

APPENDIX 3. Written Submissions

24 individuals and 10 organizations shared written submissions with Waterfront Toronto up to and including July 31, 2019. This Appendix includes all original submissions. They have not been edited (except to remove any personal identifying information and to apply consistent formatting, where possible). Submissions from organizations are attributed. Of the 24 individuals, 11 gave permission to include their name with their submission. The names of other individuals have been withheld. The submissions are listed below, organized chronologically by date. Please click on any of bullet points below to go directly to the submission.

- Name Withheld #1 (Individual), June 26
- Federation of Northern Ontario Municipalities (Organization), Jun 26
- Name Withheld #2 (Individual), Jun 26
- Name Withheld #3 (Individual), Jul 3
- Name Withheld #4 (Individual), Jul 8
- Name Withheld #5 (Individual), Jul 9
- Coalition Against Technological Development (Organization), Jul 17
- Good Jobs For All (Organization), Jul 17
- Name Withheld #6 (Individual), Jul 17
- Name Withheld #7 (Individual), Jul 17
- Institute for Advancing Prosperity (Organization), Jul 18
- Natasha Tusikov (Individual), Jul 22
- Paul Beck (Individual), Jul 27
- Name Withheld #8 (Individual), Jul 29
- Name Withheld #9 (Individual), Jul 29
- Name Withheld #10 (Individual), Jul 29
- Donald James (Individual), Jul 29
- Name Withheld #11 (Individual), Jul 29
- Julie Beddoes (Individual), Jul 30
- Council for Canadian Innovators (Organization), Jul 30
- Swedish Consulate (Organization), Jul 31
- Unifor (Organization), Jul 31
- Waterfront BIA (Organization), Jul 31
- #BlockSidewalk (Organization), Jul 31
- Name Withheld #12 (Individual), Jul 31
- Jane Rucchetto (Individual), Jul 31
- Blayne Haggart (Individual), Jul 31
- John Yu (Individual), Jul 31
- Melissa Goldstein (Individual), Jul 31
- Tim Warner (Individual), Jul 31
- West Don Lands Committee (Organization), Jul 31
- William Lim (Individual), Jul 31
- Bianca Wylie (Individual), Jul 31
- Name withheld #13 (Individual), Jul 31

Name Withheld #1 (Individual), June 26

My message to you is very simple. If you trust Google/Alphabet/Sidewalk then you have zero common sense. It is well known that those companies act on behalf of not only the 17 agencies that make up the so called 'american intelligence community', but also for foreign dictatorships, i.e. China. For instance, when Google employees discovered that the company had supplied search, tracking and internet restriction software to the Communist Chinese, half of the companies employees walked off their jobs in protest. We, in Canada, enjoy one of the most integrated, advanced and generally 'free' societies left in the world and if you go ahead with this idiotic plan I can guarantee you, you will end up in the courts for years and years to come. And you will lose, thanks to Pierre Trudeau and our Charter of Rights and Freedoms. Don't think for one micro-second that you are above the law, regardless of what laws you think you can ignore with impunity. Toronto - Your hubris and stupidity apparently knows no bounds. You are seeking grow for growth sake (and of course the increased tax revenues that will provide all of you with very nice salaries and very generous pensions). My family gave all of its blood and treasure to give you this country over 12 generations, and I will never let little worms like you destroy what has taken us hundreds of years to create. So, all of you go and sit in the corner, put your dunce caps on, and don't speak to any of us until you come to you bloody senses..

Federation of Northern Ontario Municipalities (Organization), Jun 26

(See following page for original submission).

FONOM

The Federation of Northern Ontario Municipalities

June 26, 2019

Waterfront Toronto
20 Bay Street, Suite 1310
Toronto, Ontario
M5J 2N8

Dear Board of Directors:

I am writing today regarding the proposed Quayside Project being considered for the Toronto waterfront.

The Federation of Northern Ontario Municipalities represents 110 municipalities of all sizes in Northeastern Ontario, many of which have a strong forestry interest.

Indeed, my comments could also be extended to any project that involves and promotes the use of wood products for the construction industry.

The inclusion of wood as a major component of these projects proves the importance and value of wood in today's construction sector and as a valuable commodity from Northern Ontario.

Wood has long been realized as a major contributor to reducing our provincial carbon footprint as well as a strong economic driver for northern industry.

We appreciate the opportunity to see a vital link being created between our neighbours in Southern Ontario and more specifically Toronto and our northern industries.

Respectfully,



Danny Whalen,
Councillor - City of Temiskaming Shores
President - Federation of Northern Ontario Municipalities

Name Withheld #2 (Individual), Jun 26

I just attended an excellent presentation at the Evergreen Brick Works on Future Cities where the keynote speaker was Indigenous architect, Douglas Cardinal. It raised the question in my mind as to whether Indigenous Canadians had any part in planning this project. It seems an excellent opportunity to listen to their wisdom and include them in discussions of how this land will be developed. This is a perfect place to listen to their ideas. I'd far rather have their advice than see a large American tech company making demands upon the city in order to realize their "bells and whistles vision". I've read about the project in The Globe and Mail and believe there is still much thinking and consultation that needs to take place. I look forward to hearing your response.

Name Withheld #3 (Individual), Jul 3

I am unable to attend your Public Consultations on Sidewalk Labs' Proposal for Quayside but want to give you my feedback. I have lived on Queens Quay West since 1986 and have experienced a profound decrease in the enjoyment of this neighbourhood over the years. I am 100% against Sidewalk Labs having anything to do with Quayside. This proposal is way beyond "1984".

Name Withheld #4 (Individual), Jul 8

Dear folks at Waterfront Toronto.

If you don't know how Google got started, then read this article or expose. It will all come out to the general public soon enough.

Google is not just a handy search engine and they are not wanting to track everything we do, without a reason.

<https://aim4truth.org/2019/07/02/former-lover-exposes-eric-schmidt/>

They want to develop Artificial Intelligence, and not to help us. I probably won't read their 1500-pages.

Name Withheld #5 (Individual), Jul 9

Dear Waterfront Toronto, I'm writing to arm you with my concerns regarding the Quayside development proposed by Alphabet. As someone who was initially intrigued by many of the proposals outlined in the proposal, I have come to believe that the plan presented by google should be cancelled and replaced in its entirety. I am a believer in walkable neighbourhoods, and sound urban planning. While this plan does include many of these attributes, it also proposes data collection that is impossible to opt out of, and infrastructure proposals that present huge governance concerns. I am also deeply concerned that many of the proposals outlined will act as a trojan horse that will allow Google to monetize our data in ways that we don't yet understand. Furthermore, Alphabet is proposing a level of control over data and infrastructure that is unacceptable for a multinational corporation that is a) foreign owned, b) has deep connections between it's data and U.S surveillance c) could be broken up by Antitrust Laws after the next U.S election. I will also propose a solution. City owned, waterfront property, should be developed as democratically as possible. A better approach to developing this property would be to have the city create roads and transportation infrastructure (something already being done) and to auction of standard lot sizes (I would use queen street as a benchmark) at market rate to the citizens of Toronto. Limit lot bundeling, allow small developers and individuals access to the land, retain parcels for public buildings, affordable housing and parks, and institute simple form based zoning plans. Any data collection (or lack there of) should be the responsibility of a democratically elected city government. This would constitute a much more democratic form of experimental city planning that is devoid of private tyranny.

Coalition Against Technological Development (Organization), Jul 17

(See following page for original submission).

Advancing Technology Causes Scarcity, Poverty and Environmental Damage

We are now seeing the negative economic consequences of environmental damage and resources running dry. The result is that people are falling towards and into poverty. Advanced technology has become unproductive and is creating this condition of economic decline.

Technology uses resources and as more technology is used, more resources are used. Actual economic output declines as a larger proportion of resources go into keeping the technology going rather than into actual usable output from the economy. This is going on while the total available resources are fixed or declining. It is no surprise that the expansion and progress of technology is making us poorer.

The economic effects of technological progress

- o 10% of electricity is now used to run computers.
- o The energy of .9 kg of coal is used to generate and transmit 10 megabytes of data.
- o The use of computers is doubling every 8 years.
- o The use of computers is growing at such a rate because computers are increasingly becoming able to do any type of job.
- o Productivity stopped increasing in 1976 and has now started to decline.
- o Decreasing incomes, in particular low paying jobs, are becoming the norm.

Natural resources are the basis of all economic activity and wealth generation. An ever growing use of increasingly powerful computers means that the depletion of resources is accelerating.

The current situation in which we are now getting poorer instead of richer as time goes on, is the result of the greater growth of resource use by technology in recent times. Unlike previous technologies, which could only do a limited number of things and which could expand to only a limited extent, computers can keep on replacing more and more human activities and the growth of resource use is accelerating. This creates increasing poverty.

The impact has reached the point that economic output per person is now shrinking. It should be remembered that the amount of economic output is overstated by the commonly quoted Gross Domestic Product (GDP). GDP is greater than the actual economic output because it does not subtract the amount of equipment that is continually being worn out and/or replaced. The actual amount of economic output is the Net Domestic Product (NDP) which is GDP minus Capital Consumption. NDP per person has been decreasing at the same time as GDP per person has been increasing. In fact, GDP overstates the size of the economy by about 15%. The decline in economic conditions and standard of living is clearly shown by the decline in economic output, once the correct measure of economic output, Net Domestic Product, is used.

Technological progress means much greater problems in the near future

Until recently, we have not faced a condition of long-term economic decline. Since this is a new thing, we should realize how much worse it could get.

Automation is different from other technological changes because it is not limited to shifting some fraction of resources from one use to another, but will continuously absorb ever increasing fractions of available resources and reduce the well being of people on an ongoing basis. This would cause much greater poverty than previous economic declines and the poverty would be for everyone.

Of the greatest concern to environmentalists and people concerned about economic conditions and poverty, should be the expansion of technology that results from advances in computers, as opposed to the unintelligent technologies of the past.

A sustainable economy will stop the economic decline

A sustainable economy, which means a stable economy, is an improvement over the declining economy we have now and are expecting in the future. An economy in which output is not shrinking is the solution to current and even greater future poverty.

Less use of technology and less development of new technology will be a major component of a stable, non-shrinking economy and an environment which is not endangered.

Solutions are low tech

Environmental solutions that are low tech will be preferable. Environmentalists should attempt to create a sense of achieving a condition in which there are not increasing technological impacts on nature and on the economy.

- o Support the natural world and propose environmental solutions that do not involve high tech.
- o Criticize the diversion of resources into research and development of technology.
- o Some of the most advanced developments in technology, especially further advances in computer technology, should be seen as very negative for people and the environment.

Please make use of the low tech approach in your activities, and you can contact us as follows to get more involved:

Coalition Against Technological Development

Contact: Michael Rosenberg

73 McCaul St. Suite 327 Toronto Canada M5T 2X2
(416)971-9428 fax: (416)761-0249

Good Jobs For All (Organization), Jul 17

(See following page for original submission).



11 Waterfront Development in the Public Interest?

The Good Jobs for All Coalition represents over 30 community, labour and environmental groups in the Greater Toronto Area. Given our focus on healthy communities, a sustainable economy, strong public services, equity and decent work for all, the Coalition held a forum in December 2018 on Google's Sidewalk Lab bid. We continue to report on developments at our monthly meetings.

Why are we so concerned? We want to ensure the interests of the public and working people are given priority in our planning for waterfront development and innovations. As Waterfront Toronto begins a review specific to the Google affiliate's proposal, we want to support member organizations speaking out about the risks to privacy protections, low-income housing commitments and the environment. Here are some other risks:

1. **A Public Land Grab.** Any proposal must abide by the original Quayside Request for Proposals. This is a 12 acre 'experiment' not a massive 200 acre development project that cherry-picks prize public real estate. The Canadian Civil Liberties Association has filed a court challenge over the legality of even considering Sidewalk Lab's expansionist land grab. Who let the dogs out!?

2. **A Power Grab.** There is a great risk of a 'privatopia' of private and profit-driven governance, a virtual 4th level of government, accountable to no one. We see this in the suggestion of a private authority for transit and potentially other services like health care. Public services, public sector jobs and public governance must prevail. And there must be no concessions on the bylaws and regulations set by our democratic public institutions.

3. **Precarious Work.** Private development of smart city concepts and private control of technology can undermine job security and rights through subcontracting, short term contracts, etc. We need government accountability and oversight of labour protections including Toronto's Fair Wage Policy and negotiated Community Benefit Agreements.

4. **"Surveillance City"**. It's a real risk given Google's interest in the profits that will come from mining the data provided by extensive surveillance of the public. It runs the risk of exclusion including the risk of being used as a form of criminalization targeting in particular, members of marginalized communities.

5. **Phony investments and innovations.** Sidewalk Lab has no experience with large scale urban development and low income and equity in housing. They are proposing affordable housing targets well below the public need and they expect to offload some costs to the public purse through future corporate tax concessions, even though public dollars are already funding the hugely expensive Quayside environmental cleanup.

6. **Sidewalk Lab's proposal threatens to divert resources and attention** from underserved neighbourhoods, undermining our equity and anti-poverty agenda.

The Sidewalk Lab proposal poses questions and issues that impact not only the Waterfront but the whole city and in particular the workers and communities of Toronto.

The risks are huge. All eyes should be on this proposal.

Name Withheld #6 (Individual), Jul 17

(See following page for original submission).



**To: His Excellency Antonio Guterres, Secretary-General of the United Nations;
Honorable Dr. Tedros Adhanom Ghebreyesus, Director-General of the World Health Organization;
Honorable Inger Andersen, Executive Director of the U.N. Environment Programme;
U.N. Member Nations**

International Appeal: Scientists call for Protection from Non-ionizing Electromagnetic Field Exposure

We are scientists engaged in the study of biological and health effects of non-ionizing electromagnetic fields (EMF). Based upon peer-reviewed, published research, we have serious concerns regarding the ubiquitous and increasing exposure to EMF generated by electric and wireless devices. These include—but are not limited to—radiofrequency radiation (RFR) emitting devices, such as cellular and cordless phones and their base stations, Wi-Fi, broadcast antennas, smart meters, and baby monitors as well as electric devices and infra-structures used in the delivery of electricity that generate extremely-low frequency electromagnetic field (ELF EMF).

Scientific basis for our common concerns

Numerous recent scientific publications have shown that EMF affects living organisms at levels well below most international and national guidelines. Effects include increased cancer risk, cellular stress, increase in harmful free radicals, genetic damages, structural and functional changes of the reproductive system, learning and memory deficits, neurological disorders, and negative impacts on general well-being in humans. Damage goes well beyond the human race, as there is growing evidence of harmful effects to both plant and animal life.

These findings justify our appeal to the United Nations (UN) and, all member States in the world, to encourage the World Health Organization (WHO) to exert strong leadership in fostering the development of more protective EMF guidelines, encouraging precautionary measures, and educating the public about health risks, particularly risk to children and fetal development. By not taking action, the WHO is failing to fulfill its role as the preeminent international public health agency.

