to do so would impose a stifling compliance burden on small businesses. But the approach proposed in the MIDP would require the garage owner to comply with both PIPEDA and with the UDT. We're also told that there would be a fee imposed for the collection of data under a RDU – and so the additional compliance burden comes with a cost as well. This seems to me to be fundamentally duplicative and creating a problematic burden.

SWL has suggested that the value-added of the UDT is that it helps small businesses comply because many don't understand PIPEDA. The OPC provides all kinds of guidance and information for small businesses and even opened an office in Toronto to have more of a presence for businesses that needed to seek advice. I'm not convinced that there is a justification for increasing the compliance burden and creating duplicative privacy obligations.

Sidewalk Labs Response:

Further to feedback on the data governance aspects of the proposal, Sidewalk Labs and Waterfront Toronto have agreed, as a part of the resolution of the Threshold Issues to cease using the term "urban data" in relation to the project and to use existing terminology and concepts instead.

Additionally, the resolution of the Threshold Issues affirms that Waterfront Toronto and its government stakeholders lead on data governance, and reaffirms Sidewalk Labs' commitment to comply with all applicable Canadian laws, Waterfront Toronto's Digital Principles and forthcoming Intelligent Community Guidelines, and applicable policy frameworks.

DSAP Comment #68: (Both) Wouldn't having a public registry of all sensors also create a security risk and make matters easier for malicious actors who would want to sabotage a commercial entity's prospects, or to damage the reputation of the district? The idea of having a public registry of devices should be reconsidered or at least heavily qualified.

Sidewalk Labs Response:

Sidewalk Labs believes the public deserves enhanced transparency around the digital layer in the public realm, as exemplified in our work around [Digital Transparency in the Public Realm project](#). The balancing of any risks and benefits in determining policy around a public registry of devices rests with

Waterfront Toronto and its government stakeholders, which are leading on data governance for the project.

DSAP Comment #81: (SWL) As part of the Responsible Data Use Assessment process, understanding the data flows would be important (data sources and destinations).

DSAP Comment #85: (SWL) The UDT and RDU Assessments appear to apply exclusively to ‘urban data.’ What is left relatively un-specified is the use of data from all other sources. Termed ‘transactional data’, this may be at least as valuable for urban purposes but may be more problematic from a privacy perspective. For example, location data routinely captured by Google from Android devices and Google Maps. Will SWL commit to a robust, independent oversight regime that covers all data, urban and transactional, used within the project?

Sidewalk Labs Response:

DSAP Comments #81 and #85 have similar underlying questions, and thus are being addressed together.

As noted above in the response to comment #4, the intent for Sidewalk Labs’ Urban Data Trust proposal was to ensure responsible data use and support trusted data sharing. However, the clear feedback was that creating a new standalone entity for both of these functions was not a preferred path. The agreed-upon approach from the “Threshold Issues” resolution process is responsive to this feedback and recognizes that Waterfront Toronto and its government stakeholders lead on data governance. It also reaffirms Sidewalk Labs’ commitment to comply with all applicable Canadian laws, Waterfront Toronto’s Digital Principles and forthcoming Intelligent Community Guidelines, and applicable policy frameworks.

Sidewalk Labs Responsible Data Use Assessment process includes consideration of data flows, as detailed in section 2.2 of the forthcoming Digital Innovation Appendix.

UDT/RDUA/Data Governance – Urban Data

DSAP Comment #82: (SWL) SWL is proposing a new category of data - “urban data”. It characterizes this data as data that no one can own. I’m not sure if this is the right characterization - they seem to be suggesting there is a public/communal interest in the data, rather than it being data in the public domain. In any event, one of the difficulties I see with this is that it relies on both public and private sector actors relinquishing claims to urban data. Sort of. For private sector actors to be able to collect urban data, they have to seek permission, go through the RDUA, and presumably manage any collected data according to the terms of that agreement (which may allow them to keep the data as confidential and proprietary - the door is open for that). In terms of the public sector, the suggestion seems to be that data that would normally simply be public sector data would no longer be public sector data if it fell within the definition of urban data. But governments have an obligation under the law to manage data under their custody or control in accordance with the law (MFIPPA, if it is the City) and any relevant policies or directives. If the data is collected by the city, then it seems to me it is public sector data and the City can’t just surrender it to governance by the UDT – at least not without some sort of legislative amendment that would allow it to do so. So I really struggle with the relationship between public sector data and urban data. It is possible that none of the data being collected by the proposed sensors is being conceived of as public sector data by SWL - if not, then this too is a bit of an issue, since data collected for better urban decision-making, etc. should be public sector data (IMHO). So my question here is how do you reconcile “urban data” with public sector data. Can this only be done through legislation?

DSAP Comment #83: (SWL) On the subject of “urban data” - the MIDP distinguishes urban data from transaction data. I wonder if this is really a straightforward distinction. I could see the distinction between payment information, for example, and “urban data”. However, I have more difficulty with other scenarios. For example, in the MIDP we are told that sensors on ride-sharing vehicles in the IDEA district would be collecting urban data, and so the ride-sharing companies would have to go through the UDT for permission to collect this data. However, data about the customer’s interaction with the company is transaction data. But how would data such as the start and end points of the trip, route data, how long the trip took etc. be characterized? Is that transaction data? (It relates to the calculation of the fee paid for the service) Or urban data? (It could be useful data for understanding traffic patterns, etc.) This is just one example. I think it might be challenging to distinguish between urban data and transaction data.

Sidewalk Labs Response:

DSAP Comments #82 and comments #83 have similar underlying questions, and thus are being addressed together.

Sidewalk Labs agrees with the challenge of distinguishing different types of data in complex situations, such as the example provided in the question 83. Further to feedback on the data governance aspects of the proposal, Sidewalk Labs and Waterfront Toronto have agreed, as a part of the resolution of the Threshold Issues, to cease using the term “urban data” in relation to the project. Instead, Sidewalk Labs and Waterfront Toronto will use existing terminology and concepts.

UDT/RDUA/Data Governance – Open Data

DSAP Comment #86: (Both) Explain how a policy of “open by default” is always in the public interest. In particular, explain how “open data” policies won’t disproportionately help the large social media and tech companies, given the structural asymmetries in the data-driven economy.

Sidewalk Labs Response:

Research led by the Governance Lab (GovLab) outlines five ways in which sharing data across sectors delivers public value, including:

- Situational awareness, meaning a more complete picture and ability to understand conditions on the ground, especially in emergency first response and recovery, which requires coordination across different levels of government, non-profit service providers, and private sector contractors.
- Public service design and delivery, in which shared data can enable more accurate and efficient design and delivery of public services.
- Knowledge creation and transfer, including bringing different data together to fill knowledge gaps and provide the most useful information to those responsible for solving problems.
- Prediction and forecasting to assist in proactive, evidence-based risk mitigation.
- Impact assessment and evaluation, where data from other sectors enables monitoring and evaluation of policies.

Similarly, in looking specifically at government-led sharing initiatives, some of the same researchers have outlined a taxonomy of open data impact. In sharing government-held data with the public, open-data initiatives foster:

- Public problem-solving through enabling residents and policy-makers to engage in new ways to address public challenges.
- Opportunity creation for residents and business to leverage data, innovate, and economically prosper.
- Government improvement through increased transparency and accountability.
- Citizen empowerment, including more informed decision-making

The intent is to build upon existing public sector open data policies by also supporting making private data open - it's not just about taking advantage of public data but unlocking the potential of privately held data - which if not opened, does reinforce the asymmetry. We believe that the future of smart cities will require accountability for achieving public policy objectives, and trusted data sharing is essential to providing cross-sector confidence that smart cities are legitimately achieving public benefits.

For example, initiatives like the New Lab's Circular City program are exploring how "circular data" — the collection, production, and exchange of data and business insights between public- and private-sector stakeholders — can facilitate economic development to benefit both government and businesses. Crucially, business benefits extend beyond the companies generating the 'circular data'. Cross-sector data sharing can generate benefits across an entire ecosystem that includes government, businesses providing data, businesses outside the direct collaboration, as well as the public at large.

DSAP Comment #87: (Both) Due to the nature of the project there is an obvious interest in maximizing economic elements to open data, but to echo previous feedback it is essential to democratize benefits of data widely, not just those who are able to reap those benefits or those who are charitable enough to use their skills to develop this. It is a sticking point for me that the MIDP include a commitment to sharing tools like data stories with the wider public, particularly with the people who chose to make this neighbourhood of the future their home. From a public benefit perspective this requires minimal effort and provides large public benefit. It could be a suggested feature or role of the Urban Innovation Institute, but something I would like to see in the final draft.

Sidewalk Labs Response:

Sidewalk Labs is committed to increasing transparency and public understanding around digital infrastructure in the public realm. As mentioned earlier in the responses, and explored extensively in the first section of the forthcoming Digital Innovation Appendix, we are committed to including increasingly detailed drawings and supporting information on digital systems proposed as part of the development planning process. These materials would be available for consultation and review. We are open to exploring the best format for this, and data stories could be a useful part of the process.

We further demonstrate this commitment after implementation through work such as our co-created Digital Transparency in the Public Realm system - a project to enhance public awareness and understanding of the digital layer in the public realm, and which provides icons, a signage system, a digital channel for communication, and a taxonomy of concepts related to data collection and use.

Additionally, we publish summaries of Responsible Data Use Assessments, which include plain language descriptions and accompanying illustrations to help explain how digital systems work.

DSAP Comment #89: (Both) Urban data will be made publicly accessible. As open data? For a fee? How will the model be financially sustainable?

Sidewalk Labs Response:

Determining the business model for trusted data sharing will be important. If the project is approved, the Urban Innovation Institute and the consortium that advances it could serve to coalesce emergent local efforts around trusted data sharing in a way that enables knowledge sharing and learning, and foster future tests and pilots of these innovative approaches in collaboration with local innovation hubs and accelerators. A portion of the Urban Innovation Institute seed funding could support exploring business models and possible approaches to establishing a data collaboration hub together with consortium partners. More information on possible approaches to trusted data are included in section 3.2.3.2 of the forthcoming Digital Innovation Appendix.

DSAP Comment #90: (SWL) (Volume 2, Page 402) How can open data be both open and secure?

Sidewalk Labs Response:

To clarify, this should refer to open standards, not open data. The purpose of this page is to point out that open standards are not in opposition to security. Historically, many systems have taken a “security through obscurity” approach – the idea that a proprietary system has inherent security because it’s hard to figure out how it works. However, this idea has been generally debunked, and today’s open systems are considered secure partly because they are open. Openness allows many more eyes on the code, protocols and systems, which increases security over time. For example, Transport Layer Security (TLS), used for secure HTTPS communications between web browsers and web servers, is an improvement over the previous approach, Secure Sockets Layer, in large part due to the global security community’s collective analysis.

UDT/RDUA/Data Governance – Data Localization

DSAP Comment #94: (Both) We had a discussion about data localization and SWL’s commitment to it. I note that in the discussion of the UDT in the MIDP (page 434) SWL does not necessarily contemplate the UDT having control over all of the data it governs. It states, “Facilitating access could be accomplished in a variety of ways from having the Urban Data Trust actually hold the data to having it set rules that require collectors to publish de-identified, aggregate or non-personal data in real time.” What does this approach mean for data localization? Could the UDT impose local storage as a condition? I did not find this in the RDUA or principles, but I might have missed it somewhere in the documents.

DSAP Comment #95: (Both) If SWL cannot guarantee that data remains exclusively within Canadian jurisdiction, in light of the (foreign) surveillance provisions contained in the U.S Patriot Act, the FISA Amendments Act and Executive Order 12333, how can it give assurance that the privacy and security of Torontonians will be protected in any cases where their data may reside in or transit via the United States?

DSAP Comment #96: (Both) The public has spoken loudly in favour of data residency. While there is reason to debate whether data residency provides iron clad safeguards (it doesn’t), the public clearly feels more comfortable with data resident in Canada. Best effort isn’t good enough. A clear commitment is needed.

Sidewalk Labs Response:

DSAP Comments #94 through #96 have similar underlying questions, and thus are being addressed together.

The decision on where to store data is based on many considerations, including whether there is sufficient technical and physical architecture to store the data securely, the costs of storing the data abroad versus in the organization's home country, and applicable laws.

In the resolution process for the Threshold Issues, with respect to the operations of digitally enabled solutions in Quayside, Sidewalk Labs has agreed (i) that personal information will be stored and processed in Canada; and (ii) to use commercially reasonable efforts to store and process non-personal data in Canada. Should exceptions be required, they will be determined on a case-by-case basis through a review process.

UDT/RDUA/Data Governance – De-Identification/Data Protection

DSAP Comment #97: (SWL) Much of the claimed privacy protection for personal data created and/or used within the proposed project depends on robust de-identification. However, this is problematic in several respects. Does SWL recognize that under Canadian law de-identified personal information, whether at the individual or aggregate level, remains governed by the relevant privacy laws and continues many of the same protections as the original personally identifiable information, e.g. accountability, purpose specification, openness?

Sidewalk Labs Response:

Sidewalk Labs complies with all applicable privacy laws and applies the relevant legal terms as defined in those laws, and interpreted by the courts.

Sidewalk Labs views robust de-identification as one part of a multi-pronged responsible data use approach that it applies to its projects. Sidewalk Labs' Responsible Data Use Guidelines push for de-identification by default, and our Responsible Data Use Assessment (discussed in detail in section 2.2.2 of the forthcoming Digital Innovation Appendix) mitigates privacy risks by asking the questions to ensure the minimum amount of data needed to achieve the beneficial purpose (i.e. one that benefits individuals or the community) is collected and used. The Assessment further systematically identifies privacy risks by requiring data collectors to anticipate and articulate the risks that could be involved, and then proactively develop solutions to mitigate the risk before a data collection or use activity is initiated.

DSAP Comment #98: (SWL) De-identification is notoriously difficult to achieve in many cases, notably location tracking data. Achieving reliable de-identification (i.e. with insignificant risk of re-identification) depends on the type of data collected, the uses to which it is put and the availability of other information sources. In particular, de-identification at source, as is the proposed default, does not guarantee it can't be re-identified later by combining with other data.

DSAP Comment #99: (SWL) How does SWL propose to ensure that de-identification is robust, esp. if it may be matched against other data sources after the point of capture? What specific de-identification techniques does SWL intend to use with what types of data? What has SWL's experience been with these techniques to date?

Sidewalk Labs Response:

DSAP Comments #98 and #99 have similar underlying questions, and thus are being addressed together.

Sidewalk Labs acknowledges the challenges associated with robust de-identification. As noted in comment 98, achieving reliable de-identification is highly contextual and depends on factors such as the specific data being collected and the availability of other information sources.

Accordingly, we are committed to applying best practices and standards (e.g. ISO/IEC 20899:2018) for selecting and applying appropriate de-identification techniques, such as differential privacy and k-anonymity.

As noted in the MIDP, Sidewalk Labs would only build solutions when there are no adequate, existing solutions available for purchase. Sidewalk Labs has already begun identifying and evaluating vendor technologies that apply best-in-class privacy-preserving features, such as on-device de-identification, that might be applied in Quayside. For example, section 2.2.3.2 includes a Responsible Data Use Assessment that was conducted for a pilot to evaluate a solution that uses on-device de-identification to measure the flows of people and differentiated transportation modes through streets and open spaces for planners and transportation managers.

DSAP Comment #100: (SWL) Sidewalk did not include the use of synthetic data as part of their proposals. For example, for creating public data sets, synthetic data can provide a reasonable solution for protecting privacy but maintaining the statistical properties of the datasets. Would synthetic data be a fifth type of urban data? More generally, as I was reading the document there were many instances where synthetic data would be a good solution to the problem identified. I would recommend that this be included in the scheme to create a trusted process for data use and disclosure.

Sidewalk Labs Response:

Thank you for this suggestion. Sidewalk Labs plans to support exploration of synthetic data, in addition to other privacy-preserving solutions such as differential privacy and homomorphic encryption. One avenue might be through the initial work of the Urban Innovation Institute, especially if a key focus for the UII were to be advancing capacity for infrastructure and processes to support trusted data sharing. Additional information on these questions is further provided in section 3.2.3.2 in the forthcoming Digital Innovation Appendix.

DSAP Comment #101: (SWL) When entities are making claims about de-identification, there should be a mechanism to certify that they have implemented good practices. There are many cases where entities make claims about de-identification but under further examination the practices are not very robust. Given the role of de-identification in maintaining public trust in the data ecosystem, this should be accompanied by a certification mechanism (say, by third parties) as part of the requirements. The same would be for the creation of synthetic data.

Sidewalk Labs Response:

Thank you for the comment. Sidewalk Labs is monitoring developments in this area with interest, and would consider participating. We are also monitoring related work by organizations such as the CIO Strategy Council, which is establishing standards around data governance, including anonymization/de-identification.

DSAP Comment #102: (SWL) In addition to comments above regarding the inadequacy and difficulty of de-identification at source, I want to stress that these data protections do not work for individuals and groups that are tiny minorities or outliers. These individuals are also the most vulnerable to data abuse and misuse. Privacy will be breached. There is little discussion of what will happen when it is inevitably breached. Other than assuming that privacy measures will be in place, what are the plans for governing and protecting the data of individuals that have the most at risk? What will happen when privacy is breached and the data is open to bad actors?

Sidewalk Labs Response:

Your comment highlights a challenge for individuals who belong to minority and outlier groups, and Sidewalk Labs acknowledges the need to ensure for effective data protections for these individuals. Further work is needed, and may involve engaging individuals in an ongoing, iterative co-design process.

Sidewalk Labs details its approach to Responsible Data Use, including its Responsible Data Use Assessment Tool (RDUA), in section 2.2 of the Digital Innovation Appendix. The RDUA was inspired by Privacy Impact Assessments and incorporates the privacy-related considerations found in them. However, Sidewalk Labs believes that Responsible Data Use needs to also address concerns that may relate to groups of people or communities, and so the RDUA requires routine consideration of how data-related activity may impact groups of people or communities. For example, the RDUA requires explanations for the below questions:

- Could the anticipated use of the data or technology harm, result in unforeseen consequences, or benefit certain individuals, groups of people, or communities to the detriment of others in unintended or unexpected ways?
- Could it result in an individual or group being treated differently than others, such as to determine eligibility for a service or benefit?
- Could the anticipated use of the data or technology harm, result in unforeseen consequences, or benefit certain individuals, groups of people, or communities to the detriment of others in unintended or unexpected ways?
- Could it result in an individual or group being treated differently than others, such as to determine eligibility for a service or benefit?

Our approach to inclusive and participatory planning and design is provided in section 2.3 of the Digital Innovation Appendix. We believe that communities thrive when they are engaged and there are equitable opportunities to participate in shaping the places, technologies, and policies around them.

A co-creative, participatory design process must start with identifying problems, not solutions. It is insufficient to have already developed a solution and then solicit feedback from diverse groups on that solution. Design must be “with” and not “for” the eventual users and stakeholders of a solution. Sidewalk Labs uses a range of methodologies to achieve a more inclusive and participatory approach to planning and design. Sidewalk Labs is not prescriptive in only using one process, but rather combines methods, such as design research and digital prototyping, to understand people’s needs and co-develop solutions. This includes a mix of approaches, principles, capacity building, and new tools that Sidewalk Labs has used to help make planning and design more inclusive. For example, Sidewalk Labs has engaged GRIT Toronto to ensure a diversity of backgrounds, lived experiences, and technical skill levels is included in user testing.

Co-design is an approach used by Sidewalk to ensure inclusive participation in design. To date, Sidewalk Labs has spent over 75 hours co-designing public amenities with over 200 members of the disability and accessibility communities in Toronto, including professional designers, advocates, and especially people who self-identify as having lived experience of disability. As a result of these

sessions, Sidewalk Labs has drafted 22 accessibility principles and incorporated over 100 recommendations for improvement in their ideas.

DSAP Comment #103: (SWL) To add to the prior comment, it is not whether a breach will happen, it is when it will happen and what you plan to do about it. I would be interested in seeing a commitment to the residents and users. No one wants to think of a breach, but I think moving forward it is important to make tangible commitments to users, something in the line of Desjardins move to offer all members free, lifelong protection after their data breach.

Sidewalk Labs Response:

Sidewalk Labs' approach to the risk of data breaches is addressed in section 1.5.5 of the Digital Innovation Appendix. Sidewalk Labs applies best practices to fulfil its responsibility to prevent network and data breaches before they occur, and also recognizes its obligations under the Personal Information Protection and Electronic Documents Act (PIPEDA) to maintain appropriate safeguards that include physical, organizational, and technical measures to ensure the security of networks and data that it controls.

These measures include:

- Implementing internationally recognized information security standards, such as the ISO 27000 series of standards.
- Conducting Threat Risk Assessments/Vulnerability Assessments and penetration testing.
- Developing, implementing, and maintaining an information security program to proactively assess risks and implement safeguards.
- Rigorously updating and patching operating systems, firmware, and software.
- Continuous monitoring for unusual network activity.
- Physical measures to limit physical access to digital infrastructure.
- Administrative measures to limit system and data access.
- Security procedures and regular training.
- End-to-end encryption, as applicable.
- Contractual requirements with vendors that provide appropriate safeguards consistent with those above, and notification of network or data breaches.

Additionally, Sidewalk Labs believes in applying best practices to address any network or data breaches that may occur, including having a cyber-incident response plan in place, which includes:

- Detecting incidents and escalating to the appropriate level within the organization.
- Investigating the characteristics of an incident and its impact.
- Containing the scope and severity of incidents.
- Coordinating and managing recovery activities.
- Assessing and managing risks.
- Preserving information associated with the incident, as appropriate.
- Providing notification to insurers, affected individuals, affected third parties, and authorities, as applicable.
- Analyzing the incident after the fact to prevent future incidents.

In the event of a network or data breach, Sidewalk Labs will diligently execute requirements under PIPEDA, other applicable legislation, and contractual obligations. This includes:

- Reporting breaches of security safeguards involving personal information that Sidewalk Labs controls to the Privacy Commissioner of Canada when the breach involves personal information and it is reasonable in the circumstances to believe that the breach creates a real risk of significant harm to individuals.

- Notifying affected individuals about such breaches and notifying any third parties that may be able to reduce or mitigate harm, such as other organizations or government agencies.
- Maintaining records of all breaches.

We would also assess the specific situation to determine whether any additional measures are needed.

Finally, Sidewalk Labs will comply with requirements related to data breaches set out in Waterfront Toronto's Intelligent Community Guidelines.

UDT/RDUA/Data Governance – Security

DSAP Comment #104: (SWL) (Volume 2, Page 408) Security by design: Do the three design goals include redundancy?

Sidewalk Labs Response:

Redundancy is one of several means that Sidewalk Labs uses to realize its digital reliability design goal, which includes preventing disruption and loss of functionality. As described in section 1.5.3.1 of the forthcoming Digital Innovation Appendix, Sidewalk Labs' strategy is to follow general best practices as established by the security community for all the technologies it develops or maintains, such as SOC 2 and ISO 27001 for applicable products and services, which both address redundancy in the context of ensuring systems availability.

DSAP Comment #105: (SWL) One of the glaring omissions of this proposal is a robust discussion of resilience. Even though improved resilience, be it against weather effects, terrorism, etc., can benefit from a strategic deployment of technology, it can only be achieved using a "resilience by design" approach. There was some discussion of technological resilience on pg. 408, Vol 0 but this is insufficient.

Sidewalk Labs Response:

Sidewalk Labs acknowledges these concerns. Key themes in our approach include: the importance of published standards and open architecture, APIs and source code for interoperability to enable flexibility and innovation; preventing disruption and enabling resiliency through the use of modular components; ensuring integrity and reliability of digital systems through detection and auditability; and proactively preparing for incidents through threat modelling and ensuring response readiness. Sidewalk Labs looks forward to further feedback and agrees that resilience-by-design should be fundamental to technologies deployed in urban environments. Section 1.5 of the forthcoming Digital Innovation Appendix describes Sidewalk Labs' approach to open and resilient technology design and implementation in detail.

DSAP Comment #106: (Both) Assuming the security by design results in a system that is different than the City's systems of today, will this tax city staff to maintain? Will it make the rest of the City's systems more vulnerable? How will the two systems be integrated given that legacy systems are likely proprietary?

Sidewalk Labs Response:

In addition to adherence to Waterfront Toronto policies and Intelligent Community Guidelines, Sidewalk Labs is committed to ensuring that the digitally enabled services it advances for Quayside meet local government standards, including interoperability. The specifics of how to ensure security by design, along with interoperability and reasonable maintenance, will be addressed through a collaborative process in future phases of development planning, if the project proceeds. Standards are an important part of interoperability, and Sidewalk Labs is committed to supporting the work of Canadian-led standards efforts, including work by groups like OpenCity Network and the CIO Strategy Council.

Intellectual Property / Patent Pledge / Procurement

IP/Patent Pledge/Procurement – Testbed-Enabled Technology

DSAP Comment #107: (Both) This strikes me as a weak offer. It's not the percentage that's the problem, it's the term. City building takes time and innovations that involve city development play out over decades, not years. Ten years is too short a time frame to fully benefit. Moreover, as others have noted, there is reason to doubt the utility of the patent pledge given its jurisdictional limitations.

DSAP Comment #108: (Both) As the movie business learned long ago % of net profit is hard to measure and easily manipulated particularly when a product's profits needed to be extracted from overall corporate accounts with relatively arbitrary allocation of overhead costs. This is very hard to value in the overall business case for the public sector. Should Waterfront Toronto wish to pursue this it necessarily needs to be a % of gross including associated services. This does not feel like a priority to me. A more tangible commitment to fostering Canadian, Ontario, Toronto companies would be more impactful.

Note: Sidewalk to comment on the last sentence in terms of feasibility from their perspective and their business model of including better commitment to Canadian/ON/TO companies.