Inadequate non-ionizing EMF international guidelines

The various agencies setting safety standards have failed to impose sufficient guidelines to protect the general public, particularly children who are more vulnerable to the effects of EMF. The International Commission on Non-Ionizing Radiation Protection (ICNIRP) established in 1998 the “Guidelines For Limiting Exposure to Time-Varying Electric, Magnetic, and Electromagnetic Fields (up to 300 GHz)”¹. These guidelines are accepted by the WHO and numerous countries around the world. The WHO is calling for all nations to adopt the ICNIRP guidelines to encourage international harmonization of standards. In 2009, the ICNIRP released a statement saying that it was reaffirming its 1998 guidelines, as in their opinion, the scientific literature published since that time “has provided no evidence of any adverse effects below the basic restrictions and does not necessitate an immediate revision of its guidance on limiting exposure to high frequency electromagnetic fields². ICNIRP continues to the present day to make these assertions, in spite of growing scientific evidence to the contrary. It is our opinion that, because the ICNIRP guidelines do not cover long-term exposure and low-intensity effects, they are insufficient to protect public health.

The WHO adopted the International Agency for Research on Cancer (IARC) classification of extremely low frequency magnetic fields (ELF MF) in 2002³ and radiofrequency radiation (RFR) in 2011⁴. This classification states that EMF is a *possible human carcinogen (Group 2B)*. Despite both IARC findings, the WHO continues to maintain that there is insufficient evidence to justify lowering these quantitative exposure limits.

Since there is controversy about a rationale for setting standards to avoid adverse health effects, we recommend that the United Nations Environmental Programme (UNEP) convene and fund an independent multidisciplinary committee to explore the pros and cons of alternatives to current practices that could substantially lower human exposures to RF and ELF fields. The deliberations of this group should be conducted in a transparent and impartial way. Although it is essential that industry be involved and cooperate in this process, industry should not be allowed to bias its processes or conclusions. This group should provide their analysis to the UN and the WHO to guide precautionary action.

Collectively we also request that:

1. children and pregnant women be protected;
2. guidelines and regulatory standards be strengthened;
3. manufacturers be encouraged to develop safer technology;
4. utilities responsible for the generation, transmission, distribution, and monitoring of electricity maintain adequate power quality and ensure proper electrical wiring to minimize harmful ground current;

¹ <http://www.icnirp.org/cms/upload/publications/ICNIRPemfgdl.pdf>

² <http://www.icnirp.org/cms/upload/publications/ICNIRPStatementEMF.pdf>

³ <https://monographs.iarc.fr/wp-content/uploads/2018/06/mono80.pdf>

⁴ <https://monographs.iarc.fr/wp-content/uploads/2018/06/mono102.pdf>

5. the public be fully informed about the potential health risks from electromagnetic energy and taught harm reduction strategies;
6. medical professionals be educated about the biological effects of electromagnetic energy and be provided training on treatment of patients with electromagnetic sensitivity;
7. governments fund training and research on electromagnetic fields and health that is independent of industry and mandate industry cooperation with researchers;
8. media disclose experts' financial relationships with industry when citing their opinions regarding health and safety aspects of EMF-emitting technologies; and
9. white-zones (radiation-free areas) be established.

Initial release date: May 11, 2015

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Inquiries, including those from qualified scientists who request that their name be added to the Appeal, may be made by contacting Elizabeth Kelley, M.A., Director, EMFscientist.org, at info@EMFscientist.org.

Note: the signatories to this appeal have signed as individuals, giving their professional affiliations, but this does not necessarily mean that this represents the views of their employers or the professional organizations they are affiliated with.

Signatories

Armenia

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Australia

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Dr. Bruce Hocking, MD, MBBS, FAFOEM (RACP), FRACGP, FARPS, specialist in occupational medicine; Victoria, Australia

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Germany

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Israel

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Name Withheld #7 (Individual), Jul 17

Hello. I'm writing to voice my strong opposition to Sidewalk Labs' proposal for Quayside. I object to this development on several grounds. Here are a few.

- First, Sidewalk Labs is an affiliate of Google. Their purpose is NOT to help Toronto develop our urban space, but to help themselves to greater amounts of information about Toronto's residents that they can sell to their customers beyond what they already get online.
- Next, Sidewalk Labs has already shown that they feel they are above the law by introducing a vastly expanded plan earlier this spring to the one that was already being discussed. Part of that plan is for way more land. In addition, the company has requested changes to our laws and structures for governing the waterfront. The Portlands needs to be developed under local governance and not under the control of an extremely powerful company that has shown that it is not open to being regulated by governments.
- The Portlands is publicly owned and needs to be developed in the public interest, not in Google's interest. For example, our desperately needed affordable housing should be part of the Portlands development.
- And certainly, there should be no question that development must be one where residents or visitors passing through are free from being subjects of surveillance.

Let us not become the lab subjects of a Google experiment. The cost to how we live is way too high. Toronto must develop the Portlands with the public's interest always at the forefront. I urge you to say no to Sidewalk Labs' proposal.

Institute for Advancing Prosperity (Organization), Jul 18

(See following page for original submission).



Sidewalk Toronto's Opportunity for Digital Governance Innovation

Ryan Khurana

Executive Director

Institute for Advancing Prosperity

Introduction

Toronto is quickly becoming a world leader in emerging technologies, from its leading research capacities in artificial intelligence¹ to its plethora of blockchain² startups, which is cause for much celebration. Beyond the city's excellent universities, high human capital, and cosmopolitan environment, the pro-innovation priorities of policy makers have helped Toronto develop and attract investment. The Sidewalk Toronto project to develop the Quayside, a 12-acre developments site by Toronto's eastern waterfront, stands out as highlighting the government's role in pushing the city forward.

The project, a public-private partnership between Waterfront Toronto, a consortium of municipal, provincial, and federal governments and Sidewalk Labs, a sister company of Google, looks to further accelerate Toronto's growth into a global innovation hub. Sidewalk Toronto will soon release its Master Innovation and Development Plan (MIDP), and a focus on governance innovation needs to accompany the project's priority for urban innovation. The outsized role played by the city in global innovation means that the digital mechanism designs taken in this project will have effects far beyond the Quayside. It is a responsibility for policy makers to embrace forward thinking design principles to transform Toronto into a model for digital governance.

To date, much of the discussion has focussed on the development's environmental sustainability, housing affordability, and transportation³, but anxiety has developed around the lack of clarity surrounding the project's data governance protocols. As public trust in private use of data is declining, ensuring innovative mechanism designs that provide residents with security and privacy are of chief priority.

¹ The Pan-Canadian Artificial Intelligence Strategy announced in 2017 made strategic investments in Toronto, Montreal, and Edmonton in order to further Canada's leadership in the field. The research capacity in Toronto, combined with its friendly ecosystem for startups has allowed it to pull ahead in commercialisation.

² In addition to the Canadian origins of Ethereum, one of the world's largest blockchain platforms, Toronto is widely considered in the top 3 global cities for blockchain startups

³ Sidewalk Toronto (2018). *Summary Report: Roundtable Four*. Toronto. Available at: https://sidewalktoronto.ca/wp-content/uploads/2019/01/RT4-Final-Report.pdf?mc_cid=f1b22e36a6&mc_eid=7a7958b13e.



Proposed Governance Mechanisms

Sidewalk Labs has released assurances that neither it, nor any Alphabet owned company such as Google, will have priority over the data collected through the urban environment. They have stated that “no one has a right to own information collected from Quayside’s physical environment”⁴, and have instead called for the creation of an independent entity, referred to as a Civic Data Trust, to manage the urban data in the public interest. This approach is meant to balance the needs of the public, who desire a fair, open, and competitive landscape that grants nobody a monopoly power over their data, and the needs of the companies operating in the Quayside to leverage the data collected to ensure constant improvement.

The access to this urban data, which through the Civic Data Trust would be free and publicly available, is vital for the vision of urban innovation Sidewalk Labs has proposed. Leveraging this data would help speed up traffic, enable more efficient energy consumption, and respond to changing weather conditions. The role of the Civic Data Trust would be to ensure that any entity using the data would meet strict privacy principles and that they abide by responsible use criteria, meaning that they use the data collected only for those purposes for which they have expressly stated. While this proposal reveals a serious commitment to data privacy and security, it leaves much to be desired.

The primary concerns that surround such an approach to data governance are funding and incentives. First, it has yet to be made clear how such a Civic Data Trust would support itself if the data is to be freely accessed. If it is to be funded publicly, how can the public receive some of the value of the data they have generated? One of the major concerns of the digital economy is the increasing inequality enabled by digital firms with low costs and high profit margins⁵. By handing out this data for free, the digital firms leveraging the large data set are in effect receiving a subsidy.

Second, it is difficult to ensure that those governing the Civic Data Trust are actually acting in the public interest. While the move to make the organisation independent is meant to free it from the profit motives that guide private corporations, it is not obvious that the motives of non-profits or publicly administered agencies are inherently more civic minded. The public accountability of the Civic Data Trust is intimately tied to both its funding and its decision-making structure, and present complex governance challenges.

⁴ Dawson, A. (2018). An Update on Data Governance for Sidewalk Toronto. [Blog] *Sidewalk Labs*. Available at: <https://www.sidewalklabs.com/blog/an-update-on-data-governance-for-sidewalk-toronto/>.

⁵ Autor, D., Dorn, D., Katz, L., Patterson, C. and Reenen, J. (2017). The Fall of the Labor Share and the Rise of Superstar Firms. *NBER Working Paper*, (23396).



Data as Labour

These concerns raised by the governance model currently being discussed do not mean that it is entirely problematic. Philosophically, the issues in the proposal arise from the commitment to public stewardship of unowned data, a view that neglects the importance of the users of Quayside's urban environment in generating that resource. Giving control to the residents and retailers that would occupy the Quayside and create the data being used would provide a more sustainable data governance model.

This would mean reimagining the Civic Data Trust as not a steward of unowned data, but rather something closer to a digital labour union⁶. In effect, those living and working in the Quayside neighbourhood are creating all of the urban data that is to be governed. This act of creation by interacting with each other and the physical environment is a form of labour, where the data they make serves as an input in further production processes. Acknowledging this contribution would create a more cohesive social environment in the Quayside, moving from a model unowned to collectively owned data.

Sidewalk Toronto has already made de-identification and aggregation core criteria's of its data policy to maximise privacy, which are essential steps in collective control over urban data. Having data in this form would enable a Civic Data Union to sell the data to companies and public entities looking to use it, rather than giving it up for free. This would resolve both the issues of funding and incentives. Not only would the organisation be able to support itself through its earnings, but its collective ownership principles would require it to return a portion of its revenue equitably to those in the Quayside. By providing value back to the public, there are clearer incentives to look out for their interests. In addition, by the public becoming more aware of the value of their data, greater investment into maintaining and developing their neighbourhood would be incentivised, helping promote a flourishing community.

The academic work on data as labour is still fairly new, but it has already made significant impact on debates in digital public policy⁷. It has, as of yet, not had practical implementation at sufficient scale. The Sidewalk Toronto project would be an ideal testbed for such a policy that seeks to support sustainability, resilience, and urban innovation. If policy makers push for a labour approach, they can help Toronto be not only a technological leader, but the hub for digital governance innovation as well.

⁶ Arrieta-Ibarra, I., Goff, L., Jiménez-Hernández, D., Lanier, J. and Weyl, E. (2018). Should We Treat Data as Labor? Moving beyond "Free." *AEA Papers and Proceedings*, 108, pp.38-42.

⁷ Data workers of the world, unite. (2018). *The Economist*. Available at: <https://www.economist.com/the-world-if/2018/07/07/data-workers-of-the-world-unite>.

Should We Treat Data as Labor?

Moving Beyond “Free”

By IMANOL ARRIETA IBARRA, LEONARD GOFF, DIEGO JIMÉNEZ HERNÁNDEZ, JARON LANIER, AND
E. GLEN WEYL *

In the previous paper in this session and in a forthcoming book (Posner and Weyl, 2018), one of us argues that by creating or strengthening absent markets, we can simultaneously address the inequality, stagnation and sociopolitical conflict afflicting developed countries. He calls such cases “radical markets” because of their transformative emancipatory potential. A promising example was suggested years earlier by another of us, who wrote a book (Lanier, 2013) highlighting the social problems with the culture of “free” online, in which users are neither paid for their data contributions to digital services nor pay directly for the value they receive from these services. While free data for free services is a barter, he argued that the lack of targeting of incentives undermines market principles of evaluation, skews distribution of financial returns from the data economy and stops users from developing themselves into “first-class digital citizens”. In this paper we explore whether and how treating the market for data like a labor market could serve as a radical market that is practical in the near term.

I. The High Cost of Free Data

The digital economy is perhaps the leading source of innovation today, delivers massive sur-

plus to users (Brynjolffson et al., 2017) and is “free” (at point of use) to users. Despite these benefits, popular anxiety and backlash is rising.

The most common concern is employment and income distribution. Many fear that artificial intelligence (AI) systems will replace human workers. Economists rightly respond that greater technological disruptions in the past, while causing shifts in employment, have largely left labor’s share of income constant or even growing (Autor, 2015). Yet recent secular declines in labor’s share (Karabarbounis and Neiman, 2014) belie its universal stability.

Furthermore, the employment numbers of leading technology companies give little cause for optimism. The market capitalization and value-added of firms like Facebook, Google and Microsoft are similar to or greater than a firm like Walmart, yet they employ 1-2 orders of magnitude fewer workers and our primitive attempts to estimate the labor income shares of these companies from publicly available statistics suggest they are a small fraction of the traditional average 60-70%. The “future” such firms represent would validate Piketty (2013)’s foreboding of high capital shares.

Simultaneously, the lack of payment to users for data may drag on the contributions of AI to productivity growth. Despite the widespread hype about AI, its contributions to productivity seem to have been limited thus far (Gordon, 2016; Nadella, 2017). A potential explanation relates to the role of data. The first generation of AI systems largely failed to achieve their goals because they relied too heavily on hard-coding by engineers. The new generation of AI uses statistical methods called “machine learning” (ML), which adapt to patterns in examples of humans performing similar tasks (“big data”).

Yet the free data model has made productivity-related data much less accessible than consumption-oriented data. Workers who expect to be compensated are the primary

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performers of productivity-related tasks and these often occur within firms unwilling to surrender their proprietary internal data to AI companies for free. More broadly, many AI systems depend on active participation by humans to generate relevant data. This ranges from users granting permission to access data naturally created in the course of consumption experiences, through users that go out of their way to provide examples of translations or feedback on translations generated by AIs as they use these systems, to the sort of active labeling and analysis tasks currently supplied in digital labor markets such as Amazon's Mechanical Turk or Mighty AI (Gray and Suri, 2017) and even to the creative content displayed on blogs and video sharing sites.

However, these systems seem inefficient as they generally do not reward those with the greatest expertise and context (usually those producing the data that others currently label in the first place), either reassigning task to those with little context or coaxing those with context to provide feedback for free as part of accessing online services (as in the case of DuoLingo or reCAPTCHA). They appear to be workarounds to avoid directly paying those best able to supply high-quality data rather than efficient procurement practices. A purely free data economy acts as a drag on productivity growth that continues to lag worldwide (Byrne et al., 2016) despite bold hopes for AI's potential.