DSAP Comment #109: (Both) Overall, I think there are a number of highly questionable financial arrangements in the proposal. Providing anything software-related at cost is not a concession, it is an imposition. The 10% for 10 years is also unlikely to be appropriate as (1) most profits are likely to be beyond the 10 year horizon given the timelines of development and (2) it is easy to manipulate the profitability of complex/custom software by dividing the contract into provision of the technology license and provision of the services to support its roll-out.

DSAP Comment #110: (SWL) Would Quayside alone qualify as a large enough deployment to satisfy the "test-bed conditions" as a pre-requisite for profit sharing?

DSAP Comment #114: (Both) There was a lack of any form of a valuation model for data collected. Pg. 221 - 10 percent of profits shared when product was sold to second city post WT. This valuation is based on product models only - there was no mention of how any data valuation would be monetized. For example - not selling the actual product or data from that specific product - but the vaster data collected for the overall execution of this project, stage by stage and gate by gate. Here could be the most valuable data set available for valuation - the actual run book and insights from the execution of the MIDP. Would this also become profit shared when SWL advises the next city on such a program based off the initiation and early success of this MIDP.

IP/Patent Pledge/Procurement – Patent Pledge

DSAP Comment #119: (Both) “The only condition is that those taking advantage of the pledge not assert their Canadian patents against Sidewalk Labs or its affiliated companies.” — This condition, emphasized in the presentation, is not nearly as equitable as it sounds. It effectively means that in order to use SWL tech, you have to give them all of yours — it basically removes the ability of small firms to exercise or patent anything. This is a higher imposition on the small firm than the large.

DSAP Comment #121: (SWL) Explain how the patent pledge gives innovators in the Toronto ecosystem an opportunity to scale globally.

Sidewalk Labs Response:

DSAP Comments #107 through #110, #114, #119 and #121 have similar underlying questions, and thus are being addressed together.

The discussions around shared value with the public sector and the patent pledge have evolved, incorporating feedback received through public consultation and the DSAP.

Sidewalk Labs has agreed to shift to a revenue stream on products and services piloted in Waterfront Toronto-facilitated testbed area, based on global net revenues, where net revenue will mean all consideration received by Sidewalk Labs less agreed upon deductions. The percentage and time frame for the value share will be finalized before entering into the Principal Implementation Agreements. To the extent that data is used to enhance the Testbed Enabled Technologies, and more of those technologies are sold as a result, this enhanced value reflected in sales would be caught by the value share.

Based on your feedback and what we’ve heard in the ecosystem, rather than limiting the pledge to Canadian software and hardware patents covering digital innovations, Sidewalk Labs is also including those patents worldwide, ensuring that the pledge in fact aligns with the foundational objectives of supporting Canadian-resident innovators. In practice, this pledge means that a Canadian-resident company could build on a hardware or software patent covering digital innovation filed by Sidewalk Labs in any country, greatly expanding the company’s potential for innovation and growth. Any such granted patents would be listed online as a pledged patent. The proposed patent pledge would remain subject to defensive termination.

In terms of understanding the value and impact, patents can play a key role in spurring or supporting the innovation ecosystem by enabling parties to protect inventions developed through rigorous research and development efforts. In recent times, however, some parties have become concerned that holders of patents may have an advantage that has the opposite effect. Sidewalk Labs heard those concerns expressed in connection with the Quayside plan and wanted to take a proactive step in alleviating them.

Also with respect to concerns, the deterrent effect of litigation for patent infringement in North America and other countries with other strong patent regimes is real and largely due to very high defence costs, which can balloon into millions of dollars. To combat this reality, some companies conduct searches, and/or hire legal counsel to do the same, seeking to identify whether an invention could be infringing, in order to minimize their exposure to lawsuits. Some companies also go so far as to obtain a legal opinion that a proposed course of activity would not infringe a third party’s patent rights, also known as a freedom to operate opinion. In 2010, a freedom to operate opinion over software was estimated to cost at least USD \$10,000. This cost has presumably increased over the last decade due to increased filings of software patents, market crowding, and typical legal fee increases over time. To many entrepreneurs, this cost is prohibitive, so the choices left are to avoid innovating in a particular area or to innovate and hope to not be deemed infringing and sued. Large

technology companies in the United States recognized this innovation deterrent as a serious enough issue that resolutions were sought. One such resolution, notwithstanding that it actually reduces some of the value of the patent to the patent holder, was the introduction of patent pledges by companies such as Microsoft, IBM, and Google, among others.

The development of intellectual property would certainly form a part of Sidewalk Labs' business strategy. However, asserting patents is not a cornerstone of Sidewalk Labs' business model. Sidewalk Labs is in a unique situation in that it both wishes to and is able to share the value of certain key intellectual property developed for the Toronto project with the tech community in Canada to stimulate a much-desired innovative ecosystem. Specifically, Sidewalk Labs' goal is to build next-generation communities that combat problems it has identified in global cities today. An important part of the advancements in these communities would be patented digital-innovation-enabling technologies. Rather than monopolizing such patented technologies, Sidewalk Labs would prefer to stimulate the innovation ecosystem in Canada by allowing Canadian-resident innovators to leverage its work to enhance the rate of innovation to a level that Sidewalk Labs alone could not achieve. As global citizens, we are all in a race to make cities more sustainable, affordable, and inclusive, among other ambitious goals, and our competitor is the status quo.

This pledge would go into effect immediately after the signing of Principal Implementation Agreements with Waterfront Toronto.

DSAP Comment #116: (SWL) (Vol. 3, Page 112): What does "practical" mean in terms of the development of the advanced systems? If developed by SWL, will SWL own the IP and license it to WT? If so, what are the terms of the license? Does SWL suggest they have unilateral rights over the development of the advanced systems for Quayside and Villiers West?

Sidewalk Labs Response:

In the context of the development of the advanced systems, "practical" means wherever it commercially reasonable to do so - i.e., that a capable vendor who can provide services to help develop advanced systems exists in appropriate proximity to the project site.

WT is not anticipated to be a licensee for advanced systems since it does not typically have operational oversight of any infrastructure improvements post-development. It should be noted that, with the exception of dynamic roads, advanced systems are proposed in place of traditional systems that would normally be privately operated. There are only a limited number of cases that a public agency may be a licensee of a SWL-developed technology, which in the current proposal would apply to dynamic curb and Koala.

SWL generally does retain ownership to IP it develops. Any licenses required in order for system operations to be functional would be provided on commercially reasonable terms. However, the overwhelming majority of advanced systems components do not require development by SWL and would be implemented through third parties.

SWL needs to be able to ensure each system is fully functional and appropriately integrated into the development. We anticipate that the development of the advanced systems would require procurements, and for those conducted by SWL, we would seek to ensure the Canadian ecosystem is aware of all procurements, and prioritize Canadian companies by breaking ties in their favour. For further details on procurement of Canadian technology for implementation in the project, please see Section 3.2.2 of the Digital Innovation Appendix.

DSAP Comment #117: (SWL) (Vol. 3, Page 113): “SWL would transfer knowledge to the public administrator to enable it to take over the advanced systems development role after Quayside and Villiers West.” Is IP and source code, etc part of the knowledge transfer?

Sidewalk Labs Response:

Per the resolution of Threshold Issues, Waterfront Toronto is prepared to support and advocate for an “Innovation Plan”, as is consistent with the Waterfront Toronto mandate of pursuing innovation to realize ambitious public policy objectives and which will be applicable to the project. There will be no further reference made to the IDEA district.

Regarding the Public Administrator, given the role of Waterfront Toronto and its government partners, there is no need to establish a new entity such as the Public Administrator, as originally contemplated in the MIDP. Instead, Waterfront Toronto will advocate for the creation of government task force(s) to support implementation of the Innovation Plan.

IP/Patent Pledge/Procurement – Procurement

DSAP Comment #123: (SWL) Given that SWL is committed to catalyzing a new urban innovation ecosystem in Toronto, please detail the terms and conditions of your Supplier Agreements to ensure local innovators are able to own and control, and thus commercialize their innovations.

DSAP Comment #124: (SWL) The economic modelling shows the potential for economic benefit, but specific actions are required to realise those benefits. Perhaps more important than numbers of jobs are numbers of firms supported. Sidewalk plans to give priority to technology local to Toronto, Ontario, or Canada when purchasing technology. These plans need to become commitments both for Sidewalk direct procurement and for procurement for those Sidewalk contracts with. A specific commitment that at least 50% of technology and services would be procured from firms that are local to Toronto, Ontario or Canada would make the economic benefits credible. A 50% level would enable the use of global technology and services that are not available otherwise and perhaps incent those suppliers to create or increase their local presence.

DSAP Comment #125: (SWL) There is a potential disconnect between undertakings to source local technology and using the best technology. While the best technology may be local, it will not always be. Choices will often need to be made, and the proposal would be more credible with a clearer acknowledgement that local options will be explored, but not always used.

Sidewalk Labs Response:

DSAP Comments #123 through #125 have similar underlying questions, and thus are being addressed together.

We have spent extensive time considering how to support Canadian companies, while addressing the potential disconnect between undertakings to source local technology and using the best technology.

There are 18 major services, with 52 subsystems, proposed for Quayside. It is anticipated that 75% of these would be procured from 3rd parties other than Sidewalk Labs. This presents a tremendous opportunity for Canadian companies that are well-positioned to deliver these services. For technology procurements it conducts, Sidewalk Labs will engage with the innovation ecosystem, including local accelerators and incubators, to ensure the Canadian ecosystem is aware of all

procurements. In procurements that Sidewalk Labs leads, we are committed to prioritizing Canadian companies by breaking ties in their favour.

Canadian companies cannot only benefit through integration of their solutions into Quayside, but through achieving greater global distribution. Quayside is Sidewalk Labs' flagship project, so we plan to market the innovations successfully implemented in Toronto globally. This means promoting the portfolio of technologies and companies that have contributed to the project. Sidewalk Labs plans to feature these partners in an online innovations portfolio to provide global visibility for our partners. This provides a substantial opportunity for supporting high-growth scale ups, a key area to advance Canadian competitiveness.

How Sidewalk Labs engages with suppliers is important for supporting Canadian competitiveness. We recognize that developing solutions for contemporary urban challenges will require collaborative inputs from multiple parties. For engagements anticipated to result in creation of IP, Sidewalk Labs would work to negotiate terms with companies that consider how Canadian companies can continue to benefit from their innovations.

Canadian companies can benefit not only through integration of their solutions into Quayside, but through achieving greater global distribution. Quayside is Sidewalk Labs' flagship project, so we plan to market the innovations successfully implemented in Toronto globally. This means promoting the portfolio of technologies and companies that have contributed to the project. Sidewalk Labs plans to feature these partners in an online innovations portfolio to provide global visibility for our partners. This provides a substantial opportunity for supporting high-growth scale ups, a key area to advance Canadian competitiveness.

Overall Impressions of the MIDP

Overall Impressions – Size/Scale/Nature of MIDP

Overall Impressions – Document Readability/Accessibility

DSAP Comment #126: (SWL) Overall, the MIDP is unwieldy, and a great deal of cross-referencing is required to find all relevant details on particular issues.

DSAP Comment #127: (SWL) On first sight, the print version of the draft MIDP is very impressive, visually rich in terms of its physical size, scope of ideas and graphic dazzle. But on closer inspection, it better resembles a coffee table book to be marveled at by flipping through pages than a planning document that enables the critical scrutiny necessary for public decision-making.

DSAP Comment #128: (SWL) In general, the MIDP makes for a good story; I was under the impression it would be more tactical in nature.

DSAP Comment #129: (SWL) There are some very positive aspects to the MIDP. I feel like SWL is more like an aggregator of innovation as the proposal identifies many innovative or efficient approaches and aggregates into a single proposal. The SWL-backed innovation is more limited, but the aggregate proposal provides an interesting pilot project that brings together many common-sense or innovative proposals to development (it is described in the River District chapter as a “demonstration project”).

However, I also find the proposal extremely repetitive and often unconvincing with respect to the unique value proposition it provides. Some of the proposals seem unnecessary or irrelevant (e.g. Super-PON or the mobility subscription). Many others are interesting but don't require Quayside in

order to implement. Indeed, many of the community-based innovations (e.g. Koala, software defined networks) could be implemented without SWL.

I also struggle with the size of the project. If just Quayside, many of the plans seem overly ambitious. Quayside is relatively small and the benefits from traffic sensors and other smart technologies in the community have little prospect of delivering over a small footprint with a handful of large buildings. That is not to say that the IDEA district is a must. In fact, part of the problem with the proposal is that it is not always clear where the policy will work with only Quayside or requires a larger space to get off the ground.

I find some of the community discussion divorced from the reality of how people live and work. The housing section speaks of people moving from smaller units to larger family units as if in a major city people never leave a small area. Other aspects of the plan that envision people living and working in the same area seem unlikely – commuting is a fact of life for many people and the notion that this will be a neverland in which everything – housing, jobs, schools, religious institutions, gyms, etc. is a block or two away strikes me as fantasy.

So too the benefits from some of the data collection. For example, if this is a community with significantly reduced car usage, what does that mean for the value of the traffic data? How useful is the pilot project for other parts of the city that do not have similar usage rates?

DSAP Comment #145: (SWL) Curiously, this MIDP lacks the basic features large complex documents normally include to enhance readability – a concise executive summary, a complete fine-grained table of contents and a comprehensive subject index. The impression that the document has been designed more for public persuasion than systematic scrutiny is reinforced when one turns to the electronic version. It is especially puzzling that an enterprise renowned for its digital prowess doesn't offer a browser viewable and searchable version of the document. Requiring the downloading of PDFs deprives the many who are not well set up for this mode of access from convenient reading. The absence of a single version of the entire document thwarts comprehensive search. The 2-up double column layout and the absence of active links in the endnotes add further reading obstacles.

Given the great deal of careful and skillful attention paid to the design of the MIDP, why was not greater priority given to accessibility and readability?

When submitting the final MIDP (presumably the draft MIDP, plus addenda), please provide the following to better enable public study: a. concise executive summary, b. complete fine-grained table of contents, c. comprehensive subject index, d. responsive, browser viewable, navigable and searchable version, e. active links for endnote URLs, and more of them, and f. single, searchable, 1-up PDF version of the entire Plan, in addition to the existing PDFs.

DSAP Comment #146: (SWL) Despite commitments to “prioritize accessibility”, the MIDP was released in an inaccessible format and no accessible alternatives were provided. Sidewalk committed to provide accessible versions “within the coming weeks,” but has yet to produce these (<https://www.sidewalktoronto.ca/accessible-midp/>), more than a month from release. The high production document excludes a large number of Toronto residents.

This is very concerning. If this is indicative of how accessibility will be “prioritized” – as an afterthought and a separate, segregated measure – all the commitments to inclusive design and accessibility ring false. The document itself could have been made accessible from the start. This would have aided all readers in navigating the document, finding relevant sections, and creating more readable views on a variety of devices.

Sidewalk Labs Response:

DSAP Comments #126 through #129 and #145 through #146 have similar underlying questions, and thus are being addressed together.

We have taken the feedback in these comments into consideration, and we hope that the forthcoming Digital Innovation Appendix (DIA) will be more suited to your needs as expert reviewers focused on the digital innovation elements of the proposal. Moreover, in the DIA, we further detail the accessibility principles we co-created with the community, including plans to create a working group consisting of people with disabilities who has stewardship of these principles and direct input into the design process in the next phase of planning, if the project is approved.

The DIA is accessible upon delivery, demonstrating our commitment to ensure access for everyone from the beginning. The DIA is also takes into account these suggestions for enhanced readability, including:

- Executive summary
- Complete fine-grained table of contents
- Single searchable PDF
- Active links for endnotes and other URLs

These readability suggestions will also be taken into account for any future documents.

DSAP Comment #130: (SWL) I found Volume 0 to be informative. It provides some context around the vision of the project. However, the level of detail is insufficient for implementation and full evaluation.

I too was displeased by the repetitive nature of the content or the tendency to spread out the discussion of a topic across multiple volumes.

It is difficult to be everything to everyone. In attempting to do so, you end up being nothing for anyone. How does SWL propose distilling all of the public feedback to achieve the best outcome while recognizing that some of it may be contradictory?

I continue to struggle with the geographic scope and the expected outcomes of this project. I feel that, at the scale of Quayside, the project will be more of a living lab than a fully functional community. If it is a living lab, will it tolerate failure? What is WT's expectation? Clearly, SWL feels that full functionality cannot be achieved at the scale of just Quayside.

Sidewalk Labs Response:

Sidewalk Labs' approach to public participation is guided by engagement principles. Our goal is to build a neighbourhood that is welcoming and accessible for all, and where every resident, worker or visitor can thrive. In order to achieve our goal we will work with a broad array of Torontonians with different perspectives and experiences of the city. What it means to be welcome, to be accessible, and to have the opportunity to thrive will change over time as Toronto and the needs of its residents, workers, and visitors change — which means our approach has to be flexible and adaptive. Working from principles allows that kind of flexibility without losing sight of what's important.

We also believe that public engagement should include ongoing processes for inclusive and participatory planning and design, as detailed in section 2.3 of the Digital Innovation Appendix. We

hope that the recent resolution of Threshold Issues and the forthcoming Digital Innovation Appendix further demonstrates how our thinking and plans can and will change after public feedback

While listening is a crucial step in the engagement process, it is just the first step. Sidewalk Labs is committed to integrating feedback throughout the design and implementation phases of its projects. Feedback is collated in its anonymized form and presented to the relevant design, planning, and implementation teams. We build in opportunities to report back to communities and stakeholders on how their involvement has shaped the outcomes.

As outlined in the answer to question #159 Sidewalk Labs considers all feedback it receives to inform its plans. Through analysis we are able to identify key or emerging themes - views that are shared by a significant number. However a "popular" idea or view is not the only measure we use to consider a representative view. We also consider and solicit typically underrepresented voices in the design and development process, and how we might "design from the edges" to benefit all. Ultimately, we are guided by the project goals, and equitable outcomes. There is no algorithm or perfect system for this kind of distillation, it involves in depth conversations within the planning teams and thoughtful approaches to design.

DSAP Comment #133: (SWL) It is really unclear to me what pertains to the IDEA District, what pertains to Quayside alone, what is Quayside + Villiers West, and what is some other area. It appears to be fuzzy / jump around between sections.

When you read the forthcoming Digital Innovation Appendix, we hope that the geography is clear, as it reflects the revised geographic scope established through the Threshold Issues resolution process.

DSAP Comment #134: (SWL) The MIDP is attempting to be a plan, a proposal and a 'test-bed" all at once. On one hand, there is an attempt to retain the original spirit of test-bed, experimentation and on the other to respond to requests for specificity by laying out elements of a more traditional urban plan. There are ideas that are proposed under well-established principles and regulatory frameworks (how buildings meet the street, building codes), new proposals that may exist at the intersection of jurisdictional policy frameworks currently under revision (privacy, data governance) and specific technology proposals that seem neither particularly new, and in some cases are already being done by others. The reach of the plan is ambitious (and beyond the scope originally asked for) and the gaps lie in the interstitials, in how the "plan", the "testbed" and the "proposal" fit together, or do not fit together. It is here where the gaps can yawn wide, where the pessimist may see societal-level dangers, and the optimist may see opportunity, though necessarily tinged with caution.

It is not a new debate in the realm of innovation and transformation, but how do we work within what is well known, and yet create what is yet to be understood? In the spirit of testbed, the MIDP lives in a space (Quayside, and perhaps beyond) that is currently considered physically "empty", though it is certainly not without its history. Grand plans upon what is considered empty space have a problematic history, stretching back to colonialism, and more recently mid-century urban renewal and "world-fair" urban futures. The MIDP has grand vision of spaces that evolve and react to behavioural and environmental patterns, of flexible residential and commercial spaces, and of the systems of notification and management dependent on data, sensors and new technologies. At the same time, it is a traditional development plan of buildings, streets and, in some ways is reminiscent of the grand visions of plans never realized (The Metro Centre that resulted in the CN Tower on the waterfront comes to mind, or the extension of St. James Town.). As such the MIDP straddles a space of deep regulatory tissue and physical specificity (governed by existing building codes, planning, zoning), and an undiscovered country of new technologies, data, though it in itself operates in an existing world of standards and legacy technologies. As such, the MIDP must find a way forward not only within the

policy and regulatory environment but also operationally, how new technologies will work with the legacy stack, and how Quayside will fit together with the rest of the city both from a governance perspective and operationally. In many cases, Sidewalk chooses to find this path in two general ways.

First, it proposes a set of governance bodies that currently do not exist, under the umbrella of a “Public Administrator” with indeterminate responsibilities and funding. The Public Administrator resembles Waterfront Toronto but is not named specifically as such. As has been mentioned repeatedly elsewhere, is not clear how these new bodies are funded, of who gives them agency, and how they fit into our democratic urban governance currently in place. And is there a version of the plan that could move forward without these questions answered? Or better stated is there a version of the plan that could move forward within the existing public governance structure we have? We need more detail on who owns what, who is responsible for operations and maintenance, and how procurement is to be managed. These are key questions to be addressed before we could move forward with an approval of the plan and I think we would need to see more specifics.

Secondly, on the technology stack side, Sidewalk attempts to resolve the tension, between what exists and what does not, by proposing to conduct audits of existing technologies and companies and to engage with them, with a welcomed local bias in terms of participation (and IP but that has been dealt with extensively elsewhere as well). In the MIDP, when there is an identified technology gap, Sidewalk proposes to fill that gap themselves. The only exception is where the gap seems particularly complex and controversial, in which case they propose a third-party body (such as the Urban Data Trust) These two default positions are problematic.

In summary, in attempting to be a test bed on an empty tableau, but to do it by proposing a very specific development, connected to an area already governed by public policy and regulations, means that governance proposals, and the development and technology development process, will need to be far better defined, with agency and decision making defaulting to the public body, and practically, leveraging existing public structures first before creating new ones. I also suggest we separate the “test-bed” much more explicitly from the “proposal”, to create a more agile Plan with accommodation for fluidity, experimentation, city-building process innovation, more prototyping, and for far greater multi-party collaboration over a realistic time period of a decade. Allow things to fail, to be incomplete, and then to graduate to the city or society entire, in an inclusive and democratic way.

DSAP Comment #137: (Both) Shadow City and Civic Governance Infrastructure: the MIDP has lots of calls for new organizations to be invented. They seem like parallel inventions to institutions we already have in part/full (e.g. public administrator for the IDEA district - economic and development and planning departments; Open Space Alliance - Park People / parks and rec departments. I think a fundamental principle moving forward is that we don't invent new organizations / institutions until we first invest the government/NGO ones to see if we can grow them first. Page 71 of the V 3 states: “The innovative solutions needed to achieve Waterfront Toronto’s priority outcomes require management and oversight by dedicated, accountable, and financially self-sustaining, community-based governance structures.” I would argue that given the complexity of data-governance elements of this plan, it will be expensive and technically difficult to build the right capacity inside discrete organizations, especially for a 12-acre site. Every new organization that is set up has operations costs. The capacity to innovate needs to be focused inside government organizations first so that the lessons learned can be scaled and so that innovation emerges from democratically accountable processes. Similarly, why invent new NFP orgs what will require funding when perhaps some/the better part of what is proposed could be integrated, more economically, into existing ones with proper funding.

DSAP Comment #141: (Both) How does this project affect the rest of the City's operations - infrastructure, inclusion, mobility, etc.? Are we creating a siloed Utopia that could be the target of disdain by the rest of the City?

DSAP Comment #164: (SWL) Costs of creating new governance mechanisms - This project, at the scale of the desired IDEA district, makes not even 1% of Toronto's geography and makes me wonder about the tradeoffs from an equity perspective of what the opportunity cost of creating the new governance the MIDP requests will be. Municipal fiscal budgets are very tight right now, particularly around staffing, the assumption that budgets will be made for what at first glance seem as redundant institutions come off as out of touch with the local Canadian context (particularly from a position of sustainability over the long term). To evaluate this proposal the City of Toronto had to set aside \$800,000, which I highly doubt they expected would be spent at the beginning of the fiscal planning period, but which was a necessary move. Sure, it came out of debt financing reallocated from a capital project now on hold, but what if that project is further pushed down because of this decision? This project has an opportunity cost for all levels of government, and the MIDP should be more thoughtful about how to minimize this.

New institutions grow as a result of need, often spin off from existing institutions, but won't do so until it is clear existing institutions are unable to meet or hinder that emergent role (e.g. a senior executive being spread too thin as a result of growth in portfolio). No one should discuss the development of these potential agencies in this level of detail. I would recommend instead to focus their proposal to recommendations of what is absolutely needed for the project and how Sidewalk Labs is positioned to help institutions grow into their potential roles.

DSAP Comments #134, #137, #141 and #164 have similar underlying questions, and thus are being addressed together.

Sidewalk Labs Response:

Questions of ownership, responsibility for operations and maintenance, and procurement are very important questions to discuss. And we agree that minimizing the costs to government, as well as building innovation capacity in government, are important and must be strongly considered throughout this project. As a result of the Threshold Issues resolution process, Waterfront Toronto and its government stakeholders will be leading a focused effort to consider appropriate governance mechanisms tied to the Innovation Plan. Furthermore, per the resolution of Threshold Issues, Waterfront Toronto will be advocating for the creation of Task Forces that bring together the relevant parties to establish appropriate governance of the Innovation Plan. These present substantial innovation capacity-building opportunities in government and ensure thoughtful consideration of operations for innovations.

Sidewalk Labs proposes that the great majority of district-wide infrastructure services proposed for Quayside be overseen and managed by the same bodies as they would be today: government, non-profits, or other regulated bodies such as private utilities. Significantly, this is true for systems located in public spaces and right-of-way such as mobility, outdoor comfort, and open space management systems, and notably this approach is similar to business-as-usual today, where an agency such as city transportation manages traffic lights and collects data on street usage; city parks department or non-profits such as Evergreen Brick Works and The Bentway Conservancy manage public space usage and operations; and a utility such as Toronto Hydro monitors energy usage to determine billing. Buildings-related services and systems are privately owned and operated today, and depending on the final project structure, Sidewalk Labs may act as primary owner of these systems — again, in line with common practice today.