Finally, recent anxiety about employment and the digital economy goes beyond the purely economic. On the one hand, increasing numbers of workers, especially away from cosmopolitan and high-tech cities, are disillusioned with and disenfranchised by technological and economic progress. Many believe these feelings helped stimulate populist movements of the left and right throughout the developed world.

Simultaneously young people spend increasing time on and have developed increasing expertise in digital interactions such as social media and video games (Perrin, 2015; Aguiar et al., 2017). Because such activities are overwhelmingly framed as consumption rather than production, these growing online lives are widely seen as running contrary to or undermining the dignity provided by work. Many of these young people seem to have become involved with antisocial activities (such as cyberbullying and

hate speech) or to have declining self-esteem. Thinkers promoting the idea of a "universal basic income (UBI)" have even suggested dignity based on work is becoming outdated and that as AI replaces humans leisure may be a growing source of identity (Parijs and Vanderborght, 2017). Whatever the promise of this idea, for the medium term treating online experiences as purely consumption holds risks for the social and political fabric of developed countries.

II. Capital or Labor?

We contend that the key aspect of the current political economy of data that causes these problems is treating data as capital rather than as labor. While it might seem that assets either are one or the other, and that treatment is irrelevant, transitions in the social attitude towards assets across these categories have played important roles in history. Slavery and to a lesser extent feudalism treated (largely agricultural) work as a possession of a master or lord, while liberal and labor reform worked to give recognition and its marginal economic product to labor. To understand what we are trying to accomplish, it is useful to contrast several attitudes towards data at present under the "Data as Capital (DaC)" paradigm to those appropriate in a world where we see data as labor (DaL); we summarize these in Table 1.

DaC treats data as natural exhaust from consumption to be collected by firms, while DaL treats them as user possessions that should primarily benefit their owners. DaC channels pay-offs from data to AI companies and platforms to encourage entrepreneurship and innovation, while DaL channels them to individual users to encourage increased quality and quantity of data. DaC prepares for AI to displace workers either by supporting UBI or reserving spheres of work where AI will fail for humans, while DaL sees ML as just another production technology enhancing labor productivity and creating a new class of "data jobs". DaC encourages workers to find dignity in leisure or in human interactions outside the digital economy, while DaL views data work as a new source of "digital dignity". DaC sees the online social contract as free services in exchange for prevalent surveillance, while DaL sees the need for large-scale institutions to check the ability of data platforms

Issue	Data as Capital	Data as Labor
<i>Ownership</i>	Corporate	Individual
<i>Incentives</i>	Entrepreneurship	“Ordinary” contributions
<i>Future of work</i>	Universal Basic Income	Data work
<i>Source of self-esteem</i>	Beyond work	Digital dignity
<i>Social contract</i>	Free services for free data	Countervailing power to create data labor market

TABLE 1—LEADING CHARACTERISTICS OF THE “DATA AS CAPITAL” VERSUS “DATA AS LABOR” PERSPECTIVES.

to exploit monopsony power over data providers and ensure a fair and vibrant market for data labor.

Describing DaL versus DaC as a binary is obviously too simplistic and extreme. Production function for data and the AI systems built on top of it are certainly more continuous: data, capital (e.g. computational power), skilled labor (e.g. programmers), entrepreneurial talent and “land” (e.g. rents on network effects) all matter and these different inputs can likely be substituted reasonably smoothly. The socially optimal shares of each factor depends on as-yet-unmeasured details of production functions and data themselves are not purely created by users: they requires firms to track, record and organize user behavior.

Yet we doubt the optimal (viz.competitive) share of user data contributions is a negligible fraction of the total value of the digital economy. While the marginal value of data in estimating any finite dimensional quantity eventually steeply declines, the power of the latest generation of ML has been its ability to tackle increasingly sophisticated tasks as the quality and quantity of data improve. Many of these more sophisticated tasks are impossible to even get started on without ample data, as the neural networks and other learning algorithms required cannot learn the right representations of complex phenomena without many training examples. This suggests that the returns to data may decline only gradually or there may even be increasing returns to data if more sophisticated tasks are disproportionately more valuable. This is consistent with the empirically-observed dominance of the data economy by a few large firms.

Luckily, the production function for AI may be easier to measure than other production functions because the relevant ML algorithms and their performance at different times and for different data sets are usually well-documented, at least internally to companies. Combining these

with advances in ML that allow estimation of the marginal effect of new data on predictions (Koh and Liang, 2017) suggests a promising avenue for valuing data (and one we are pursuing at Microsoft), though there are many conceptual and computational challenges still to be overcome.

Whatever the precise balance, the only “third way” out of the DaL-DaC spectrum we see is the failure of AI: if AI proves to be relatively unproductive or irrelevant, neither DaL nor DaC will much matter. But if AI lives up to even a part of its hype, failure to move towards DaL will leave us trapped in the problems we highlight with DaC.

III. How Did We Get Here?

If treating data purely as capital is economically and socially irrational, how have we ended up in the present equilibrium? As in the nineteenth century labor struggles, the usual culprits are a combination of prejudice (viz. the weight of precedent created by historical accidents) and privilege (viz. entrenched interests that derive rents from the inefficient equilibrium). In the present setting, user expectations of “lightweight” online experiences has conspired with the monopsony power of the technology giants (what one of us has called “siren servers”) to maintain the status quo.

The internet economy largely began with a venture-capital fueled bubble that chased usage with little sense for a business model. The social movement for “free software” collided with a counter-cultural streak in Silicon Valley that declared information wants to be free and built users expectations of digital services being offered freely. Searching for a way to monetize this activity, Google and then Facebook turned to advertising targeted using user data. This accustomed users to surrendering data in exchange for free services (Carrascal et al., 2013), expectations that have persisted as the value of such data to broader AI services has risen. Few users

are even aware of the productive value of their data or the role they play in enabling ML.

Yet historical accidents have not only entrenched expectations and norms, they also have created powerful interests in maintaining the *status quo*. The largest siren servers, especially Facebook and Google, but also Microsoft and others, benefit from the free or extremely cheap availability to them of data. While the total value created by data might be much larger in a DaL world, users aware of the value of their data would likely demand compensation in a range of settings, dramatically reducing the share of value that could be captured by the siren servers as profits. This is just an extreme version of the standard logic of monopsony: while a usual monopsonist just depresses wages, the historical background we explain above has made it attractive for siren servers to maintain a DaC equilibrium where users are not even aware of the value their data daily create for siren servers.

Recent evidence suggests significant monopsony power in online task labor markets. Dube et al. (2018) use randomly varied wages on Amazon Mechanical Turk to find elasticities of the labor supply curve facing a task-poster that are well below unity. These small task-posters almost certainly have more elastic residual labor supply than does a siren server, suggesting extreme monopsony power in the latter case: a question we have been investigating in on-going work with Microsoft data. In on-going work using a large Microsoft program that pays users in loyalty points for Bing searches, we estimate even smaller elasticities in the number of searches performed among active users of the program. This reinforces the idea that monopsony may be an important force blocking the potential productivity gains from DaL

IV. Sources of Countervailing Power

The inefficient exploitation of labor by concentrated capital was a constant theme of political economy before the Cold War. Galbraith (1952) summarized various solutions to this problem as forms of “countervailing power” by large scale social institutions.

In the data economy, the first and most natural balancing factor is competition. While Facebook and Google rely heavily on DaC, other leading technology companies (e.g. Ama-

zon and Apple) mostly follow different business models and a productivity-oriented company like Microsoft might even benefit from users perceiving themselves more as producers online. These other companies also lag Facebook and Google in the data race to train ML systems. Returning more of the gains to data laborers might help them compete in creating AI systems. Smaller companies or start-ups could also make a difference, and many (e.g. Meeco) have been formed around DaL-related ideas. Yet we doubt, given the economies of scale related to data in producing AI systems, that a smaller player could succeed without a significant partnership with one of the largest technology companies.

Second, data laborers could organize a “data labor union” that would collectively bargain with siren servers. While no individual user has much bargaining power, a union that filters platform access to user data could credibly call a powerful strike. Such a union could be an access gateway, making a strike easy to enforce and on a social network, where users would be pressured by friends not to break a strike, this might be particularly effective. A union could also be useful in certifying data quality and guiding users to develop their earning potential.

Finally, governments can play an important role in helping facilitate DaL both on the positive and negative side. On the positive side, new regulatory frameworks such as the European General Data Protection Regulations are increasingly shifting ownership rights in data to the users that generate them. Data collectors increasingly must allow users to understand, withdraw and transfer their data across competitors. On the other hand, existing labor laws fit poorly with a world where much data labor may be done in the course of consumption experiences rather than as a dedicated activity. Adapting labor laws to defend workers against monopsony while allowing the flexibility data work will require a combination of economic and technical sophistication that we hope labor economists can increasingly provide to support policy-makers.

V. A Radical Data Market

Ultimately, we believe all three of these factors must coordinate for DaL to succeed, just

as in historical labor movements. Whatever the mix, however, building a market for data labor offers economists an exciting chance to design a market on a much broader scale than most work on market design in the past (Roth, 2015). For example, we are currently working to use regularized measures of the marginal value of data points to design and make transparent efficient payments for data workers. With studies projecting that AI might automate as many as 50% of jobs in the coming decades (Frey and Osborne, 2017), data labor has the potential to constitute a significant fraction of national income. At the same time, economists, in their roles as advisors to governments and technology companies, are likely to play a central role in defining the texture of these markets. A radical market in data labor offers a near-term opportunity for economists, in collaboration with the other social and computer scientists they regularly work with in the technology industry, to bring years of research in labor economics and market design to bear on a central social problem of our times.

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ARTICLE

A BLUEPRINT FOR A BETTER DIGITAL SOCIETY

For individuals and platforms, the future requires a fundamental economic shift.

by Jaron Lanier and E. Glen Weyl

Digital transformation is remaking the human world, but few are satisfied with how that's been going. That's especially true in media, where the dominant model of targeted advertising derived from data surveillance and used to fund free-to-the-public services like social media and search is increasingly viewed as unsustainable and undesirable.

Today, internet giants finance contact between people by charging third parties who wish to influence those who are connecting. The result is an internet — and, indeed, a society — built on injected manipulation instead of consensual discourse. A system optimized for influencing unwitting people has flooded the digital world with perverse incentives that lead to violations of privacy, manipulated

elections, personal anxiety, and social strife.

It has also made many of the largest tech companies immensely powerful. A classic example of online behemoth power, what we call a “siren server,” is YouTube, owned by Google. The network effects that always accompany digital entities allow YouTube to control both the production and the consumption of digital video. They are at once a monopoly and a monopsony (a sole purchaser of data), deciding which content producers will be paid, in the manner of a communist central planner, and determining what content billions of users will consume.

Tech giants have become so influential that they function like transnational governments charting the future to a greater degree than any national government. Facebook and Google, for example, have effectively become

central mediators unilaterally determining the balance between free speech and election manipulation for all major developed democracies.

At the same time as the widespread decline in the agency of market participants, [rhetoric from](#) the tech sector suggests a coming wave of underemployment due to artificial intelligence (AI) and automation. The fear of a future in which people are increasingly treated as valueless and devoid of economic agency has elevated the ambitions of universal basic income advocates. Their rhetoric leaves room for only two outcomes: Either there will be mass poverty despite technological advances, or much wealth will have to be taken under central, national control through a social wealth fund to provide citizens a universal basic income. Yet both dramatic inequality and what we might call “fully automated luxury communism” are dystopias that hyper-concentrate power and undermine or ignore the value of data creators in a way similar to how the market value of “women’s work” in the home has long been ignored and debased.

As we wait helplessly for more elections to be compromised, for more nasty social divisions to be enflamed, for more invasive data surveillance, and

TRANSLATORS MIGHT THINK THAT THEY'RE VOLUNTARILY SUBTITLING FOREIGN FILMS FOR ONLINE FRIENDS; THEY HAVE NO IDEA OF THE EXTENT OF THE VALUE THEY ARE PROVIDING.

for more workers to become insecure, the widespread assumption that no other models are possible leads to a state of despair.

But there is an alternative: an emerging class of business models in which internet users are also the customers and the sellers. Data creators directly trade on the value of their data in an information-centric future economy. Direct buying and selling of information-based value between primary parties could replace the selling of surveillance and persuasion to third parties. Platforms would not shrivel in this economy; rather, they would thrive and grow dramatically, although their profit margins would likely fall as more value was returned to data creators. Most important, a market for data would restore dignity to data creators, who would become central to a dignified information economy.

These models have been discussed widely for years. Here, we describe a future based on them by exploring the business and societal structures that will be required to bring them to life. In the process, we will advocate for a more coherent marketplace. Without one, no corrective measure stands a chance.

DATA DIGNITY

A coherent marketplace is a true market economy coupled with a diverse, open society online. People will be paid for their data and will pay for services that require data from others. Individuals' attention will be guided by their self-defined interests rather than

by manipulative platforms beholden to advertisers or other third parties. Platforms will receive higher-quality data with which to train their machine learning systems and thus will be able to earn greater revenue selling higher-quality services to businesses and individuals to boost their productivity. The quality of services will be judged and valued by users in a marketplace instead of by third parties who wish to influence users. An open market will become more aligned with an open society when the customer and the user are the same person.

Glen has called this idea of a true market economy for information "data as labor" and "liberal radicalism," while Jaron has called it "humanistic digital economics" and "entrepreneurial democracy." Here we'll use the less politically charged term "data dignity." This translates the concept of human dignity that was central to defeating the totalitarianisms of the twentieth century to our contemporary context in which our data needs to be protected from new concentrations of power.

We understand the term "data" to include most digital activity. It is intentionally created entertainment data, like a YouTube video or a social media meme, as well as less deliberately produced data gathered through surveillance or biological sensors, such as location or metabolic logs. Other examples are language provided to a translation engine to train software, and real-time data flows such as a music lesson delivered over Skype.

All of this has a value to the producer, and when the producer gains control

over that value, incentives will be transformed; a market participant will try to persuade the buyer to spend money with them instead of paying monopolistic platforms to manipulate a targeted person.

For instance, automated language translation services have challenged the employment prospects of professional human translators, yet these services require a vast amount of fresh data every day from the people being put out of work (to keep up with current events, pop culture, and so on). Translators might think that they're voluntarily subtitling foreign films for online friends; they have no idea of the extent of the value they are providing. Once the people providing this data are honestly informed that they are needed, they will earn compensation for their service, take pride in providing better data, and help the automated services to function better.

The entire architecture of the digital world will gradually become clearer and less sneaky. The result we hope for is emphatically not utopian, but we believe this solution is the only viable one yet articulated for the problem of excessive, erratic, and unsustainable power concentration on digital networks.