The list of digitally enabled services in the forthcoming Digital Innovation Appendix provides a listing of the subsystems that make up each service, and for each subsystem: typical operational oversight, the suggested operational oversight, and proposed lead for procurement.

The proposed approach for procurement is also further detailed in the Digital Innovation Appendix. Waterfront Toronto, Sidewalk Labs, and its partners would procure an array of goods and services for the Quayside project. These procurements will be governed by various principles, depending on whether it would be Sidewalk Labs, another private business, or a public-sector organization conducting the procurement. When conducting procurement, public-sector organizations, broader-public-sector organizations, and private-sector organizations each have a different set of default rules that apply to them. Furthermore, a purchaser may agree to adopt more rigorous procurement standards, as Sidewalk Labs did when entering into the Plan Development Agreement, where in Schedule D it agreed to abide by specific principles that would govern a framework for procurement after execution of the implementation agreements, and in addition, to abide by fair and arm's-length procurement standards.

Procurements by Waterfront Toronto

Waterfront Toronto is subject to its own private-sector procurement rules and has voluntarily adopted and posted a procurement policy on its website describing the rules that the organization generally follows when conducting procurements. Whenever Waterfront Toronto is conducting a procurement for technologies in connection with the Quayside project, Sidewalk Labs would expect Waterfront Toronto's ordinary procurement policy to apply, subject to any amendments or special exceptions that may be adopted within the policy.

Procurements conducted by Sidewalk Labs

To fulfill Sidewalk Labs' commitments in the Plan Development Agreement and subsequent Principal Implementation Agreements, Sidewalk Labs must procure goods and services from third parties. Some of these procurements would include procurement of technology. In these procurements, Sidewalk Labs would seek to ensure the Canadian ecosystem is aware of all procurements, and to prioritize Canadian companies by breaking ties in their favour. The specific mechanisms to achieve this, while ensuring best-in-class and fair value, will be further clarified through engagement with the industry.

As a privately held company, only the common law of tendering applies to procurements by Sidewalk Labs except to the extent that it agrees otherwise by contract. When entering into the Plan Development Agreement, Sidewalk Labs agreed to abide by certain additional standards after execution of the Principal Implementation Agreements, namely, fair and arm's-length procurement standards, which "will seek to balance — in the public interest — the use of market-based sourcing, on the one hand, and the direct facilitation of Purposeful Solutions for innovation, on the other hand."

DSAP Comment #135: (SWL) For a document that repeatedly emphasizes human-scale experiences and provides lush illustrations of projected street life, the lack of an 'experience' perspective related to the digital dimension is striking. To enable Torontonians to get a better sense of this key aspect of the proposal it would be very helpful for SWL to provide a variety of 'day in the life' scenarios for Quaysiders, eg a resident, a worker and a visitor. These scenarios should highlight the various ways that data about them would be captured by various means, not just project installed sensors, but other digital devices, as they travel through the Quayside district, what happens to that data, who accesses it, for what purposes and how the person would be affected immediately and in the longer term by these digital processes.

Sidewalk Labs Response:

We have constructed a dynamic model of the proposed development at our 307 Lakeshore Blvd E location that provides an experience of the innovations proposed for the project. Based on this comment and other feedback, we are considering how we might provide individuals with additional ways to experience and engage with the proposal.

DSAP Comment #136: (SWL) The MIDP provides context that raises some uncomfortable concerns. A number of very specific decisions are “recommended”, and Sidewalk Labs recognizes that those decisions are up to decision makers, but the MIDP is the document that will ultimately be put in front of decision makers, including Toronto City Council. By laying out bureaucratic processes, and even HR decisions, those “recommendations” will become the starting point and it should under no circumstance get to that point. Sidewalk Labs brings an important and valued perspective, but they are not to dictate what governance or resource allocation looks like when it has such important implications to the work ahead with and after this project. This is particularly true for the Urban Data Trust.

Sidewalk Labs Response:

As noted above in the response to comments #4, #62 through #67, and #69 through #81, the intent for Sidewalk Labs’ Urban Data Trust proposal was to ensure responsible data use and support trusted data sharing. However, the clear feedback was that creating a new standalone entity for both of these functions was not a preferred path. The agreed-upon approach from the Threshold Issues resolution process is responsive to this feedback and recognizes that Waterfront Toronto and its government stakeholders lead on data governance. It also reaffirms Sidewalk Labs’ commitment to comply with all applicable Canadian laws, Waterfront Toronto’s Digital Principles and forthcoming Intelligent Community Guidelines, and applicable policy frameworks.

Overall Impressions – Size/Scale/Nature of MIDP

DSAP Comment #138: (SWL) There are a number of examples of “how” the MIDP would be implemented, but most of the plan seems to be focused on the what, but at a frustratingly abstract level. Much has been made of the size of the report, but a significant amount of it might be characterized as repetition. Though understandable that there is a matrix of elements overlapping each section, and that summaries and roundups are necessary to such a large document, it contributes greatly to the bulk and the difficult navigability of the document.

Sidewalk Labs Response:

The MIDP was written as a document intended to serve many audiences. It was understood that some audiences would read the MIDP in its entirety, while others would only read certain portions, thus a certain amount of repetition was necessary to ensure the document would meet the needs of all readers.

We have taken this feedback into consideration, and we hope that the Digital Innovation Appendix will be more suited to the needs of expert reviewers focused on the digital innovation elements of the proposal.

Overall Impressions – Process
Overall Impressions – Civic Engagement

DSAP Comment #139: (SWL) Much of the innovation here is going to be in the “how” of the design and delivery process. Through there are many proposals for new governance bodies, there is not enough on the “how” of the design process. Given the infusion of theoretically interoperable technologies and with much rhetoric about putting the resident/citizen at the centre of the process, there is much left unsaid about how the design of these technologies will unfold. If the true innovation here is a combination of design and consultation methodologies sourced from urban design, architecture, design and software development (in other words if this really is a city “designed from the internet up”), I am not seeing it so far in the MIDP. I would like to see much more an intersection of design thinking, agile development, human-centred design and traditional design charrettes to make sure the “user” i.e. Torontonians are directly involved in the design process, rather than simply numbers to be quoted from general public relations-based public consultations. This is not easy to do, but being more transparent about the “how”, and by whom, rather than simply the “what” will accomplish two things:

Help address the lack of trust the public has shown in the entire process to begin with.

It will take many years to realize a new vision for Quayside (and beyond, if approved), and the technology innovations proposed here may be superseded by others. What should be truly new, is how can public, and private partners, working together with the community, reimagine city-building that is both enabled by the new technologies, and ensures protection and participation by the very public that is supposed to benefit by this development.

To me, this will be the true innovation - digital and otherwise.

DSAP Comment #147: (SWL) While the term co-design is used frequently throughout section O, and in some other sections, it appears to refer to public consultations to solicit opinions, and feedback sessions once plans are developed. There is little description of a process that would bring the various individuals and groups that will be impacted by the plan into the ongoing design process. There is nothing to suggest that those that will be impacted will have any agency in making the plan ‘our’ plan. I recognize that there is a tension between presenting a specific plan and leaving decisions to be made through co-design. A fulsome description of the process for participation in co-design and potential roles for individuals and groups most impacted by the plan would make the assurance of inclusion, accessibility and respect for diversity more believable.

DSAP Comment #149: (Both) Tied to the aspirations set out in the PDA that the project would set new standards in urban technologies and city-building, if the plan is serious about public engagement and literacy it should be more forward about creating an engagement model with the public. This includes helping the public frame the discussion with a civic digital literacy onramp into the issues and to assist the public in contributing to the design and implementation of the plan. This should be enabled and delivered by a trusted, and preferably public-sector or non-profit entity that can partner with citizens/residents in an inclusive and empowering way.

DSAP Comment #150: (SWL) In particular, citizen and resident participation with agency (i.e. empowered and influential) is missing from the MIDP. There are references to a Civic Assembly, Care Centres, to the collaboration with Digital Public Square and Collab and to the involvement of residents through GRIT. I would prefer to see these brought together more formally as a civic technology layer, that is owned and executed by citizens, and to enable stakeholders including citizens, residents, business owners and others to have a direct impact on the design of these technologies, the digital layer, and the physical spaces. This impact does not just include consultation, but should include real co-design, initiation and prototyping etc.

Sidewalk Labs Response:

DSAP Comments #139, #147, #149 and #150 have similar underlying questions, and thus are being addressed together.

Thank you for these comments. This is a very important topic for us.

We are similarly excited about the prospect of a civic technology, and agree that it should be driven by community members. We welcome further ideas about how to best achieve this.

Our approach has been based on the principle that a co-creative, participatory design process must start with identifying problems, not solutions. It is insufficient to have already developed a solution and then solicit feedback from diverse groups on that solution. Design must be “with” and not “for” the eventual users and stakeholders of a solution. We use a range of methodologies to achieve a more inclusive and participatory approach to planning and design. We are not prescriptive in only using one process, but rather combines methods, such as design research and digital prototyping, to understand people’s needs and co-develop solutions.

By using a participatory and planning design process upfront, the groundwork is set for a neighbourhood that will continue to adapt to the people who inhabit it. We are committed to working with local partners and community members to further these approaches should the next phases proceed, and also helping foster the conditions for a place that is participatory with strong social capital.

We have built a team with deep expertise in civic technology and tech ethics, including former public servants who have built capacity for service design, data analytics, and digital product development in government, and designers who embed human-centred methods and accessibility into their practice.

Together, our team is committed to working with community members, organizations, companies, and government to create inclusive places, technologies, and policies. This philosophy of inclusive, participatory co-creation — both in the planning and design phase and, importantly, as an ongoing way of working — has informed our work to date and is exemplified in work related to co-designing for accessibility, prototyping a system to increase digital transparency in the public realm, and developing digital tools as a support for inclusive community participation.

Section 2.3 of the Digital Innovation Appendix provides even more details on some examples of this work to date, including:

- **Inclusive usability testing.** Sidewalk Labs has financially supported [Code for Canada’s GRIT Toronto program](#), which recruits Toronto residents from diverse backgrounds, lived experiences, and technical skill levels to test and participate in technology design. This initiative seeks to ensure that new digital solutions in Quayside are built with neighbourhood needs in mind.
- **Co-designing for accessibility.** As a result of over 75 hours co-designing with over 200 members of the disability and accessibility communities in Toronto, Sidewalk Labs has drafted [22 accessibility principles](#) and incorporated over 100 recommendations for improvement in our ideas. The principles will continue to adapt and expand to incorporate input and additions from the community, including through a working group integrated with the next phase of planning and design.

- **Prototyping digital transparency in the public realm (DTPR).** [DTPR](#) attracted more than 100 participants from several cities to co-create a visual language (a set of icons) to help inform people on how and why data is being collected and used in the public realm, and provides a digital channel for learning more and providing feedback. While the project does not address all issues around consent in data collection, it seeks to advance a broader conversation around data transparency.
- **Prototyping inclusive civic tech tools.** Over the past two years, Sidewalk Labs has built prototypes that aim to support the work of civic innovators. These tools, which would be available but not required for use by the community in Quayside, include:
 - [Collab](#), a digital tool developed with Toronto-based non-profit Digital Public Square that allows community members to propose choices for events in public spaces and evaluate the trade-offs associated with each proposal—in other words, how their individual choices could impact the community. Collab is designed to increase community participation and facilitate more inclusive and collaborative decisions.
 - [Commonspace](#), an open-source digital prototype developed with the non-profit Gehl Institute and used by Thorncliffe Park Women’s Committee that makes it easier for community groups to collect reliable data on how people use public spaces.

Additionally, we have made significant commitments to integrating **social infrastructure** in planning, a critical ingredient for designing truly inclusive, participatory spaces. Sidewalk Labs has engaged in proactive, holistic planning and co-creation with local community, government, and business partners to imagine what these spaces might look like. To inform its inclusive design principles, Sidewalk Labs commissioned research from Toronto-based partners:

- Park People, Canada’s leading public space advocacy charity, and Dublin, Deloitte’s human-centred design and innovation practice, produced a study, [“North of the Water.”](#) on people-first public space design.
- Ryerson University’s School of Urban and Regional Planning conducted [research on retail trends in Toronto from 2007 to 2017](#).
- Toronto firm Idea Couture led research with community members and service providers, resulting in a report, [“Living Well on the Waterfront.”](#) on the future of well-being and health.

This community input shaped, and will continue to shape, our plans to facilitate equitable access to services, technology, and participation in Quayside. Initial proposals include the Civic Assembly, which would provide gathering spaces, access to digital tools and experts, and spaces for performance, creation, and fabrication; and the Care Collective, which would provide spaces for the delivery of health care and community services, a health resource centre, and a quiet sanctuary space dedicated to mental well-being. Upon approval of the MIDP, we would form planning relationships with partner organizations to help lead a participatory process for design, program development, and tenant identification.

DSAP Comment #140: (SWL) My overall impression is one of a summary version of the many discussions we have had regarding the MIDP and Digital and Data Trust plan progress. It feels on reading as a very good summary of our dialogues to date.