MIDS

The foremost challenge in implementing data dignity is the yawning gap between big tech platforms and the individuals they harvest data from. If we asked big tech alone to make the change, it would fail: Too many conflicts of interest exist, and the inevitable concentration

of power these platforms create is inimical to competitive markets and an open society. Nor can individuals demand data dignity on their own, even by petitioning governments for action, because network effects have given platforms disproportionate power, and the complexity of the digital economy makes it impossible to regulate in detail.

For data dignity to work, we need an additional layer of organizations of intermediate size to bridge the gap. We call these organizations “mediators of individual data,” or MIDs. A MID is a group of volunteers with its own rules that represents its members in a wide range of ways. It will negotiate data royalties or wages, to bring the power of collective bargaining to the people who are the sources of valuable data. It will also promote standards and build a brand based on the unique quality and identity of the data producers they represent. MIDs will often perform routine accounting, legal, and payment duties but might also engage in training and coaching. They will help focus the scarce attention of their members in the interest of those members rather than for an ulterior motive, such as targeted advertising.

The concept of MIDs is not terribly revolutionary. Entities of their shape and necessity in the physical world could hardly be more familiar. Organizations like corporations, labor and consumer unions, farmers’ cooperatives, universities, mutual funds, insurance pools, guilds, partnerships, publishers, professional societies, and even sports teams are all critical to dignified societies and effectively serve the MID function.

Some of the most important thinkers about democratic market societies have emphasized the need for precisely these kinds of organizations. Alexis de Tocqueville observed that community organizations were critical to sustaining liberty in the United States. Beatrice

and Sidney Webb argued that labor unions were critical to making large corporations operate effectively as they gave productive workers a voice. Hannah Arendt highlighted that it was the extreme individualism and collapse of social institutions in the interwar years that paved the way for the rise of totalitarianism in the 1930s.

Some of the models for MIDs have been traditionally more associated with the political left, while others have traditionally found sympathy with the right. In an advanced information economy, that distinction will be less important. If we are to use the language of the left: Some MIDs will, like traditional artisans’ guilds, redistribute the successes of the greatest stars and broadly share earned revenue. Others, like artist royalty collection agencies such as ASCAP, may allow a broader range of individual payouts. But we can also use the language of the right: Some MIDs might be hard to join, analogous to becoming a partner in a prestigious law firm.

MIDs will reverse current trends in the information economy, where from the early days platforms tended to profess an ideology of extreme individualism, which, echoing Arendt’s warnings about the totalitarian consequences of extreme individualism, tragically paved the way for the rise of increasingly concentrated platform power. The slogan “Move fast and break things” from the early days of Facebook, for example, meant in practice the weakening of pre-internet MIDs such as publishers and unions for creative professionals.

Excessively concentrated power was not the only problem. The societal structures that were broken were supplanted by algorithms that target people for advertising; these tend to corral individuals into divergent groups. Incentives to increase online “engagement” can then result in

heightened social rifts as suspicions are raised about the “other.” This tendency of the current network architecture is so prominent that it has become a favorite tool for information warfare; both rich and poor societies have been disrupted by malicious social media campaigns that emphasize and encourage societal divisions.

Self-organizing MIDs will give rise to different incentives. Individuals will have memberships in many separate MIDs. While MIDs will compete, individuals will have tangled allegiances. An analogy from the pre-internet world is that two people might work for competing stores but attend the same church, or might choose different car insurance companies while investing in the same mutual fund. In the same way, individuals will seek memberships in many MIDs rather than a few platforms; the result will be complex identities and interests instead of managed, corralled identities that are ripe for targeting.

Since we first started talking about the idea of MIDs a few years ago, we’ve received thousands of unsolicited queries from entrepreneurs attempting to launch MIDs of their own. It appears that billions of dollars have already been invested, though that investment is scattered. Most of the communication with us has come from tech startups, but nongovernmental organizations, labor unions, nonprofits, corporate initiatives within existing tech companies, and possible new government agencies have all been proposed.

We will not discuss specific proposals here, but we can describe the trends we see in them. Some of the classes of proposals include the following:

- Entrepreneurs seeking to create groups based on common interests to negotiate a fair price for access to that group’s data. Two that come

to mind are medical patients with a similar condition, and language translators whose work informs automated translation engines. We are skeptical of many such efforts, however, as they plan to derive all funding from data sales, creating incentives similar to existing data brokers to abuse member privacy and trust.

- Technically focused groups that want to implement tools like blockchain to manage data provenance, access, and flow — the first step in managing its value. We are skeptical that the extreme decentralization emphasized by these projects will offer the bargaining power or informational security required to obtain a fair deal for data creators.
- Groups that hope to counter large tech companies by becoming large and powerful enough to operate like the tech companies — running a nonprofit social network platform, for instance — but with a pledge to acknowledge and respect members. Call them “enlightened siren servers.” We are skeptical of these because we don’t think any siren server can escape perverse incentives without MIDs.
- Collectives that hope to replace gig economy platforms like Uber with similar operations owned by those who do the work and who would get paid for the data they generate. We are concerned that these efforts exclude most data creators who do not currently view themselves as

working in the gig economy and thus are unlikely to recruit the critical allies necessary to create a broad-based social movement.

- Champions of a gift-giving or patronage economy who want to grow that market exponentially, to the point that most human sustenance would be derived from it. We worry that historical experience has shown that, beyond relatively narrow and exclusive communities, gift economies become chaotic and are often dominated by powerful agents who take advantage of others’ generosity.

PRINCIPLES FOR MIDS

It’s gratifying to see the high level of interest and activity around MIDs so far. Unfortunately, while some of the proposals are creative and substantial, nearly all of them thus far fall short on crucial dimensions. It has become clear that for MID initiatives to succeed, those building them need clearer guidance on how to structure them. Here, we present eight principles or requirements to give those starting MIDs a way to test their designs against a reasonable guess at future requirements.

1. Fiduciary duty. A MID should be a true fiduciary for individuals who create data or from whom data is measured, in a legal, economic, and structural sense.

Legally, MIDs should have an exclusive and overriding fiduciary responsibility to serve the true best interests of data

creators, even when these creators do not necessarily fully understand their best interests.

Economically, a MID should be funded in a way that avoids conflicts of interest that make it impossible to serve as a true fiduciary. For example, it should not be purely funded by fees proportional to the volume of data exchanged, as this would compromise its incentive to protect privacy in the best interests of its members.

Structurally, a MID should be separate from other organizations with naturally opposite interests, such as data consumers. One particularly attractive structure, though by no means the only desirable one, would be a mission-driven nonprofit or data worker cooperative. Organizations in this mold (under the banner “data union”) have formed in both [Europe](#) and the [United States](#).

Siren servers cannot be fiduciaries; they serve too many masters simultaneously, just as financial advisers who are part of a mutual fund family are motivated to push associated funds that may not be in the best interest of the customer. This type of conflict of interest not only exists on the current internet, it’s foundational. It must be reformed. It’s simply unrealistic for a business funded primarily by advertisements (Google, Facebook) to be a fiduciary for the targets of that advertising. In highly opaque domains like data governance or finance, dedicated, independent, unconflicted fiduciaries are critical. This role cannot

MIDS SHOULD HAVE AN EXCLUSIVE AND OVERRIDING FIDUCIARY RESPONSIBILITY TO SERVE THE TRUE BEST INTERESTS OF DATA CREATORS, EVEN WHEN THESE CREATORS DO NOT NECESSARILY FULLY UNDERSTAND THEIR BEST INTERESTS.

be covered by a world-spanning, centralized fiduciary, any more than a single lawyer can represent both sides in a legal dispute.

It is also unrealistic to expect regulators to micromanage these conflicts through regulation. Indeed, when tech executives testify before government bodies, they typically make a show of how politicians and regulators can't keep up with fast-changing technology well enough to understand it. And yet, precisely because of the complexity, dynamism, technical sophistication, and psychological potency of the modern digital experience, it is essential that individuals have access to representatives and advisers with fiduciary duties. MIDs can be those fiduciaries. Far from suffering conflicts of interest, they encourage competition and will represent opposing interests and philosophies.

Without a fiduciary to check them, siren servers are fated to take on a dystopian perspective of controlling society from above. This is seen in the [Chinese Social Credit System](#), but is found equally in certain American platform thinking, such as the notorious Google concept of the “[Selfish Ledger](#),” in which users are described as passive servants of Google's true client, their data.

2. Quality standards. MIDs will foster decency, high standards, accountability, and acknowledged achievement in terms that they will largely define themselves.

Consider the problem of what we have come to refer to as fake news. It is impossible for a siren server to select a preferred set of news sources that adhere to standards, because that would be viewed as unfair. One idea in vogue to combat fake news is for Twitter, Google, or Facebook to use crowdsourcing or a large number of low-paid workers to demote or

annotate certain classes of undesirable speech. But there is no known way to do this without displeasing some interests, often powerful ones. Certain politicians, for instance, notoriously disagree about which news is fake.

More broadly, platforms have agreed to demands that they attempt to restrict obscenity, gore, incitement, cruelty, and so on. However, it is impossible to come up with one set of standards that please billions of people; even the most well-meaning siren server cannot appease everyone about everything.

Governments can enforce rules that really do benefit everyone, such as criminal codes and food safety regulations, but as soon as rules exceed the bounds of acknowledged universal necessity, enforcement becomes authoritarian. When critics demand that a platform like Facebook ban certain forms of speech, they also make it more authoritarian, just as a government that demands that people be polite must be authoritarian. The root problem is that siren servers have a dysfunctional excess of concentrated power. MIDs will distribute that power and open a path out of what is otherwise a hopeless dilemma.

MID antecedents such as corporations, unions, and universities nurture progress for society where it may not happen without them. Other entities that serve the role of MIDs also enforce quality standards, like science journals that demand scientific method through peer review, and professional societies that enforce codes of conduct and work standards. [Critics have observed](#) that these societal institutions, responsible in part for increased civility, reporting of truth, and tolerance, have been weakened in the digital age. MIDs can restrengthen them.

Not every MID will be elite, but a successful elite MID will have rigorous

and fair systems for evaluating and tracking the quality of data provided by members and maintaining reputations and incentives for members to provide quality data and improve it over time. This will be critical not only to ensuring a strong and credible bargaining position with data consumers, but also to allowing data producers to “level up” by increasing their abilities and reputation, and thus to earn more money. Empowered MIDs will have enough clout to sell their users' data to data consumers relying on their standards and quality, just as prestigious universities like Harvard trade on their prestige to market publications such as the Harvard Business Review.

3. Inalienable provenance. While a MID should facilitate the efficient flow of data to high-value uses, it must not allow data (especially sensitive personal data) to be permanently sold or alienated from the control of its members. While intellectual property may be licensed, authors cannot sell their moral interest in their works.

Similarly, wherever technologically possible, transactions should involve selling access to the data for a defined use, in a way that does not allow the purchaser to retain any access to that data beyond that use. Recent advances in cryptography and the field of “differential privacy” increasingly make possible a separation between uses of data for important AI applications and control over the underlying data for broader purposes. Any use of data that is not so clearly contained should be clearly and indelibly marked as such, so the data creator can claim a share of future revenue and the right to refuse future uses that conflict with her legitimate privacy interests. It should be impossible for data to be incorporated into some intermediate system and then continuously and increasingly ambitiously used, without at least some

MIDS SHOULD CREATE OUTCOMES FOR MEMBERS THAT REFLECT THE TRUE NATURE OF A HUMAN LIFE CYCLE, AND NOT JUST AIM FOR A QUANTITATIVE DEAL MEASURED AS “FAIR” AGAINST SOME IMAGINARY, ROBOTIC WORKER.

of the associated value flowing back to the original creators.

It should be noted that the engineering infrastructure currently in place to track users and target personalized advertising is functionally similar to what would be needed to calculate what should be paid to each individual based on data originating from them. While fresh engineering will be required to implement data dignity, particularly for payments, security, and provenance, much of the engineering in the two paradigms is similar.

4. Benefit sharing. MIDs will become vital parts of the society and economy. To that end, regulation will be needed and should be welcomed.

For instance, a MID should ensure that a fair share of the value of data is returned to its creators. A rough approximation fair share is 70%, [the historical portion of national income accruing to workers](#). At present, the labor share of the tech industry is far lower — 5-20%, [depending on what company you look at](#). Any intermediary model that doesn't have the power to bring data workers' share close to 70% and isn't structured to allow most of that value to pass to the actual data creators (and not to the MID itself) will be ineffectual, or may become a siren server, with too much concentrated power over the data it manages.

Regulation of MIDs will have to borrow from labor law, antitrust, and other precedents that aim to simultaneously protect the power of organizations representing those with little power and prevent them from becoming overbearing.

5. Competence and professionalism.

A MID must have adequate expertise to accomplish its mission. It must possess sufficiently discreet management so that it can credibly engage in negotiations with data customers and be entrusted by those customers with confidential business details necessary to put the two parties on a position of parity. It will require technical expertise to build systems that support its unique attributes. The best MIDs will develop intelligence capacities to understand the ways data consumers use data in order to negotiate terms and conditions of use from a position of rough informational parity. All MIDs will require staff to audit and understand what is happening with the data that is already licensed on behalf of members.

6. Biological realism. Siren servers radiate risk outward; the effect is seen in the gig economy, for example, in which workers must “sing for their supper” — for every meal. It is hard to manage sick days or plan for old age. This is especially true in the United States, where health insurance is not universal.

MIDs should strive to create outcomes for members that reflect the true nature of a human life cycle, and not just aim for a quantitative deal measured as “fair” against some imaginary, robotic worker who doesn't age and whose needs don't change over time.

A well-designed and well-administered MID will encourage members to build up more and more royalty streams from data, so that as old age approaches, a diverse portfolio of data royalties, buffered by memberships in multiple MIDs,

will provide necessary security. This is analogous to how a fiduciary financial adviser is likely to encourage a client to diversify investments.

A future person of retirement age will earn a small sum from each of hundreds of data schemes they participated in over their lifetimes (captioning pictures, commenting on products, and the like). These payments only cover what we think could already be calculated for a typical person. But most people will find a few areas of specialization, and these will vary over the course of their lives. For example, a nurse who joined a MID to provide data to machine learning schemes for nursing robots will continue to earn royalties, even as new generations of nurses with new ideas and new data gradually supplant the older contributions. The same nurse might also have joined a MID that tagged and promoted a new esthetic in sushi that drove robotic sushi chefs everywhere for a few years and still has a few fans. Another retirement-age person might earn royalties from a canonical virtual reality experience they created during college, and also from managerial training that was incorporated into business artificial intelligence, as well as from a long chain of smaller cultural tidbits they entered during their many years on social networks. (Scenarios for the future cannot help but sound unlikely, but if we only prepare for a likely future, we're preparing for no future at all.)

7. Cognitive realism. We can't saddle MID members with impossible-to-understand terms and too-complex decisions. Vast terms and conditions, or choices so large and complex that

members concede to whatever they are presented with, will not work. (Unfortunately, this happens frequently today with consent-driven relationships online.)

This will require innovation in algorithms and design, but some old ideas will be equally helpful. For instance, if each member of a MID can use a single virtual knob to set the price of their data from their smartphone, a great many decisions can be compressed into a single parameter. The setting would not determine an absolute price, but would simply be a bias to be added to calculations performed by the MID on behalf of members. An individual who values privacy over wealth might set the knob to the highest price, thus making personal data too expensive for companies to buy. A young person who is starting out and wishes to self-promote might set the price low. A MID might place upper and lower limits. Someone who wants to maximize profits will probably keep the knob near the center, but will tweak the setting frequently, trying to predict market fluctuations, and might pay services to assist with that. Some MIDs might have one or two other knobs, related to the value of a member's time, for example, but the effort for the individual must remain manageable, with elegant and minimized options.

Without clarity, there can be no agency, and MIDs must commit to maximizing the agency and dignity of their members. The philosophy of informed consent in health care can serve as a precedent here — but not the implementation, because our information systems have become more complex than our health systems.

8. Longevity. MIDs should not be designed to last forever (like a nation, for example), but to last longer than a human lifetime (like an insurance company). That is because MIDs will become the guardians of

intergenerational digital wisdom and context.

MIDs must be able to form long-lasting and reliable relationships between each other. A MID that represents nurses should maintain a great multi-decade relationship with a MID that represents biological data scientists, which itself would have a wonderful relationship with a MID that represents people willing to be trial subjects for new biological sensors. MIDs should form themselves into value chains, just like players in any advanced market.

What will keep interdependent MIDs from merging into “mega-MIDs,” which would be effectively siren servers themselves? While early MIDs might be motivated to become large and concentrated to offset the power of siren servers, our society and economy will be best served if they continually work toward a world in which their unilateral discretion is reduced while their bargaining power is maintained.

Perhaps antitrust law will come to play a role in reining in large MIDs. Perhaps rules that restrict the degree to which MIDs can pit members against each other will spawn a larger number of smaller MIDs, in a manner similar to the way law firms can't represent opposing clients. Blockchain-based transparent coordination devices for data strikes (in which users simultaneously disconnect access to their data to force a platform to the bargaining table) and seeding of new internal entrepreneurship are other promising but still speculative methods of enshrining moderation.

A useful metaphor here is neural networks, which require intermediate layers of neurons that function as accumulators of feedback. Without these middle layers, a neural network cannot learn. The intermediate layers become the most persistent elements of a machine learning system, the

bearers of value. MIDs will function as just such an intermediate layer, bearing the value for a whole economy and, indeed, a whole society.

OTHER IDEAS FOR IMPROVING THE INTERNET

Correctives other than MIDs are already widely promoted in the marketplace and the political debate, two realms that are increasingly intertwined. Comparing MIDs to the ideas below will further illuminate the motivation to adopt MIDs as a solution.

Self-regulation. It has become common for users to make demands on siren servers to regulate the speech and behavior of both free users and advertising customers. We see this approach in action when consumers and activists demand that platforms ban hate groups, sadists, pornographers, and so on.

Platforms have had some success [checking the worst excesses of cruelty](#) through self-regulation. But while that might address certain psychological and social degradations, it increases a platform's power over society rather than limiting it. This can only lead to some mixture of censorship and chaos.

The naive version of openness that has characterized large platforms does not work and cannot be self-regulated. Content is currently forged out of an unrelenting short-term contest for views. Inflammatory content is an example of what gets the most attention in an economy in which advertising and persuasion are the only paid products. Indeed, the softer clichés of the internet, such as cat videos or videos to soothe toddlers, [will often flow into disturbing or misleading content](#) as recommendation engines take the lead. The result is that civil dialogue is crowded out by an overwhelming amount of uncivil communication, damaging civil society in the process.

Unfortunately, it's not damaging to the companies. If anything, platforms are punished for their efforts to self-regulate. Twitter has seen valuations fall after fake accounts or accounts associated with information warfare campaigns are [purged](#). Facebook has seen similar drops in valuation when it has attempted to push back on [fake news](#). This is because the metrics that investors have used since Facebook's IPO to value the platforms — such as daily active users, clicks, and so forth — are suppressed by platforms attempting to regulate activity. Indeed, fake accounts and their content are engineered to drive attention, clicks, and responses in a way that also benefits the platform. This typically results in the kind of engagement Wall Street views as “healthy” activity. Bizarrely, regulation is currently structured to motivate companies to promote this pattern, not remove it.

But if hate speech and other damaging content can be voluntarily excluded by popular MIDs (see Principle #2 above, “Quality Standards”), then there is less reason to attempt to repress it absolutely, much less to ask the platforms to do it. It becomes possible to boost high-quality content instead of repressing nasty content, because the high-quality content will have a chance, rather than being subsumed by a global mashup algorithm.

Rather than petition large corporations to govern speech and behavior, we appeal to common sense and a commitment to free speech. Horrible content existed before the internet, but it didn't crowd well-intended content off the newsstand.

The reason was that when given a chance to reflect, most people turned out to not be horrible. A human-scale magazine rack turned out to be a better filter for useful content than an unbounded digital one.

MIDs retain values that have always been treasured on the internet and in open societies: All associations are voluntary, and no one is censored. At the same time, however, MIDs are an alternative to a unitary platform in which everyone competes for attention simultaneously. MIDs are democratic, not anarchic.

Privacy regulation. Digital privacy regulations can help protect individuals from abuses in specified cases, and we do not oppose such regulations, but they aren't systemic or future oriented. They don't redirect economic incentives to dissuade ever more innovative privacy violations. They stand in opposition to most of our principles for MIDs, and especially to Principle #7, “Cognitive Realism.”

What's more, a privacy violation is not a sufficiently coherent or complete characterization of a problem. Privacy rights without economic rights rely on concepts of consent that aren't meaningful when the uses of data have become highly technical, obscure, unpredictable, and psychologically manipulative. Cognitive realism is the best answer to privacy concerns. Once individuals have access to tools that explain the data in their lives, they will demand control over that data and be able to control it.

The concept of privacy has not transferred gracefully to the networked world, because siren servers have come

to define the environment, and they cannot incorporate truly private places. This is one reason why abstract rights to data privacy are hard to enforce. No one knows if they are enforced. We are asked to trust the platforms, for there is no room or time for a routine, independent auditing function. Siren servers are often motivated to be stealthy and to obscure the provenance of data. Even if we could trust the platforms, the nature and uses of data will continue to evolve in unpredicted ways, making it hard to write rules in advance.

Linking data privacy rights to commercial rights, though, creates an incentive for accountants and lawyers to track how data is used, and to negotiate over its use. Accountants and civil litigators can be annoying, but we should remember why those professions were invented. In a nonmarket society, there are only police to enforce rules, while in a market society, there is also civil litigation. Without contracts, every intervention is from above. Enforcement of privacy rights is a form of centralized power; distributed power is less likely to be corrupted.

Ultimately, what people need in their digital lives is not maximized privacy per se, any more than what they need in their work lives is maximized leisure. In both cases, people need, in essence, the right to be left alone: a reasonable ability to construct what is seen and known about themselves by others, reasonable limitations on what efforts are demanded of them, an accessible means of self-determination, fair compensation for what they do give up, and an affirmative environment in society for seeking meaning and happiness.

ULTIMATELY, WHAT PEOPLE NEED IN THEIR DIGITAL LIVES IS NOT MAXIMIZED PRIVACY PER SE. PEOPLE NEED, IN ESSENCE, THE RIGHT TO BE LEFT ALONE.

MIDs are the natural structures to help individuals realize these benefits.

Technical decentralization. Internet reformers are eagerly proposing new architectures to decentralize influence on digital networks, often invoking blockchain as the mechanism to do it.

Decentralization through technical architecture is an appealing idea where possible, but it is often an inadequate idea in the face of network effects and cognitive load, forces that create centralization in the first place. It doesn't always work: Open-source software and the ideal of "free" media was supposed to lead to a radical decentralization of power. Unfortunately, while they encouraged *labor* to be free, they were not able to achieve the same for capital or control of platforms. The result was a unilateral disarmament of labor to the benefit of the seductive monolithic corporations that manipulate us to extract our data.

Today, many put their faith in blockchain's push toward decentralization. The clear emphasis on economic incentives within blockchain communities holds more promise than open software communities, but until we can overcome network effects and the difficulty for any individual to navigate terms of use on his own, any push to fully decentralize will further weaken the individual's ability to resist networks. To the extent that centralized authorities, whether governmental or computational, do not or cannot surrender their power, we must aim to bolster countervailing forces, like MIDs.

Furthermore, despite techno-utopian visions for blockchain, a social contract probably can't be enforced by code alone. At some point, code must be coupled to the physical world to have any effect, and that point of coupling is where corruption, fraud, and manipulation can appear. MIDs affirmatively strengthen a social contract.

GOOD FOR BUSINESS OR BAD FOR BUSINESS?

A future of MIDs should be embraced, not feared, by big tech. (We work for — and we like — big tech companies.) Ultimately, platforms will benefit. But we anticipate resistance. Here we lay out some of the counterarguments:

People want free. Some will argue that a marketplace for data and a world of MIDs are impossible in a world where consumers are used to the "free" internet — that they will not pay for what has previously been free. We believe that objection has been answered empirically. It was once widely believed that no one would pay for online video, and yet Netflix built a business anyway. And now, many free video sources like YouTube are following with for-pay options. Similarly, Apple proved that customers will pay into an app store.

Furthermore, free isn't really free. Consumers may not have yet made it part of their cost analysis (MIDs can help them do this), but they pay higher data rates than they need to in order to support the vast overhead of the surveillance and advertising economy, not to mention costs in lost privacy, and distorted information.

The value of data is negligible. Some economists argue that the amount of payment available for data would be negligible, that even if Jane User could sell her data, the return would be less valuable than the effort to do it. The cost of managing a MID may outstrip the value it can return. Even without changing existing business models, attempts to calculate the value of data suggest that many Americans could earn \$500 to \$1,000 a year.

But we think that's a low estimate. This modest calculation ignores how much of the present value of data is simply off the books. It's like arguing

that because women were unpaid for home work there would be no market for domestic labor. In fact, once women entered the workforce, a large market for home care was created. No one disputes that digital systems add value to the world. How much added value exists is an open question.

We believe that once the value of individual data contributions is properly calculated, the overall economy will be revealed and will grow greatly as the quality of data inputs increases. Furthermore, if the AI economy grows as anticipated, the value of data is likely to explode, just as new applications for oil (such as cars) made the value of that resource explode. We have calculated that even if AI ends up as only 10% of the economy, just the AI-feeding aspect of data dignity could deliver \$20,000 in annual income [for an average American family of four](#) (though they might also have added expenses to pay for digital services).

But that is not all. In an advanced information economy with MIDs, individuals will be motivated to specialize in ways that are not identified as economic niches at present. For instance, a botanist who likes to hike might join a MID for people who compile useful photographs and data about trees in less developed regions. This data will be valuable to forestry companies, property managers, truffle hunters, regulators concerned with climate change, AI services that automate drone deliveries in forested areas, and many others. There are many types of valuable data that will come into existence or become more precisely, more clearly annotated and thus more useful. The point of a market is not just to distribute a finite pie, but to grow the pie. Those who dismiss the value of what people do online have forgotten this most basic benefit of open markets.

DATA DIGNITY DEPENDS CRITICALLY ON BIG PLATFORMS. IT IS NOT A REPUDIATION OF THE INEVITABLE RISE OF NETWORK EFFECTS, BUT INSTEAD AN ATTEMPT TO MAXIMIZE THEIR BENEFITS.

We believe that MIDs will have the potential to identify and market approximately enough new value to offset job losses due to automation and restore a labor share comparable with historical levels. There is no guarantee that this will happen, but to see the potential, suppose that there will someday be total unemployment due to total automation in a society that is advanced enough to have overcome material scarcity. (We do not propose that this situation will come about; this is only a thought experiment — though a near-universal one in tech culture.)

As we have argued elsewhere here, the automation in this scenario would not function were it not for data derived from the society. Will such a society value its data highly enough to finance itself? This is a matter of business plan philosophy. If there are only customers for advertising and persuasion, then of course the data in such a society will never be valuable enough. The society will have to function primarily on nonmarket principles, with highly centralized power. If there are customers associated with *all* the ways in which data is valuable to the society, however, then a market will have a value commensurate with the society it supports, since data improvement will be the only remaining scarcity.

Will many people provide valuable data, or only a few? At present, siren servers such as Google that define themselves as competing in an AI race are sparing no effort to gather data from everyone. If they could identify people whose data was not worth collecting, they would have every

incentive to ignore those people. But that is not what is happening.

MIDs are an existential threat to platforms. Economists often perceive a zero-sum fight between digital platforms and data producers — who gets what slice of what's there now. We see it differently.

Tech giants will do well in a world of data dignity: They will take a smaller share of a far larger pie. Demand for ever-better computational resources and data tools will remain intense. The burdens of content curation and data verification will be lifted from them and outsourced to an ecosystem of MIDs better positioned to manage it, both politically and economically. Rather than having everyone engaged in sneaky electronic conflict with everyone else — trying to trick each other into sharing this or believing that — data dignity will bring the interests of most market players into better alignment.

Data dignity, in fact, depends critically on big platforms. It is not a repudiation of the inevitable rise of network effects, but instead an attempt to maximize their benefits. If anything, a rational marketplace facilitated by MIDs will help resolve existential challenges posed by an anti-technology backlash that is likely to follow if we don't find a better solution than what we have today.

AI will obviate the need for data in the future. It is sometimes claimed, cynically, that the AI of the future will no longer need more data from people, so we might as well not worry about any lost opportunity to pay people for the data that is taken during this

brief period before AI becomes self-sustaining. That claim can be debated, but it sidesteps a deeper issue.

Any advanced economy includes ever-more sectors that trade in subjectively valued goods and services, such as cosmetics, sports, entertainment, design, fashion, tourism, art, journalism, commentary, and gaming. All of these are comprised of valued expressions between people. Indeed, the value exchanged on siren servers owned by companies like Google and Facebook comes almost entirely from this category.

Rhetoric about AI can distract from the fact that these subjective sectors will eternally need data from people, because exchanging data value between people is what they do. Indeed, even if AI someday directs all the movies, and robots apply all the makeup, the tastes that drive future AI will still be derived from people. If people are to retain any volition, at core the value will still be about people providing data to each other.

Any dignified future economy that relies heavily on information technology must value the people who add the data. This cannot just be an idea; there needs to be a structure to make it so. We will need true symmetrical market bargaining and insurance that stands up for and protects the value of creators, which is only possible if pools of data creators are organized in groups like MIDs.

If the internet isn't free, the poor will be excluded. Another objection, frequently expressed by Facebook and other large platform companies,

is that services that cost money will exclude the poor. This is a problem, but it is not a new one. Books that cost money exclude the poor. Private vehicles that enable people to seek more and better jobs exclude the poor. Markets in combination with robust democratic policies are better solutions to these problems than simply failing to account for value. Just as public libraries make books available and public transportation offers a reasonable alternative to a car, analogous institutions can and will exist on the monetized internet. Most companies that charge find ways to make their products reasonably broadly accessible. For example, our employer, Microsoft, charges for most of the products it sells, yet these same products are widely adopted in poorer countries at reasonable, tailored prices.