What surprised me was the lack of a definitive plan to suggest implementation. For example: The Koala Mounts and the Urban Data Trust. It could have been used as an example of just how a physical proposal to Data collection would theoretically interact - in an iterative example which would display a type of data collection - sensor using proposed infrastructure - the Urban Data Trust and CDO in

decision authority - the RDU completion - the licence costs for the Data Trust to issue - where and how those licence costs/income would have been applied back to support the Trust and fund the CDO as a micro example of the mechanism to support proposed technology, the model to execute it and the economics - this would then provide outcomes and further questions but also provide an example of how this could scale.

What concerns me is the lack of translating our many dialogues and calls for specific examples to model towards a plan that is executable even in a lab simulation.

SWL should and could be building a digital twin to model the program at scale - I was surprised at the lack of this.

Sidewalk Labs Response:

The MIDP is a document that reflects a master plan level of detail. The forthcoming Digital Innovation Appendix will provide further details on the digital components of the proposal. Subject to the approval of the MIDP, Sidewalk Labs would work with a full design and engineering consultant team to prepare a detailed development plan and accompanying infrastructure and transportation master plan for Quayside, as currently required by the development application process. The detailed development plan would advance the plans as conceptualized in the MIDP to a sufficient level of detail needed to proceed with the approvals process, which includes the completion of development applications subject to formal review by various government staff and agencies. To support trusted data sharing, Sidewalk Labs recognizes the many extraordinary initiatives already underway in Ontario, and plans to work collaboratively with these groups.

Thank you for your suggestion regarding developing a digital twin to model the proposal at scale. This is something we will consider in future phases of design.

Overall Impressions – Minimum Viable Plan

DSAP Comment #143: (SWL) The sheer number of proposed innovations is daunting. The risk of failure grows perhaps exponentially with the number of proposed innovations. It is essential that a minimum viable solution be identified to achieve the RFP goals with fallback plans should a particular solution be infeasible.

DSAP Comment #144: (SWL) The project manager in me wants to see a detailed project plan complete with Gantt chart, dependencies, deliverables, and critical path tasks. This is a massive project and, as such, I find it difficult to understand the implications of the effect on the overall project objectives should one or more of the proposed elements be removed. For example, what happens if the LRT expansion is not constructed? Does the project stop because it will impact many other tasks?

Sidewalk Labs Response:

DSAP Comments #143 and #144 have similar underlying questions, and thus are being addressed together.

While innovation presents added risk, there are many ways to manage that risk through the course of planning, design, and build out. Every day, new architectural approaches and infrastructure innovations are deployed around the world. These novel designs are based on enhancements to tried and true standards and are implemented using established project management processes. Partners

will be brought in to deliver specific elements through contractual obligations with specific incremental milestones along the way, which allows for course corrections to achieve the objective. Where something is a first time implementation, it is often preceded by a virtual model, then a pilot or mockup prior to the full scale implementation. Many of the innovations proposed are designed with adaptability in mind as a means of future-proofing and enabling easier modifications as needed. Systems often undergo calibration and iteration may be necessary after completion of construction to achieve the optimal performance. While there are many interdependencies, this is common in urban development projects which necessarily bring many systems together. Sidewalk Labs considers these interdependencies in its planning, design and engineering, and part of this planning is considering fallback solutions for any proposed system as the process progresses. As an example, in response to the question on possible delay to the LRT expansion, one contingency measures might be an interim shuttle.

DSAP Comment #148: (SWL) As the MIDP process has unfolded, my concerns about Sidewalk’s role as developer/proponent have grown for reasons including:

a. Relentlessly push for what they want while demonstrating very little capacity or good faith to show they are listening (e.g. how much of our feedback on the draft digital chapter actually made a difference? Is this about a 12 acre site or something much bigger?)

b. They have used the power of their media machine, depth of their experience, and political connections in Toronto to float new ideas in public to build social license on their own terms while the government partners are hamstrung by regular public process. Consider DSAP’s signing of an NDA to read the draft digital chapter in March 2019. We were all bound to not talk about it until the MIDP was public. But for a month leading up to the MIDP’s release, SWL was doing the full court press showing presentations about the MIDP and its ideas to people in philanthropy, community organizations and social enterprises without asking any of them to sign anything but also asking them to support the project publicly. So they got to sell their plan to leading “city builders” who have little background in tech/data and those of us with expertise are muzzled until the proper release. To me that is not good faith public process.

c. For all of their talk about agile processes, they have not demonstrated they can work that way in and with government partners/the public in public. Take the data trust as an example. It was a one bullet point on a slide in the fall of 2017 and then the next thing, 6 months later, it’s a 40 slide deck at the DSAP late spring 2018. Wouldn’t an agile method have meant they worked iteratively, in public, gathering ideas, building them in, testing them? What about a 1524 page, gorgeously designed boxed set says “draft”?

Substance aside, how comfortable is WT feeling about choosing a development partner who behaves like this? I know WT staff have tried to corral the effort but feels like you have been usurped on many fronts. The Board Chair’s letter and the recent amendment to the PDA are curious developments.

DSAP Comment #156: (SWL) A prominently expressed concern about Alphabet/Google as a corporate actor is its alleged tax avoidance, with it facing multiple investigations and fines in the billions. How much did Alphabet and its subsidiaries earn in Canada in 2018, and how much corporate tax did it pay?

Sidewalk Labs Response:

DSAP Comments #148 and #156 have similar underlying questions, and thus are being addressed together.

We hope that the forthcoming Digital Innovation Appendix (DIA) shows that we have taken the feedback from DSAP and other stakeholders seriously, and will continue to do so in the future. And we hope that the DIA's description of the development of the DTPR and the accessibility principles show how we have, and will continue to, engage in a dynamic and agile development process.

Part of Waterfront Toronto's evaluation of the MIDP is their assessment of Sidewalk Labs as a partner and our ability to deliver on its stated outcomes for Quayside. We would defer to Waterfront Toronto to provide more information on their evaluation process.

Contextual Considerations

Contextual Considerations - General

DSAP Comment #151: (SWL) Seeing the MIDP in isolation cannot be discussed without first considering how Sidewalk Labs, the successful proponent, has behaved thus far. If given the license and approval of our institutions will this pattern of behaviour stop or only intensify? The MIDP shows a grand vision, but their track record puts serious doubt on how they will work moving forward as they move to the most challenging element - implementation.

Sidewalk Labs Response:

We are fully committed to being responsive to concerns and addressing them as appropriate. For example, the Digital Innovation Appendix reflects a substantial effort to respond to feedback received from the public, Waterfront Toronto, and the DSAP.

Contextual Considerations - Alphabet, Google, other subsidiaries

DSAP Comment #152: (SWL) SWL's CEO has acknowledged that approval of the MIDP depends on winning the public's trust through being transparent and accountable. Many of the issues relevant to Sidewalk Labs' earning sufficient trust and DSAP's ability to adequately evaluate whether the Plan well serves Torontonians interests relate to characteristics of Sidewalk Labs as a corporate entity not directly addressed in the draft MIDP. Controversies around Sidewalk Labs' relationship with Google and other Alphabet subsidiaries are well publicized and contribute to on-going skepticism over SWL's intentions. Two of the main areas of controversy are: a) Alphabet/Google's enormous economic and political power, and b) Alphabet/Google's dominant data-driven business model, based on monopolizing and monetizing user attention and personal information flows, characterized as surveillance capitalism. How does SWL address these concerns?

Sidewalk Labs Response:

Regarding your first question, part of Waterfront Toronto's evaluation of the MIDP is their assessment of Sidewalk Labs as a partner and our ability to deliver on its stated outcomes for Quayside. We would defer to Waterfront Toronto to provide more information on their evaluation process.

Regarding your second question, as stated by Sidewalk Lab's CEO and re-iterated in the MIDP and DIA:

- Sidewalk Labs will not sell personal information.
- Sidewalk Labs will not use personal information for advertising.

- Sidewalk Labs will require explicit consent for consented disclosures of personal information to third parties, including disclosures to our parent company, Alphabet, and our sister company, Google.

DSAP Comment #153: (SWL) SWL has clearly taken steps to distance itself from the rest of the Alphabet enterprise, notably by committing to not sell personal information nor use it for advertising. However, this does not fully settle the issue. Among other concerns, what about the role Alphabet and its other subsidiaries might play in the Quayside project?

Several Alphabet subsidiaries/affiliates will evidently have an interest in participating in the project, eg Google Fibre, Waymo, Intersection, and Replica among others including some with controversial data driven business models. Even if SWL is committed to not giving priority to these corporate siblings, as is explicit in the case of Waymo alone, might they not have exerted influence in developing the MIDP or through involvement with SWL be better poised than their competitors to take advantage of the opportunity?

DSAP Comment #154: (SWL) What Alphabet subsidiaries and affiliates were involved in developing the MIDP and in what way? What Alphabet subsidiaries and affiliates might play a part in the Quayside project?

Sidewalk Labs Response:

DSAP Comments #153 and #154 have similar underlying questions, and thus are being addressed together.

Neither Alphabet nor its subsidiaries played a substantive role in the development of the MIDP, beyond being consulted to provide subject matter expertise, or otherwise as a stakeholder impacted by the proposal.

With respect to procurement, please see the answer to question 155 just below.

DSAP Comment #155: (SWL) Beyond the expected oversight of data collection and use proposals by the UDT, how will SWL ensure that Alphabet's data-driven subsidiaries and affiliates will not enjoy an advantage through their corporate connections over potential competitors?

Sidewalk Labs Response:

As noted above in the response to comments #7 and #134, when conducting procurements, public-sector organizations, broader-public-sector organizations, and private-sector organizations each have a different set of default rules that apply to them. Additional rules are sometimes imposed on top of those default rules depending on various factors. For example, a private sector entity can contractually agree to comply with a higher standard of procurement principles than what is required by default. For the reasons further described below, Alphabet companies would not receive any preferential treatment in procurements.

Procurements by Waterfront Toronto

Waterfront Toronto is subject to its own private-sector procurement rules and has voluntarily adopted and posted a procurement policy on its website describing the rules that the organization generally follows when conducting procurements. Whenever Waterfront Toronto is conducting a procurement for technologies in connection with the Quayside project, Sidewalk Labs would expect

Waterfront Toronto's ordinary procurement policy to apply, subject to any amendments or special exceptions that may be adopted within the policy.

Procurements conducted by Sidewalk Labs

For every technology that Sidewalk Labs conducts a procurement to purchase, Sidewalk Labs has already agreed to abide by fair and arm's-length procurement standards informed by the principles enumerated in Schedule D of the Plan Development Agreement, namely, consultation, flexibility, value, fairness, and compliance. Sidewalk Labs has also committed to buy technologies rather than build them, to ensure the Canadian ecosystem is aware of all procurements, and to break ties in favour of Canadian companies. In order for Alphabet's subsidiaries or affiliates to participate in a procurement, appropriate accommodations would need to be put in place to ensure a fair and arms' length procurement is conducted.

Contextual Considerations – Lobbying

DSAP Comment #157: (SWL) One area in which Alphabet is alleged to wield its corporate power, quite legally but to the possible detriment of the public interest, is in its extensive lobbying activities. (Lobbying in this context includes formal lobbying as commonly understood in a governmental setting as well as more colloquially as targeted persuasion.)

Please provide a comprehensive report of SWL's various lobbying efforts over the course of this initiative, beginning in 2016. Include the following in this report:

List of individual lobbyists: 1. name, areas of specialization, relationship to Sidewalk/Alphabet.

List of lobbying targets: 1. name of organization or individual; 2. type of org (government, federal/prov city, business, non-profit, university); 3. section/ministry/department and 4. area of competence or expertise.

Lobbying contacts: 1. date, 2. duration, 3. location, 4. mode (in person, email, telephone/conference), 5. SWL rep(s), 6. individual(s) targeted, 7. purpose and topic(s) of lobbying, and 8. incentives, financial and otherwise, offer in exchange for supporting the Sidewalk TO initiative.

Lobbying expenditures. Broken down by: \$ amounts spent on lobbying services, incentives offered, other budgetary sources - under sections of the PDA Budget (esp. (vii) Communications, External Affairs & Engagement), SWL, Alphabet, others.

In addition to providing the lobbying report in document form, please also submit an electronic ('soft') version suitable for query and analysis (e.g. as spreadsheet(s) or SQL database).

Sidewalk Labs Response:

Lobbying laws are written to cover a broad range of activities and Sidewalk Labs strictly adheres to these laws as written. The vast majority of the individuals from Sidewalk Labs who have registered meetings with government officials are individuals who are involved in some technical aspect of our planning work (transportation, planners, engineers, architects), and have had a meeting or meetings to either brief government officials - in some cases, at their request - or learn in order to ensure our proposals are not inconsistent with the types of public outcomes they seek to achieve.

Lobbyist registrations are published at the below locations online:

- [Office of the Commissioner of Lobbying of Canada](#)

- [Ontario Office of the Integrity Commissioner - Lobbyists Registry](#)
- [Toronto Office of the Lobbyist Registrar](#)

DSAP Comment #158: (SWL) Please provide further details of SWL's lobbying connections with the Toronto Region Board of Trade. Please explain all of SWL's relationships and interactions with the Board of Trade, and how this contributed to their involvement in this project, especially in relation to the BOT's January 2019 advocacy of a Civic Data Hub as a model for the data trust, and the BOT's July 2019 letter signed by 30 'civic leaders.'