Moreover, the existence of free internet services has coincided with an extreme increase in income inequality and declines in the share of income paid to work. What we've witnessed in the past two decades is new wealth attaching itself to those who are close to the largest computer resources; the free internet isn't really serving the interests of the middle class, much less the poor.

...

It is not easy to talk about ways to improve the internet, largely because conversations on the topic typically happen *within* the internet, a venue that has been overtaken by siren server systems that are motivated to increase engagement by making people upset. This means that conversations quickly become agitated and ugly.

We have therefore deliberately made our argument slowly, in detail and at length. This length aims in some ways to serve as a corrective for our inability to answer the many queries we have received from nascent MIDs, and is our

own attempt to pool together all those responses.

No single proposed venture we have seen has met all the requirements for data dignity that we've set forth here. Invention and a sense of adventure will be required to meet them all. The argument for MIDs flows from fundamental principles. The requirements will surely evolve, however, as more is learned.

And they must continue to evolve. The influence of the internet on all aspects of human experience is so great that we must demand data dignity if we are to retain any dignity at all. ■

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Natasha Tusikov (Individual), Jul 22

I have followed closely Sidewalk Labs' proposals for the smart city project and the nearly two-year public consultations on the project. I have also read closely much of Sidewalk Labs' Master Innovation and Development Plan (MIDP).

Recommendation - Stop the Quayside Bid Process

I strongly recommend that Waterfront Toronto immediately halt the bid process and end its relationship with Sidewalk Labs.

This recommendation is based on my analysis of Sidewalk Labs' proposals in its MIDP and those made earlier. The MIDP raises multiple serious concerns over the governance of physical and digital infrastructure in the proposed IDEA District, as well as significant concerns relating to data governance.

General Comments

As a research who focuses on data collection and use, especially by technology platforms, I have several key concerns about Sidewalk Labs' data governance proposals. In several respects Sidewalk Labs provided us with greater detail on how it conceptualizes urban data and the roles of the data trust in its October 2018 data governance plans than in its 1,500-page Master Innovation and Development Plan. In its 2018 document, Sidewalk Labs proposed that data be publicly accessible by default and that signage constitute consent in public and publicly accessible spaces. It offers a new category of data--urban data--that is unrecognized in Canadian law. It also proposed an ill-defined data trust that may evolve into a public/quasi-public agency.

Waterfront Toronto's ceding of regulatory authority to Sidewalk Labs for the co-creation of rules on intellectual property, data, and privacy put Sidewalk Labs in the driver's seat to shape rules in its favour. In its conception of the smart city, there are no surveillance-free zones, even in privately owned spaces, as long as occupants consent to data collection. For Sidewalk Labs, a new class of data--urban data--should be publicly accessible by default with exceptions for data with personal information or for proprietary datasets. Sidewalk Labs underlined its public commitment in its master plan "not to sell personal information to third parties or use it for advertising purposes," and commits not to sharing such information "with third parties, including other Alphabet companies, without explicit consent" (Sidewalk Labs 2019, 425). With consent, then, it would appear that Sidewalk Labs will be involved in the sharing of personal data with other parties, which could include Google. Sidewalk Labs clearly stands to benefit from these rules that facilitate the mass accumulation and processing of data.

Questions about Data Governance

There are a number of serious questions that should be answered before any decisions are made about the project moving forward. Instead of proposing structures to govern data, we need to ask if certain types of data should even be collected in the first place. Informed consent is another challenge in regards to data collection in public spaces. What does "informed consent" look like in a smart city in regards to data collection and use? Sidewalk Labs worked collaboratively with industry and civil-society to design its design signage, which is the visual equivalent of companies' terms-and-service agreements. But what does opting out of data collection in a smart city look like? If someone declines to give consent for the collection of data in public spaces, what are their options short of leaving the area? Only after we've debated what data collection is acceptable or socially desirable should we move onto discussing how data should be governed and by whom.

Questions of governance are critical. Instead of debating the potential benefits and drawbacks of “urban data” and an “urban data trust,” we need to think more broadly about what kind of city the public wants in Toronto and how technology should serve society. Instead of letting the vendor shape the debate over data, privacy, and consent in public spaces, we have to have a meaningful public discussion about these issues. We also need to bring all levels of government back into the picture to perform the critical, necessary role of representing the public interest.

What restrictions or limitations might the data trust impose on the selling of data containing personal information? That’s also unclear. According to Sidewalk Labs, the data trust would not prohibit the sale of personal data or its use in advertising, but “a higher level of scrutiny should be placed on projects that want to use personal information for these purposes” (Sidewalk Labs 2019, p. 425).

What processes might the data trust follow to approve requests for data collection and use? That also remains to be determined. In its October 2018 data governance proposal, Sidewalk Labs emphasized that “many applications” to the trust, generally for non-identifiable data” will be able to be “self-certified” by the entity applying to the data trust (Sidewalk Labs 2018, 15). For these self-certified applications, Sidewalk Labs sees the role of the data trust to “reliably and speedily—potentially, automatically—approv[e] accurate, self-certified applications” (Sidewalk Labs 2018, 15). While trust applicants will likely prioritize a speedy, especially automatic, approval to applications, people concerned about privacy and about data collection in public spaces would place greater value on a thorough, independent review of data collection practices.

Concerns about the Five Management Entities and the Super-Public Administrator

In addition to the concerns regarding data governance, I have concerns with Sidewalk Labs’ proposal of five management entities and a super-Public Administrator for the IDEA District.

There are a number of unproven and unstated assumptions underlying this proposal. Most seriously, there’s an assumption that the current distribution of services and responsibilities among multiple government departments is necessarily inefficient. It’s assumed that bringing together diverse responsibilities under one department will improve efficiency and responsiveness, especially when aided (somehow) with technology.

There’s also an assumption that user fees will be able to solely or largely support the creation and ongoing operation of these entities. However, there is no associated costing showing the estimated revenue from user fees or the projected costs of creating the new management entities.

Where more bureaucracy equals innovation?

Sidewalk Labs’ plan come with a heavy public bureaucratic burden, an odd thing to propose given that over the past several decades the move has been away from perceived over-governance. It’s hard to see, for example, the current Ontario government and mayor of Toronto, embracing five new “management entities” a super-Public Administrator to govern a relatively small area of Toronto’s eastern waterfront.

As well, for a plan that was supposed to provide “innovative” solutions to mobility and data governance, among other issues, there is a strong--and highly problematic--reliance upon traditional top-down governance mechanisms and public funding. These issues should raise serious alarm bells for policymakers at the municipal, provincial and even federal levels of government, as well as among the general public, and force a reconsideration of this project.

Specific Comments

Proposal of Five New Regulatory Bodies & a Super-Public Administrator

As part of its ambitious 1,500-page, 3-volume MIDP, Sidewalk Labs proposes the creation of five so-called “management entities” falling under a public administrator that would be responsible for managing the IDEA District on Toronto’s eastern waterfront. The new public administrator would involve creating a public body, amending an existing government department, or, possibly considerably augmenting Waterfront Toronto’s authority. As envisioned by Sidewalk Labs, the new public administrator would be a governmental body with relevant departments from the City of Toronto as stakeholders.

1) Waterfront Transportation Management Association (WTMA)

The WTMA would be established as a new public body and would be responsible for managing and operating physical and digital infrastructure relating to transportation within the IDEA district, most significantly deploying a real-time data-based mobility management system to coordinate all traffic,

i) WTMA Challenges

The WTMA would assume control over parking and curbside policymaking, pricing, and enforcement from the City of Toronto and the Toronto Parking Authority. How this devolution of duties and loss of revenue from parking within the IDEA District may affect the Toronto Parking Authority should be considered. While Sidewalk Labs envisions one entity coordinating all transportation and mobility services within the IDEA District with a steering committee with representatives from all three levels of government, it’s unclear how the WTMA would operate with existing departments within Toronto. Sidewalk Labs states that the WTMA would be largely (or entirely) self-funded through the collection of revenue from parking and curb pricing; however, given the breadth of its proposed duties, the WTMA may need ongoing public funding to fulfill its mandate. It’s unclear whether there is the political and public appetite for creating a new public agency to coordinate transportation issues within a single neighbourhood.

A risk that Sidewalk Labs clearly lays out in its master plan is that the WTMA would yield greater benefits at the scale of the River District and even more so at the IDEA District, which could not effectively be realized if it were deployed only in the smaller Quayside district. Sidewalk Labs clearly states that it wants to apply its proposals throughout the IDEA District instead of the much-smaller Quayside area that was the subject of the public consultations.

ii) Key regulatory adjustments:

In order to implement its dynamic curb and real-time pricing plans, and to set its own speed limits within the IDEA District, amendments are needed to the Ontario Highway Traffic Act, City of Toronto Act, City of Toronto Municipal Code, the City of Toronto Zoning Bylaw, and the City of Toronto Complete Streets Guidelines. While these amendments may deliver useful services, permitting the IDEA District to have carte blanche to change rules on parking, speed limits, and street and curb usage could create a patchwork of rules and regulatory bodies across Toronto.

2) Waterfront Sustainability Association (WSA)

Sidewalk Labs proposes that the Waterfront Sustainability Association be established as a new public body under the IDEA District public administrator with the responsibility for administering private entities responsible for environmental sustainability, including energy and waste water.

i) WSA Challenges

The creation of the Waterfront Sustainability Association as a new public entity, similar to the WTMA, would require amending existing or introducing new legislation. As with the Urban Data Trust, it's unclear whether there is the political and public appetite for creating a new public agency to coordinate sustainability-related issues within a single neighbourhood. A risk is that the Waterfront Sustainability Organization would not be self-financing through the collection of fees from system operators, but would require an ongoing source of public funding to fulfill its responsibilities.

ii) Key regulatory adjustments:

In order to implement its plans for sustainable storm-water management, permissions are needed to the City of Toronto Act, Ontario Energy Board, Ontario Water Resources Act, and the City of Toronto Wet Weather Management Guidelines. For its thermal grid extensions, the plans require permissions from Toronto District Heating Corporation Act, Public Utilities Act, and the City of Toronto Act.

3) Open Space Alliance (OSA)

The Open Space Alliance would be a non-profit, non-governmental organization that would enter into public-private partnerships with the City of Toronto and private third-party entities (land owners. And developers) to manage and coordinate various physical and digital infrastructure in public spaces in the Quayside, the River District, and the IDEA District.

i) OSA Challenges

The Open Space Alliance would be responsible for a broad array of services, from maintenance of storm-water infrastructure, and the operation of public spaces and outdoor architectural features across the IDEA District to the operation and coordination of physical and digital technologies created by Sidewalk Labs, and supporting cultural and community programming. This diversity of services would be a challenging workload for any department, even when carried out across a relatively small area such as the IDEA District. In addition, Sidewalk Labs' proposal that the OSA manage the physical and digital infrastructure delivered by Sidewalk Labs would appear to unfairly privilege one company over others.

The Parks, Forestry & Recreation Division at the City of Toronto would be affected as a portion of its funding would be diverted toward the OSA. This Division would also be affected as some of its roles and functions, such as the maintenance of public spaces, would be undertaken by the OSA within the IDEA District. The OSA would likely require an ongoing source of public funding in addition to the fees collected from developers and land owners.

ii) Key regulatory adjustments:

In order to implement its plans for the outdoor comfort system using building raincoats, fanshells, and forest lanterns, amendments are needed to the City of Toronto Municipal Code.

4) Urban Data Trust

The Urban Data Trust would be an independent entity that would govern the collection and use of what Sidewalk Labs terms "urban data" in the IDEA District.

i) Urban Data Trust Challenges

How this trust would operate, its structure and regulatory powers, the source and scope of its legal authority, its possible sources of public funding, and its relation to other regulatory bodies and governmental departments within the city of Toronto and province remain unclear, as does the political and public appetite for creating a new public agency.

Another challenge in relation to the proposed data trust are the trustee's roles in creating and enforcing rules regarding data collection, storage, protection, and use, including commercialization. Depending on how the regulatory body is structured and its legal authority, the data trustees, whether public or private actors, could have considerable regulatory power.

It's self-interested for Sidewalk Labs to submit that its projects should be first in line for consideration by a neophyte regulator that it proposed. More problematically, if the data trust goes ahead, Sidewalk Labs' involvement with the trust in the first phase would likely shape discussions of how (or even if) the temporary trust should involve into something more permanent, perhaps in ways that serve Sidewalk Labs' interests at the expense of other interested parties.

4) Waterfront Housing Trust

The Waterfront Housing Trust be established as a private trust that would act as a public-private financing entity to administer below-market housing program in the IDEA District. The IDEA Public Administrator would serve as the Trust's sole trustee.

i) Waterfront Housing Trust Challenges

The Waterfront Housing Trust would aggregate funding from existing sources for affordable housing and pair this revenue with its new tax on condo resellers. Formal approval may need to be obtained from the entity currently responsible for distributing affordable housing funding.

ii) Key regulatory adjustments: The Waterfront Housing Trust would have to seek authorization to build units smaller than indicated in the Affordable Rental Housing Guidelines of the City of Toronto Affordable Housing Office. Approval would be needed from the City of Toronto Affordable Rental Housing Guidelines and Ontario Building Code. Sidewalk Labs notes that the Waterfront Housing Trust would also need approval from the federal government and City of Toronto in order to receive funding for a portfolio of properties, rather than development by development.

Paul Beck (Individual), Jul 27

Dear Ministers Bains and Morneau,

I am a retired hydrogeologist and I conducted some of the first environmental investigations of the Toronto Waterfront in the early 1990s going back to the days of David Crombie and David Carter. Since then I have taken a special interest in the development of the waterfront. Generally I have been very supportive of Waterfront Toronto's (and it's predecessors') stewardship of the waterfront and its measured roll out of development over the past 30 years. I think Waterfront Toronto should be congratulated for maintaining a unified vision for the waterfront.

I am currently following the first phase of public assessment of Sidewalk Labs' (a Google company) MIDP which was recently released and which provides recommendations for smart city development within Quayside and the broader Toronto waterfront area. My main concern is that this project represents a huge economic opportunity to transform the Canadian economy to higher a value digital economy, but we are basically giving away this opportunity to a foreign tech giant, Google. Sidewalk Labs will generate smart city technology ideas and applications which will be tested in the Toronto Waterfront and rolled out globally by Google who will then attain a dominant share of the global smart city technology sector estimated to be worth \$2-3T by the year 2025.

Observations of the Current Situation

As stewards of the Canadian economy you are required to make decisions in the best interest of Canadians within the time frame of your electoral mandate but also well into the future. Here are my observations from reading some of the MEDP (I'm still working my way through it) and attending two of the public meetings and a meeting of the Digital Advisory Committee meeting as well as my own reading and research:

1. The Toronto Waterfront represents a unique, global opportunity to create an urban laboratory for the development of smart city technology and applications. This opportunity to try out new technologies on such a large parcel of underdeveloped contiguous land, from what I understand, is pretty well unparalleled anywhere else in the world. The Toronto Waterfront therefore represents an important strategic resource to the Canadian economy and its importance should not be underestimated.
2. The Toronto Waterfront has the capacity to provide a once in a generation opportunity to transform the Canadian economy from traditional resource extraction and manufacturing to a higher value digital economy.
3. According to some estimates including Sidewalk Labs, the global market for smart city technology will be worth \$2-3 trillion by the year 2025. This is more than the entire GDP of Canada in 2018. If this MEDP was managed and controlled by Canadian planning and technology companies instead of a US tech giant, and given the advantage we have with the urban laboratory that is the Toronto Waterfront, there is no reason to believe that Canadian technology companies could not capture a significant fraction of the global market and become global market leaders.
4. According to Sidewalk Labs projections, their proposal would add just \$14.2B annually to Canada's GDP by 2040. With Canadian companies in charge, and using conservative estimates of market capture and growth, and diversification of our digital economy, I believe we could develop benefits on the order of \$200-300B to the Canadian economy by 2040.
5. The Oil and Gas sector of our economy is the largest contributor to Canada's GDP at approximately 10%. By the year 2040, the Oil and Gas Sector will be a sunset industry –

perhaps contributing a few percent to our GDP. To maintain our standard of living, we need to think of how we can replace that sector. Smart City Technology could fill the bill.

Concerns

My concerns revolve around the lost opportunity to transform the Canadian economy and to make Toronto and Canada a global leader in Smart City Technology, if the Sidewalk Labs proposal is allowed to go ahead. Specific concerns include:

1. Waterfront Toronto's mandate is of course centred on the development of the Toronto Waterfront. Its focus is too localized and its time frame too short term to recognize the strategic importance of the waterfront to Canada's economy in the long term.
2. Canada, specifically the GTA is a global hotbed for artificial intelligence. We should leverage this advantage to help grow our digital economy, instead of giving away a once in a lifetime opportunity to foreign control.
3. Sidewalk Labs did not exist 5 years ago. They have never been involved in such a big project as this before so they have no experience as an organization in big city planning. There are Canadian planning firms who have more global planning experience as an organization than Sidewalk Labs. Over the past several years Sidewalk Labs have scoured the world for ideas and added a few original ideas to produce the MEDP. They continue to embed themselves in the Waterfront development process through lobbying and self-promotion and it will be difficult to remove them from the development process.
4. One of the key reasons, I believe, that Sidewalk Labs was given preferential treatment over Canadian firms in winning the proposal was that they were committed to providing over \$1B in capital from Alphabet to kick start some of the development.

Some Solutions

1. Undertake an economic opportunity analysis using a scenario where Canadian planning and technology companies lead the development, and compare the economic and social benefits to Canadian Society against the Sidewalk Labs proposal. Let's look at the lost economic opportunity if we accept the Sidewalk proposal and put that on the table for discussion.
2. We need to have a higher level, longer term fundamental discussion on the significance of the Toronto Waterfront to Canada's economy. This should involve the highest levels of government at the federal, provincial and municipal levels. This project is too important strategically to Canada's future to leave to Waterfront Toronto – they are not equipped to handle this type of analysis.
3. Look at alternative levels of funding. We need to be able to raise funds through say municipal bonds in order to counter or at least supplement the private equity benefits which Sidewalk Labs is bringing to the table.
4. Develop a Smart City Institute based along lines such as the Perimeter Institute in Waterloo, to attract researchers involved in smart city planning, policy and technology. The Institute would be located in the Waterfront. The Institute would provide the research to technology companies to generate new smart city products and applications that could be tested in the Waterfront, commercialized and rolled out globally. At the same, researchers would generate work on smart city planning and policy which would be taken up by Waterfront Toronto to design future projects in the waterfront, and by the City of Toronto Planning Department to create smart city policy. This could provide a template for global uptake by cities and developers around the world. Toronto and Canada would become a global leader and attract all kinds of additional investment and interest. There are existing models for parts of this vision already operating throughout Canada.

5. The Federal government is a member of the Tri-partite agreement involving all three levels of government that help manage Waterfront Toronto. In this role, the Federal government could strike a Round Table discussion on the future of Canada's digital economy in which the Toronto Waterfront would be the centrepiece.

I offer these comments as a concerned Canadian and would be happy to discuss these with you further.

I think that a major question that has to be answered about Sidewalk Labs is whether they can be a trusted partner with Waterfront Toronto, the City and Torontonians. During their development of the MIDP and in particular in the recent run-up to its release, I have been surprised and sometimes shocked at the cavalier attitude that Sidewalk Labs has taken in developing its own narrative, particularly with respect to ideas that go beyond the original terms of the proposal, and a narrative that is increasingly divergent with Waterfront Toronto's.

Sidewalk Labs has been willing to discuss topics and make pronouncements in the public realm that are clearly sensitive (e.g. going beyond the boundaries of Quayside, modifying regulations, options for payment) and have put Waterfront Toronto in a difficult position to defend its process. In trying to control the narrative and make its case directly to the public, Sidewalk Labs is short-circuiting Waterfront Toronto's normal process and raising concerns about whether the whole evaluation process can be transparent and above board. I think Sidewalk Labs has acted irresponsibly and has undermined Waterfront's Toronto's evaluation process and has clearly damaged the public trust in Sidewalk Labs and to a lesser extent in Waterfront Toronto.

As a former consultant, I was always cognizant that client and contractor must have a unified message. As a contractor and potential partner, Sidewalk Labs' independent actions have shown a high degree of corporate arrogance and shown a severe lack of respect for Waterfront Toronto. If this is how Sidewalk Labs acts before it has a contract, how will it act as a partner?

Please feel free to enter my comments into the public record.

Name Withheld #8 (Individual), Jul 29

Sidewalk Labs proposals for Quayside and Villers Island are interesting, but they make me think of when Europeans bought Manhattan from the Natives for \$24 worth of shiny beads. Sidewalk Labs proposals are full of shiny beads, and we don't know the value of those beads. As for the proposed deal, we just don't know if it's a good deal, for Toronto.

We know Sidewalk Labs will profit from this venture, and so they should. If Google actually invests a billion dollars, and if the city invests a billion dollars worth of land, this partnership could achieve great things, maybe. But at this point, Sidewalk Labs proposals look more like a 90-10 deal, in favour of Sidewalk Labs.

It might be educational to put a dollar value on everything being proposed so far. The city is being asked to contribute a billion dollars worth of its most valuable waterfront land. Plus we must add the city's infrastructure costs, and city transportation and all other city services. This might add up to another billion, or more. So the city has a minimum \$2 billion stake so far, in Google's waterfront development proposals. It will be interesting to see if Google puts \$2 billion into this project, or if the city pays all the bills.

Consider all that Google might be getting from this deal, ie. money, data, and info systems which can contribute toward Google's tech supremacy of the entire world.

Google is proposing that any products or services that are commercialized from this research experiment, will belong 100% to Google, and Google can sell these services around the world. That might be worth a few billion dollars in a few years. But Google is only offering 1 to 10 percent of the profits on these sales to the city. It might be a better deal for the city if Google offers to share 50% of its future profits on the sale of Smartcity services and technologies which result from this 50-50 private-public partnership.

If we know the value of each partner's contributions, Toronto might be able to negotiate a better deal for the city. For example, it won't be a good deal if the city gives Google a billion dollars worth of land for a dollar a year. Toronto has a bad habit of giving away its most valuable land too cheaply. Just look at the Island Airport, sitting on the most valuable parkland in the city, for only \$1 a year, until 2030.

If the Port Authority can be subsidized in this way, maybe Google can be subsidized too. I am worried, not because Google is strong, but because the city is sometimes too weak. If the city wants to get a good deal from Google, ie. with profitable 99-year land rental rates, it should step up to the plate and play the game like real urban developers.

The way I see it, this project could make the city famous, and maybe wealthier too, if we play our cards right. I say, let's make this development a real 50-50 partnership, and make Toronto's Smartcity, Sidewalk Labs Project succeed, for everyone involved.

Name Withheld #9 (Individual), Jul 29

Yes, in my backyard. YIMBY

When are we going to giterdun & show that we, as Torontonians are not just a bunch of loudly complaining backward-facing Luddites; but are actually intelligent progressive citizens that're ready, willing & able to embrace progress & development as move into the 21st century?

Name Withheld #10 (Individual), Jul 29

Please don't allow this project to happen. We simply can't know the (near) future implications of handing over so much data to Sidewalk Labs. Whatever SL says now, they will end up exploiting this data relentlessly, using the knowledge gained to extract more \$\$ from Torontonians and other Canadians. I beg you, please don't fall for their sophistry.

Donald James (Individual), Jul 29

These are my concerns regarding the **SideWalk Labs** proposal:

1. **All** the **Plan** points listed under **a**) Social Infrastructure and Community Facilities **b**) Economic development **c**) Urban Innovations that focus on mobility, public realm buildings and housing sustainability, digital **d**) New governance models and regulatory frameworks to support implementation of the innovations

~ nowhere are there oversight measures indicated, and who'll be convening such '**oversights**'?

2. Implementation of Plans **a**) Creation of a special district (IDEA District?) **governed** by a **new** Public Administrator and those **other** entities **b**) the Roles, particularly provider of **optional** financing? **c**) Financial streams for the public sector **related** to **real estate, infrastructure and Intellectual Property** **d**) Government **commitments** (including potential future investments) **required** and areas of necessary **public policy** and **regulatory reform**.

~ buzz words hiding much that when content and context come to **bare** it'll be catch-up and crisis management, with media-hype sound bites/bytes paving the way.

Deconstructing these written words throws up red flags setting off alarms, which I hope I'm not the only one hearing.

A synopsis in a nutshell; thanks for reading, if you get this far ...

Name Withheld #11 (Individual), Jul 29

I am expecting that you will do everything that is humanly possible to block sidewalk

Julie Beddoes (Individual), Jul 30

Dear Mr. Diamond,

Thank you for attending the recent meeting of the Stakeholder Advisory Committee for Quayside.

I have had the honour and pleasure of representing my community (residents of the Distillery District) on many Waterfront Toronto consultations over the years. I have the greatest respect for Waterfront Toronto and its staff and am proud to have collaborated with them on achievements such as the Central Waterfront plan, the West Don Lands and the Lower Don flood protection and naturalization. It was a surprise to find out that an RFP had been issued and a “winner” declared for the Quayside site without going through the usual stages of community consultations. For all other Waterfront Toronto projects, bidders were asked to build according to community needs and preferences, not given a blank slate.

My concerns with Sidewalk Labs’ proposal reinforce those expressed your letter and the excellent Note to Reader. I hope you and your board will decide that while Sidewalk offers no special benefits to the Toronto community it presents risks with implications disturbing enough for the project to be abandoned as soon as possible.

The MIDP document embodies in both its form and content the alarming aspects of SWL’s proposal. First, while its authors must have realised that most people would read it on a small screen, its design made this virtually impossible. This was an act of discourtesy to the people of Toronto whom it has claimed to have consulted over the past year and a half. I’m grateful to Waterfront Toronto staff who persuaded SWL to reissue it in a more readable format.

Second, its length, repetitiousness and vagueness show if not an intention to deceive, then a disregard for its audience. If Sidewalk genuinely wanted the board of Waterfront Toronto and the community at large to respond to its proposal, it would have produced a clear, succinct and readable document.

SWL’s parent company has a long record of abusing communities where it operates and the MIDP’s disregard for the interests its audience evokes this history. As for its public consultations, these were almost entirely devoted to discussion of what might be built on the site with little or no raising of the deeper issues of governance, finance and ownership. The MIDP, in its full implications, is a 21st century equivalent of an imperial army marching into territory and plundering the assets of the colonised.

The MIDP shows pictures of attractive developments and contains interesting proposals for urban design. But many cities in Europe and the Americas are working on equivalent innovations and it is misleading to claim or imply that they couldn’t be realised in Toronto without SWL’s participation. Moreover it is at best misleading, at worst deceitful, to leave it to be understood that community benefits such as a school or a health centre could be guaranteed on this site. Communities all over this province have been waiting for these, sometimes for many years, and if the MIDP is telling us that Quayside would be given priority it profoundly misunderstands how things work in Ontario.

This misunderstanding – or lack of concern (or imperialism) -- is also apparent in the assumption that we would agree to setting up new quasi-governmental bodies and rewrite numerous pieces of legislation, from the federal Fisheries Act to city noise bylaws, to serve SWL’s interests. This is contempt for democracy on a grand scale; on a more local level, the suggestion that SWL, would set up neighbourhood associations, rather than them arising from

the concerns of residents, shows that the fox not only wants to build the henhouse but guard it too.

The assumption of the right to extend its claim to part of Villiers Island and in some vaguely-specified way to other parts of the port lands only confirms these suspicions. SWL's imperial army marches into the colonies, demolishing existing government structures and milking every possible material benefit as it goes.

You will receive expert reports on the financial aspects of the proposal and the issues around data ownership but these are not separate issues and here the implications are indeed sinister. SWL asks for a favorable land deal in return for developments which Toronto could easily build itself and social benefits which it has no ability to provide. It offers the city a niggardly and temporary return on benefits received by Alphabet/Sidewalk who may well create jobs – but doesn't say how many would be offshore and how many in Ontario.

SWL, moreover, assumes it could use us as both experimental subjects and complicit partners in the development of products which it could sell to other bodies for ends which might be abhorrent to Canadians. Even if our own digital privacy could somehow be guaranteed, do we need hexagonal pavers so badly that we are willing to help develop the programmes that could be sold to what the Note to Reader calls "Bad actors" and used to restrict the civil liberties of other communities and countries?

And on top of this, SWL proposes that it and its parent will finance our municipal infrastructure; we will owe them money for building what it suits them to build. If Waterfront Toronto and any levels of government enter into an agreement with SWL in 2020, its holding of our debt will give present and future directors of SWL leverage to persuade us to accept whatever it might suit them to do.

I believe that if Waterfront Toronto were to agree to this proposal, even if amended from its present form, it would lose the trust and respect of the community and set us on a dangerous path. Toronto's waterfront is not a resource to be exploited by large corporations but a precious public asset to be used for the long-term well-being of its citizens. Please say no to Sidewalk Labs and develop Quayside by the same process that has produced the splendid West Don Lands.

Council for Canadian Innovators (Organization), Jul 30

(See following page for original submission).

Feedback on the Quayside Master Innovation and Development Plan (MIDP)

The Council of Canadian Innovators (CCI) is the 21st century business council made exclusively of CEOs from Canada's fastest growing technology companies, including top smart city innovators. CCI's mandate is to support the growth of Canada's innovation sector by ensuring Canadian tech and public-policy leaders work together to shape Canada's innovation agenda. Our work focuses on helping high-growth Canadian technology firms scale-up globally so they can grow Canada's prosperity.

Each one of our 114 members is a job creator, investor and philanthropist. Many are world-class smart city innovators, currently providing technology solutions to private and public sector around the world. Last year, CCI companies have generated over \$6.5 billion for Canada's GDP and currently employ over 33,000 Canadians in high-paying, high skilled jobs.