For the public letter, did SWL take the initiative or contribute in any way to its drafting or editing? Which prospective signatories did SWL lobbyists contact, and what forms of encouragement or incentives did SWL offer? (See Shawn Micallef tweet and Torstar opinion 2019 July 5).

Sidewalk Labs Response:

The Toronto Region Board of Trade initiated the letter and acted as the coordinator so they would be best to speak for more clarification.

Sidewalk Labs was aware of their work and connected the Board of Trade with organizations that are supportive of the ideas and process of the project thus far. We are grateful to see so many prominent Torontonians see the opportunity of the project including former mayors like Barbara Hall and Art Eggleton and local community leaders like Cynthia Wilkey and Tim Kocur. This letter reflects the broad spectrum of interest for the project across the city we hear on a daily basis.

Contextual Considerations – Public Engagement

DSAP Comment #159: (SWL) SWL conducted an impressive range of “public engagement” activities, but the MIDP does not provide sufficient detail about them to assess whether SWL proposals are an authentic reflection of public consultation as normally understood for policy formulation. In various places, there are *What we heard* sections, followed by *How we responded*. While it is not reasonable for the Plan to incorporate all the suggestions made, it is important to know about the full range of concerns people expressed, including those that SWL chose not to respond to.

How can we tell whether SWL's proposals were genuinely informed by public consultation or whether SWL steered the process in its interests, cherry-picked favourable opinions or used the feedback to avoid criticism while claiming public support?

Sidewalk Labs Response:

The [Public Participation Plan](#) was developed in collaboration with Waterfront Toronto, which is well-respected y in the area of public consultation and whose mandate is to perform its work for the public good. The plan, which contained 13 elements, was endorsed by both Sidewalk Labs and Waterfront Toronto as the basis for public outreach and engagement efforts. The plan sought to engage a broad cross-section of residents and provided targeted opportunities for people of different ages and with different degrees of interest and expertise to become involved in the creation of the MIDP. Waterfront Toronto and Sidewalk Labs through its partnership each held different responsibilities for executing the plan, which was clearly outlined as part of the [Plan Development Agreement](#) of 31 July, 2018. The plan was overseen and executed by independent consultancy MASS LBP, with support from Sidewalk Labs and Waterfront Toronto staff. Some elements were designed

and facilitated by other independent consultancies, which was true in the case of the the Design Jams and the Civic Labs.

After each public event, a summary report was produced and posted online at sidewalktoronto.ca, through the Sidewalk Toronto newsletter, and social media channels often garnering further comments and interaction. Each report outlined both support and concern for the ideas presented that day. Where facilitated discussion was part of the event, such as in public roundtables, de-identified raw comments, transcribed by independent facilitators provided by MASS LBP, were posted, allowing any person to compare the notes with the summary report should they wish to verify the character of the report and whether it fairly represented the views of participants.

- [Read the Roundtable 1 Summary Report](#)
- [Read the Roundtable 1 Transcribed Comments](#)
- [Read the Roundtable 2 Summary Report](#)
- [Read the Roundtable 2 Transcribed Comments](#)
- [Read the Roundtable 3 Summary Report](#)
- [Read the Roundtable 3 Transcribed Comments](#)
- [Read the Roundtable 4 Report](#)
- [Read the Roundtable 4 Transcribed Comments](#)

In the case of the Residents Reference Panel, created to help ensure a broadly representative group of Torontonians would have the opportunity to shape the plan for Quayside, the final report included a “minority report” section where individual members were able to express perspectives that were not supported or discussed by all panelists. [Read the Residents Reference Panel Final Report](#).

In addition, anyone who visited Sidewalk Labs Toronto office and public pavillion at 307 Lake Shore Blvd East in the year between its opening and the submission of the MIDP could clearly see on display feedback cards and post-it notes that openly expressed concerns or criticism.

The Sidewalk Labs public engagement team sorted through all feedback — all the reports, meeting minutes, session notes, 307 “feedback cards,” and more — and presented it to the planning teams. This process came to characterize the deeply, iterative nature of the project, leading from an initial, high-level vision to a detailed final proposal that reflects the shared aspirations of thousands of Torontonians. Sidewalk Labs has deeply considered this feedback in developing the proposal, helping to further focus efforts on how best to achieve Waterfront Toronto’s priority outcomes and reflect what Torontonians value in city-building.

Contextual Considerations

DSAP Comment #160: (SWL) Partnership - The proposal could have done a better job of outlining how SWL will engage with the many innovation centres across Toronto, the province and Canada. These entities are in an ideal position to assist with technology development including advanced systems and purposeful solutions.

Sidewalk Labs Response:

A thriving innovation ecosystem is, in part, what drew Sidewalk Labs to Toronto in the first place. Sidewalk Labs has been engaging with stakeholders within the Canadian innovation space, including investors, innovation hubs and accelerators and ventures, to better understand their challenges, where they see opportunities, and how the Quayside project can serve as a catalyst to further ecosystem growth. Sidewalk Labs’ efforts can best support the ecosystem.

In response to the feedback we have heard, Sidewalk Labs has proposed a set of initiatives to support the growth of the urban innovation ecosystem. These initiatives address the key conditions for successful ecosystem development including: access to capital and talent, access to sophisticated buyers at home and abroad and enhanced ecosystem innovation capacity.

Sidewalk Labs intends to continue engaging with the innovation ecosystem in Canada in order to further refine its proposals. We will continue to proactively engage:

- Incubators and accelerators to better understand how we can generate value for Canadian ventures and how to mobilize multiple actors to strengthen the ecosystem at large,
- Academia to advance work on the Urban Innovation Institute and applied research focused on urban innovation,
- Civil society to guide the establishment of the Urban Innovation Institute and support the development of approaches to trusted data sharing and standard setting,
- Canadian companies, startups through to scale-ups, and business associations to get further feedback on the proposed initiatives.

Innovation hubs and accelerators including MaRS, Ryerson DMZ, the Impact Centre at the University of Toronto, Communitech, and others across the region that uniquely connected to the startup community in Canada and internationally. Because of their specialized insight into the challenges and opportunities facing Canadian ventures, representatives from various incubators and accelerators will continue to be asked to provide feedback on Sidewalk Labs' proposals related to the Urban Innovation Institute, the programs to scale management excellence, the procurement of Canadian technology, as well as Sidewalk Labs' approach to mobilizing venture capital in the sectors related to urban technology. Sidewalk Labs will meet with these representatives in the initial planning stages of the initiatives and throughout their implementation.

For example, Sidewalk Labs has shared its proposed initiatives with MaRS to gather feedback and has incorporated as much feedback as possible into this document. Sidewalk Labs has also been in discussions with Brookfield Institute for Innovation and Entrepreneurship about independent research they might take the lead on focusing on the growth of the urban innovation sector and working closely with accelerators like MaRS, DMZ and others in the region. This work could include near-term initiatives such as convening a range of stakeholders and preparing a position paper to define the urban innovation sector and the unique opportunity for Toronto, in addition to recommendations on how best to support the continued maturation of this sector. The outcomes of these engagements will be an important input into Sidewalk Labs' thinking around how best to further catalyse the ecosystem, and what role Sidewalk Labs could play.

DSAP Comment #161: (SWL) Environmental scan - Much can be learned from the successes and failures of others. It would have been good to see a section about what else is going on around the world beyond a sidebar treatment of X Road (Vol 2)

Sidewalk Labs Response:

We agree that an environmental scan is beneficial. We had done this throughout the MIDP process, and many of these successes and failures from others influenced our work. Now, we have put together a consolidated environmental scan in the forthcoming Digital Innovation Appendix.

The last section of the DIA offers a snapshot of a range of policy responses, approaches, and tools being developed respectively in Canada and around the world by the government, academic, civic, and private sectors. These include privacy principles; digital rights, ethics, and tools; responsible data

sharing models; data trust models; and inclusive and participatory practices, such as digital literacy initiatives, participatory tools, open source standards, and modular procurement. This section also includes short case studies that describe inspiring precedents for responsible smart city development: Estonia (X-Road; Digital ID); Montreal (AI ethics; integrated mobility, Civic Innovation Lab for Regulatory Testing); New York City (Guidelines for IoT, the Automated Decision Task Force; Open Data); Chicago (Tech Plan; Array of Things); Amsterdam (Data Sharing; IoT Registry; Holiday Rental Registry; Data Exchange; TADA Manifesto); Barcelona (Ethical Digital Standards; Barcelona Digital City; Decidim).

DSAP Comment #162: (SWL) Public sector capacity-building - A very positive commitment to 'transfer knowledge to the public administrator to enable it to take over the advanced systems development role after Quayside and Villiers West'. Building public sector capacity should be an explicit goal of the planning and implementation process. Can Sidewalk elaborate on what additional opportunities exist particularly in the Quayside and Villiers West phases of the project? Maria Mazzucato 'public-private partnership arrangements ... will only succeed as dynamic knowledge-intensive collaborations with both sides equally committed to investing in in-house competencies and capabilities' The Value of Everything.

Sidewalk Labs Response:

We agree that the Quayside project presents a significant opportunity for building innovation capacity within public institutions. This was an original objective of Waterfront Toronto's RFP. This has been further affirmed in the resolution of the Threshold Issues process, through which Waterfront Toronto has committed to advocating for government Task Forces that bring together the relevant parties to establish appropriate governance of the Innovation Plan. Sidewalk Labs is committed to working with Waterfront Toronto, and its government stakeholders, and through this process determining how to support capacity building and what (if any) new management capacities might be appropriate.

DSAP Comment #163: (SWL) Project Management - Many aspects of the proposal for Quayside require innovations that do not yet exist or integrations that have never been done before. The Program Management of many inter-related projects across multiple technologies and disciplines is unprecedented. I find the discussion of this under-developed in Volume 3 Chapter 2. These systems, skills and culture are not capabilities that I expect Sidewalk can readily develop in-house.

Real estate developers have some of these skills and in many cases hire construction managers to oversee complex programs as does Waterfront Toronto. The digital content of many of the proposed innovations goes far beyond what those parties would traditionally manage. IT projects often require system integrators to manage complex digital programs.

Approving the MIDP in any form without additional detail and clarity on how implementation would be managed and what types of parties would be engaged by whom, would be high risk for both Sidewalk Labs and Waterfront Toronto.

Sidewalk Labs Response:

Sidewalk Labs acknowledges the need for integrated planning across multiple disciplines to successfully execute the MIDP. From the beginning of its inception, Sidewalk Labs has been constituted as an organization designed to bridge the urbanist-technologist divide, and comprises professionals with deep experience across the urban planning, building, infrastructure, design,

engineering, and technology disciplines. It has a highly collaborative culture that enables horizontal integration across these verticals.

The integration of digital technology into urban development requires different approaches to planning and design. Fundamentally, responsible data use and the digital architecture of a place must be addressed as core to development planning, similar to other long-standing areas such as program, built form, and economics. It is because of this that Sidewalk Labs has structured its development planning work differently than standard approaches, with planning, design, and digital innovation all integrated as one.

Significant consideration has also been given to the need for integrated planning and design. Subject to the approval of the MIDP, Sidewalk Labs would work with a full design and engineering consultant team to prepare a detailed development plan and accompanying infrastructure and transportation master plan for Quayside, as currently required by the development application process. In addition to the standard materials, The detailed development plan would advance the plans as conceptualized in the MIDP to a sufficient level of detail needed to proceed with the approvals process, which includes the completion of development applications subject to formal review by various government staff and agencies, public consultation, and final approval by the City of Toronto Council.

Building on the need to integrate physical planning with the design of digital architecture, Sidewalk Labs plans to prepare a series of drawings and illustrations that articulate the integration of digital architecture in the physical building and systems design, as part of the detailed development plan. Sidewalk Labs sees these digital architecture studies as necessary for fully understanding the integration of physical and digital systems, and to ensure these systems are responsibly implemented and have appropriate evaluation and consultation.

DSAP Meeting – November 7, 2019
Item 8 – Discussion of SWL Digital Innovation Appendix

Agenda Item	8 – Discussion of SWL Digital Innovation Appendix
Purpose	Discussion
Key Message	As part of its response to the threshold issues raised by Steve Diamond’s letter of June 24, 2019, Sidewalk Labs has produced a Digital Innovation Appendix which provides additional information about the digital elements of the proposal. This item is an overview of the DIA and its role in the broader MIDP.
Areas of note/ Key issues	NOTE: As the DIA will be released on November 7, there is no expectation that Panelists will be familiar with the DIA contents prior to this meeting. Hard copies of the DIA will be distributed at the meeting.
Expected Outcome	Panelists will have a clear understanding of the structure of the DIA and how digital elements of the MIDP can be understood and evaluated.
Key Takeaways/ Next Steps	

Digital Strategy Advisory Panel (DSAP)

Digital Innovation

Digital Innovation Appendix Overview

Jacqueline Lu and Jesse Shapins

November 7th, 2019

MIDP: Digital Innovation Appendix

Document Purpose

Open Letter from Waterfront Toronto Board Chair, Stephen Diamond regarding Quayside

Jun 24, 2019 | Precincts: east bayfront | Topics: technology and innovation |



WATERFRONTToronto

To all members of the public interested in the future of Toronto's waterfront,

Waterfront Toronto has received the draft Master Innovation and Development Plan (MIDP) proposed by Sidewalk Labs. The review and evaluation process now

begins. It is Waterfront Toronto's responsibility, informed by consultation with the public, technical experts, and all three levels of government to determine if the ideas in this proposal are in the public interest and respond to the objectives for Quayside that we agreed to with Sidewalk Labs in July 2018 (as reflected in the Plan Development Agreement).

- Sidewalk Labs has initial proposals relating to data collection, data use, and digital governance. We will require additional information to establish whether they are in compliance with applicable laws and respect Waterfront Toronto's digital governance principles.

1

Provide the latest information on the digital innovation components of the Sidewalk Labs draft proposal, Toronto Tomorrow — the draft Master Innovation and Development Plan (MIDP) — including updates that have resulted from discussions with Waterfront Toronto.

2

Address requests from experts and the public for more information and context about the digital innovation components of the proposal.

MIDP: Digital Innovation Appendix

Document Audience

The primary audience for this document are expert reviewers of the proposal, including Waterfront Toronto and Waterfront Toronto's DSAP (an advisory body made up of Canadian leaders across disciplines), as well as interested members of the public. The review that DSAP performs will be based on this document, along with supplemental materials from Waterfront Toronto and references to the original proposal when appropriate.

Waterfront Toronto has confirmed that, as part of the next round of public consultation, they will be generating materials to explain and seek engagement on the digital innovation components of the proposal.

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The Digital Innovation Appendix begins with an executive summary followed by four sections.

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- 1.3 Proposed Digitally Enabled Services for Quayside
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Executive Summary

ES

Executive Summary

The Executive Summary covers three areas:

1. Document background
2. Updates to the Sidewalk Labs proposal based on Threshold Issues resolution process
3. DIA section summaries

Integrating Digital Technology into Development Planning at Quayside

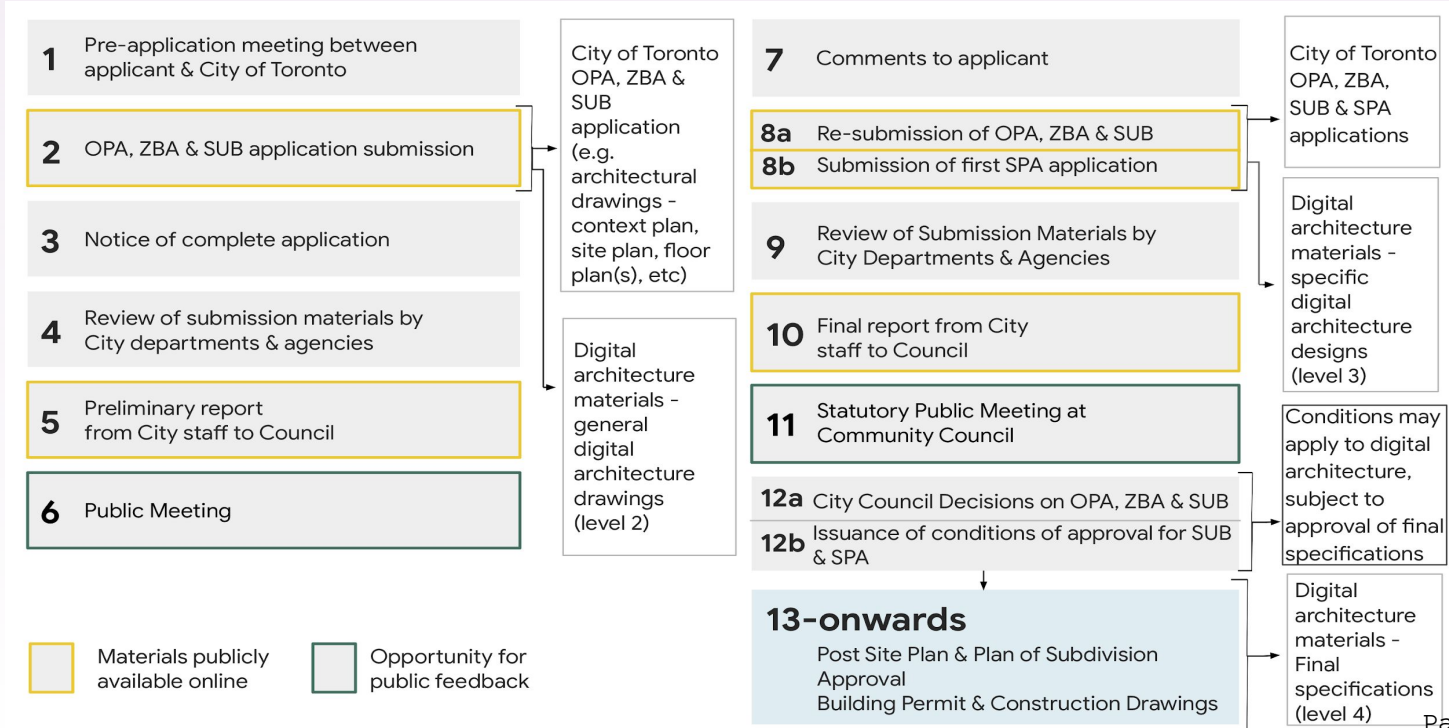
S1

Section One

- 1.1 Sidewalk Labs and its role in Toronto
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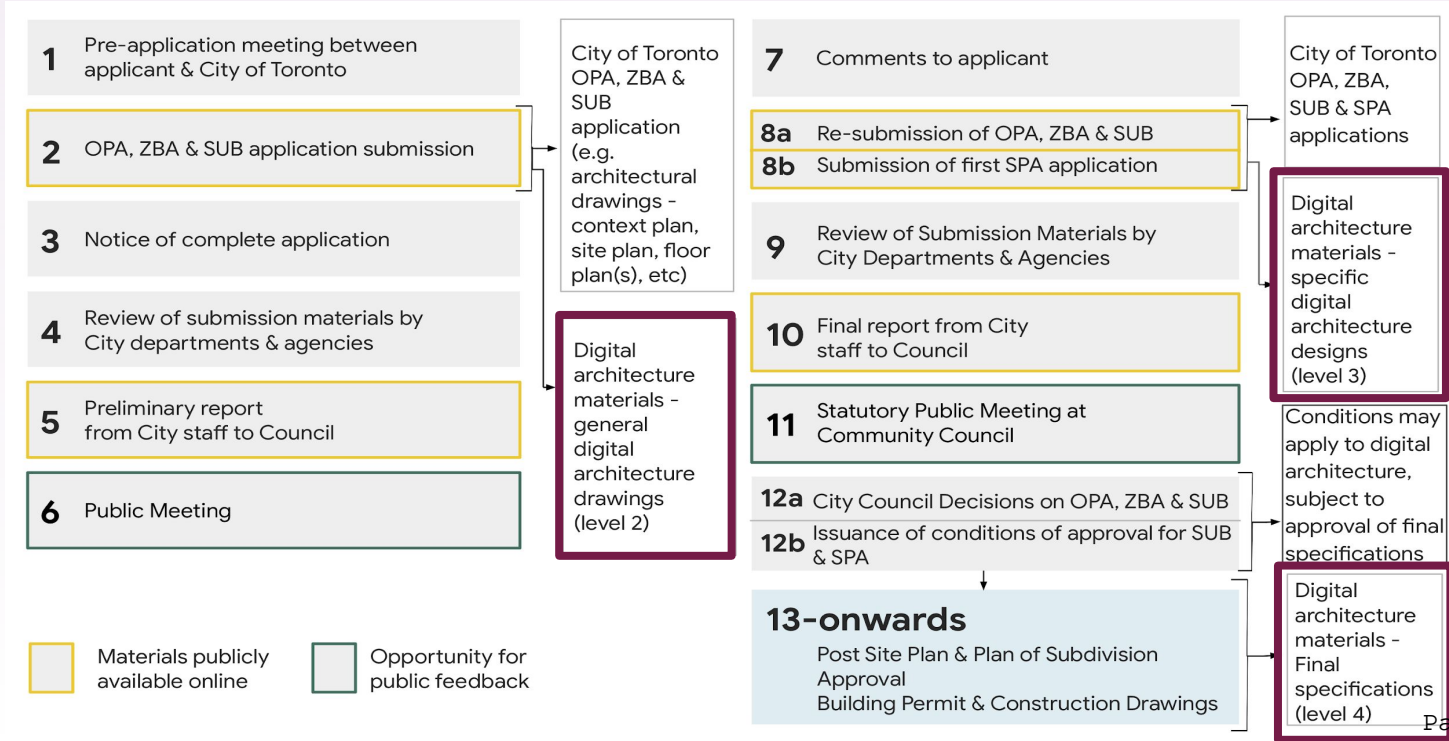
S1

Digital Architecture + Planning



S1

Digital Architecture + Planning



Sidewalk Labs' Approaches to Responsible Data Use and Inclusive Design

S2

Section Two

- 2.1 Not having tech for tech's sake is about having in place processes that guide decision-making and actions
- 2.2 Responsible Data Use
- 2.3 Inclusive and Participatory Planning and Design

Responsible Data Use

S2

2.2 Responsible Data Use

Responsible Data Use Assessment - Guidance and Reference

Canada - Personal Information Protection and Electronic Documents Act (PIPEDA) (in brief)

What is personal information?

Under PIPEDA, personal information means any information about an identifiable individual. This includes information in any form, such as:

- age, name, ID numbers, income, ethnic origin, or blood type;
- opinions, evaluations, comments, social status, or disciplinary actions; and
- employee files, credit records, loan records, medical records, existence of a dispute between a consumer and a merchant, intentions (for example, to acquire goods or services, or change jobs).

Information will be about an “identifiable individual” where there is a possibility that an individual could be identified through the use of that information, alone or in combination with other information.

PIPEDA applies to Personal Information collected, used, or disclosed by an organization in the course of commercial activities.

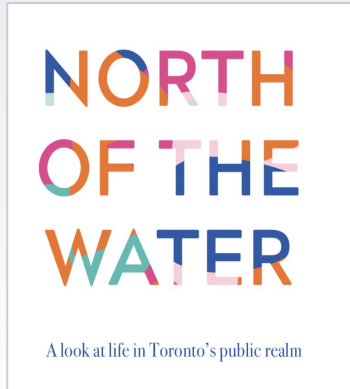
What is not covered by PIPEDA?

- Personal information handled by federal government organizations that are subject to the [Privacy Act, and their agents](#).
- Personal information handled by provincial or territorial government organizations that are subject to any public sector privacy law (such as the Freedom of Information and Protection of Privacy Act in Ontario), and Personal information handled by municipal government organizations that are subject to any public sector privacy law (such as the Municipal Freedom of Information and Protection of Privacy Act in Ontario), and their agents.
- Business contact information, such as an employee’s name, title, business address, telephone

Inclusive and Participatory Planning and Design

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2.3 Inclusive and Participatory Planning and Design



Growing the Canadian Innovation Ecosystem

S3

Section Three

- 3.1** Conditions of a successful urban innovation ecosystem
- 3.2** Sidewalk Labs' proposed initiatives for growing the Canadian urban innovation ecosystem
- 3.3** Next steps for engaging the urban technology ecosystem

Growing the Canadian Innovation Ecosystem

S3

Core conditions for a successful urban innovation ecosystem

<p>Access to Capital & Talent (\$ and expertise)</p>	<p>Market Access (sophisticated buyers at home and abroad)</p>
<p>Ecosystem Innovation Capacity (physical and digital infrastructure, policies, research & standards)</p>	

Sidewalk Labs' proposed activities to support core conditions

<p>Investing Locally Invest in local businesses and their talent</p>	<p>Procure and Promote Procure from Canadian businesses and promote these partners abroad</p>
<p>Contribute Contribute to the development of local capacity to innovate and support the growth of the sector</p>	

Overview of Existing Policies and Approaches for Smart Cities and Digital Governance

S4

Section Four

- 4.1 Introduction
- 4.2 Critical topics in digital governance and technology
- 4.3 Existing privacy regulations in Canada
- 4.4 The Canadian digital policy landscape
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Thank you.



DSAP Meeting – November 7, 2019
Item 9 – Discussion of Process for DSAP Review of MIDP

Agenda Item	9 – Discussion of Process for DSAP Review of MIDP
Purpose	Discussion
Key Message	DSAP’s next step for the Quayside project will be to undertake a review of the MIDP as amended by the Threshold Issues resolution of October 31st, focused on the DIA. It is anticipated that this review will be provided to Waterfront Toronto in late-January, to allow it to be considered within WT’s own review process.
Areas of note/ Key issues	
Expected Outcome	Panelists will be clear on Waterfront Toronto’s overall evaluation process, the DSAP’s own review process for the MIDP, and how the latter will feed into the former. Panelists will also be in agreement regarding the general process and timelines for the evaluation.
Key Takeaways/ Next Steps	