Our members have watched closely the Sidewalk Toronto project. The smart city segment is currently worth \$1.3 trillion globally and growing 16% per annum. Therefore, the smart city industry represents an enormous opportunity for Canadian innovators to develop new technologies, as well as new physical and digital infrastructure, to better serve public interest and advance inclusive prosperity for our country.

Unfortunately, neither Waterfront Toronto (WT) nor any of the three levels of government involved in this project consulted with our members before this project was launched. This is a missed opportunity for Canada's prosperity goals because many of our own smart city innovators already provide world-class products and services around the world, and have a more substantive track record of urban innovations and economic development than Sidewalk Labs. Furthermore, [all innovation policy experts](#) agree that high-growth technology companies, such as our members, provide the most economic returns to domestic economies.

However, we are pleased to see a WT led public consultation and recent efforts to engage with those that will be most affected by Sidewalk's proposal, including Canada's high-growth scale-ups. Online consultation is an insufficient outlet for CCI to provide feedback on the MIDP, so in this document we have numerous questions we hope WT can answer so our members can assess the proposed plan:

1. Why the MIDP only mentions start-ups (pre-revenue companies) but makes no mention of scale-ups (high-growth technologies companies) yet those firms will be the most affected economically by Sidewalk's proposal.
2. The MIDP does not explain how a policy of "open by default" is in public interest and helps domestic innovators. Please provide more details on these approaches.
3. Explain how "open data" policies won't disproportionately help large social media companies, [given the structural asymmetries in the data-driven economy](#).
4. Given the current US Department of Justice and European Union Competition Bureau investigations into the anti-competitive practices of large technology companies, including Sidewalk's parent and sister companies, how will the "Urban Data Trust" place specific restrictions on the access of those types of companies to the data to ensure competitive markets for innovators in the Toronto ecosystem?
5. Sidewalk imagines for the waterfront an API that they would furnish to manage data access rights in the digital layer. Given that the battle for value chains in the digital economy is over who designs and controls these kinds of interfaces, the MIDP provides no insight into how such an arrangement would help domestic innovators.
6. MIDP fails to explain how the proposed "Urban Data Trust" would be bound by PIPEDA and FIPPA laws.
7. Given that MIDP states the "Urban Data Trust" is not legally a trust, explain how it is not misleading to use the word "trust" in its name.

8. There is no mention in the MIDP of Sidewalk's proprietary access to the biggest trove of data owned and controlled by their parent company Alphabet (a company whose 99.6% of revenue come from commercializing that same data). Please provide more details on the relationship between data sets gathered for this project and Alphabet's own data sets.
9. The MIDP references support of a Toronto Region Board of Trade recommendation for data trusts. Who specifically at the Board of Trade (either staff, researchers or advisors) was consulted as a subject matter expert(s) on data governance and data trusts?
10. For the commitments to open standards through established standard-setting bodies, will Sidewalk assure that any standard-setting body used be accredited through the Standards Council of Canada? This includes standard-setting for open-data APIs and data formats?
11. Given that Sidewalk is pledging commitment to catalyzing a new urban innovation ecosystem in Toronto, please detail the terms and conditions of its Supplier Agreements to ensure local innovators can own and control, and thus commercialize, their innovations.
12. Foreign direct investment in IP and data intensive industries has many negative spillovers effects, such as those evident in the Kitchener-Waterloo ecosystem following the opening of Google's R&D branch plant there. Please provide details on how the new Google office on waterfront will instead help grow Canada's innovation outputs and GDP.
13. Please explain how Sidewalk's Super-PON network with its 50km transmission radius is compliant with existing Canadian telecommunications rules and regulations. Also elaborate on any formal or informal relationships you have created with Canadian telecommunications companies such as Rogers or Bell Canada or how Sidewalk intends to compete with them.
14. Please explain why Sidewalk's technologies are better to be used in Canada's smart cities projects when dozens of domestic innovators already provide superior products and services domestically and globally.
15. Who were the participants in Sidewalk's "Data Governance Working Group" and how were they selected as members? Was this exercise done in partnership with Waterfront Toronto? Was this Working Group established with guidance from the Digital Strategy Advisory Panel?
16. There is no mention of Google's IP portfolio in the MIDP, even though it is Google and not Sidewalk Labs that has filed and continues to file all of Alphabet's smart city IP. Please provide explanation on why this major stock asset by Sidewalk in the MIDP's Patent Pledge is not mentioned.
17. Explain how Sidewalk's [patent pledge](#) gives innovators in the Toronto ecosystem an opportunity to scale globally.

Today, 54% of the world's population live in urban areas and this percentage is projected to grow to 68% by 2050. At 80%, Canada and Brazil have the highest concentration of urban populations of any country in the world. CCI welcomes the discussion and the focus of Canadian economic policy efforts on cities. However, the MIDP as currently written raises more questions than answers for Canadian innovators.

We hope this submission is helpful to Waterfront Toronto in assessing the MIDP for the benefit of Canadian innovation sector and our economy.

Sincerely,



Benjamin Bergen
Executive Director, CCI

Swedish Consulate (Organization), Jul 31

(See following page for original submission).

Toronto, July 31, 2019

WATERFRONT TORONTO
20 Bay Street, Suite 1310
TORONTO, ON
M5J 2N8

Re: Sidewalk Labs' Draft Master Innovation and Development Plan, Quayside, Toronto

Dear Sir/Madam,

For the last fifteen years, there have been many and ongoing contacts between Waterfront Toronto and Sweden, be it the Embassy, Business Sweden, Consulate General as well as companies and organizations. In 2004, Robert Fung, Chair, and John Campbell, President & CEO, Waterfront Toronto participated in a study tour to Sweden, organized in cooperation with the Federation of Canadian Municipalities.

The visit to Sweden resulted in a team of Swedish experts was hired by Waterfront Toronto to review their plans. In the report, presented in 2005, some of the conclusions by the Swedish team were that while many of the buildings and plans were very good, holistic improvements could be done to make the Waterfront project more sustainable. Concepts commonly used in similar Swedish developments, such as vacuum waste, district energy and energy from waste, were among the suggestions by the Swedish team.

From these early contacts between Waterfront Toronto and Swedish interests, the collaboration has grown. The Royal Seaport in Stockholm and parts of Waterfront Toronto are Clinton Foundation projects. Waterfront Toronto has hosted many Swedish delegations, including ministers, all level of government representatives as well as companies interested in sustainable urban development. In addition, many staff members of Waterfront Toronto have visited Sweden to study sustainable waterfront development.

When Waterfront Toronto released the Request for Proposal for the Quayside area, there was some interest among Swedish companies to put together a proposal. Of various reasons the companies in cooperation with official Swedish organizations found it unrealistic to submit a complete proposal. However, Swedish-related companies have had direct contact with Sidewalk Labs to have their products and services to be considered by Sidewalk Labs in their proposal.

Waterfront Toronto has initiated an ambitious review of the draft Master Innovation and Development Plan for Quayside presented by Sidewalk Labs. The public is invited to comment by responding to surveys. We feel it is difficult for the Consulate General to respond to the survey questions. However, we would like to give some general comments about a few aspects of the proposed plan.

Scope

The Request For Proposal specified that the area was Quayside, a 12 acre site. The request for interested parties was to suggest how this area could be developed to a testbed of new and innovative products and technologies. All the companies that submitted, or considered to submit, a proposal knew that this was the area, 12 acres.



CONSULATE OF SWEDEN

Toronto

After a review of the submissions, Waterfront Toronto chose the proposal from Sidewalk Labs. In its draft Plan, presented in June 2019, Sidewalk Labs states that Quayside is too small an area. Instead, they ask that Sidewalk Labs should be able to work with a much larger area, launching the IDEA District.

We find this request very troubling. By nature, testbeds and pilot projects consist of new products and techniques that typically will work better if they are scaled up. But the very reason for testbeds and pilot projects is to try them. Find out if and how they work. To come 18 months later and request much a larger area seems very unfair. Therefore, only Sidewalk Labs plan for Quayside should be considered. Their plans for the other areas, the River District, should not be included in the discussion. Waterfront Toronto must be very firm on this. If Sidewalk Labs would be given any area in addition to Quayside, there is a big risk that many companies will be very reluctant to participate in any future requests for proposals. They would not trust the process. The rules for the game would have changed during the game.

Sidewalk Labs bid for Quayside

We believe that Waterfront Toronto should look very favourable on Sidewalk Labs draft plan for Quayside. It contains many interesting points. Quayside is supposed to be a testbed. This must be stressed to the public. In a testbed, things should go wrong. New material and products and technologies are being used. This means that Quayside won't be for everybody. Attending one of the public meetings earlier this month, we often heard comments from people asking for guarantees that things would work. If things don't go wrong here and there, the projects are not sufficiently forward-looking.

Governance

In comments to Sidewalk Labs plan, there are very much two extreme positions among the public. Either accept Sidewalk Labs without reservations. The proponents of this position claim governments can't handle major developments; they are too complicated for governments. Or, just say no to Sidewalk Labs. Many of the proponents of this position mean that Sidewalk Labs is not needed, they don't add anything.

Our experience from similar redevelopment projects in Sweden makes us to suggest a middle ground. In Sweden, municipalities and development agencies owned by them are responsible for the development. They have the power to make decisions. Thanks to the income tax, Swedish cities have a very strong financial position and can borrow to very favourable conditions. In addition, major areas of the land are owned by municipalities. Typically, they will install the infrastructure and then either sell it or lease it to developers.

While one probably can't copy the Swedish experience, we believe it is important to look at how the position for Waterfront Toronto and the City of Toronto can be strengthened. A review of some major redevelopment projects around the world may be one way of identifying desirable changes.

Innovations

Many of the 'innovations' suggested by Sidewalk Labs already exist in Sweden and many other countries. District energy, vacuum waste, timber buildings, prefab, and heated sidewalks are just a few. This should be good news. There is international experience.

Many similar projects in Europe are part of EU-based innovation projects, such as the Grow Smarter project. These projects have resulted in many new products and technologies. It may be possible for Waterfront Toronto to be included in one or more of the projects. Already, there are some sustainable urban projects between cities in Canada and the EU.

There is one area of concern for us in the innovation chapter, at least based on the limited information we have. Sidewalk Labs has presented suggestions about compensation for sale of innovations. But exactly what is considered an innovation? Our concern is related to how products from Swedish companies will be



CONSULATE OF SWEDEN

Toronto

looked upon, particularly if this would be the first installation in Canada. We can see there is a risk for ongoing discussions.

Advanced infrastructure

We find the division in municipal infrastructure and advanced infrastructure strange. Much of what is listed as advanced infrastructure would be considered default infrastructure in Sweden. While they may not be part of the normal municipal infrastructure in Canada, over the near future there is every reason to expect that what Sidewalk Labs list as advanced infrastructure will become municipal infrastructure. This division may hinder that development.

Conclusion

Overall, we believe Sidewalk Labs plan for Quayside is a very interesting suggestion. We think Waterfront Toronto to look positively at it and even be willing to endorse changes to the local building code, remembering that Quayside is supposed to be a testbed.

The experience from Bo01, the housing exhibition in Malmo, which was the starting point for the very successful Western Harbour, might be of interest. There, architects and developers from around Europe could build - more or less - to their own local code. In some instances, the houses didn't hold up to the Swedish climate; in others, it brought interesting changes to Sweden.

As was mentioned in the outset of the document, the Consulate General and other Swedish institutions have enjoyed the ongoing cooperation with Waterfront Toronto. Hopefully, this collaboration will continue and can be further developed. Both for Quayside, as Sidewalk Labs proposal is evaluated, and other areas of Toronto's waterfront.

Your kind attention to this matter is most appreciated.

Sincerely,

Lars Henriksson
Honorary Consul General

Unifor (Organization), Jul 31

(See following page for original submission).



unifor
the Union | lesyndicat

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LOCAL 2003E

July 31, 2019

To the Board of Waterfront Toronto,

Our union represents thousands of workers throughout the GTA including the East Bayfront. We write to express our concerns that the recent “draft Master Innovation and Development Plan” developed by Sidewalk Labs in response to your 2017 Request for Proposals for the Quayside site goes beyond the scope of the original RFP in numerous ways, potentially upending decades of careful planning by your agency and the City of Toronto for the lands in the eastern waterfront.

Toronto’s waterfront is not unused land. Among other uses, it hosts an active, functioning port with industrial as well as commercial and residential tenants. Waterfront Toronto and City officials have been careful in laying and staging plans for the future development of Toronto’s waterfront in ways that respect and protect existing employment uses.

While we are not providing detailed comments on Sidewalk Labs’ draft proposals at this time, we do wish to flag a few high-level concerns and request that we be kept informed as a stakeholder in decisions concerning the Quayside proposal. Our concerns include:

- While Waterfront Toronto called for proposals for a 12-acre site, Sidewalk Labs responded with a proposal for a 190-acre “IDEA district” on predominantly publicly-owned lands. There has been no public procurement for any of these additional lands. Waterfront Toronto should not be evaluating any proposals that aren’t explicitly called for in its Quayside RFP.
- Precinct plans are still under development for a large portion of the 190 acres; we firmly believe this planning should remain exclusively in public hands, not led in any way by a private corporation with specific commercial interests. City of Toronto and Waterfront Toronto staff have kept and should continue to keep in mind the interests and needs of existing workplaces when developing those plans.

- Big tech developments in many other jurisdictions have driven up land values to the detriment of existing residents and businesses. The impact of a 190-acre technological “test bed,” we fear, is significantly greater than the impact of a 12-acre project. We also note that Sidewalk Labs claims their plans would accelerate the pace of development in that tract of the waterfront. We believe an accelerated pace could pose additional risks to legacy residents and businesses in the area.

Thank you in advance for considering our views. We look forward to continued discussions on the matter.

Local 2003E and others

Waterfront BIA (Organization), Jul 31

(See following page for original submission).

July 31, 2019



Stephen Diamond
Waterfront Toronto, Chair

George Zegarac
Waterfront Toronto, CEO

RE: Support for Quayside consultation process and request for next round to include updates on LRT development alignment and expansion of Waterfront Toronto role

Thank you to Waterfront Toronto for hosting robust Quayside consultations and drop-in sessions. It has been exciting to witness such deep interest and engagement in waterfront development from a wide range of stakeholders. We are very supportive of the process and encourage the negotiation of a constructive deal between Sidewalk Toronto and Waterfront Toronto representing three levels of government that benefits all waterfront stakeholders and users.

The proposals in the Quayside Master Implementation and Development Plan (MIDP) are very ambitious and have the potential to advance the goals of local waterfront stakeholders while also benefitting the entire region. The eastern waterfront and Port Lands are the biggest development opportunity in Canada, and the MIDP outlines options that could align with other plans to accelerate development of new housing, job centres, recreational opportunities and the mobility options to get there.

Our Waterfront BIA's mandate is to support the continued growth of the waterfront as a beautiful and vibrant destination that is well-connected to the rest of the City. **As part of the next phase of consultations, we request that Waterfront Toronto engage the community and stakeholders on two issue-specific items as described here.** We believe these items are of high importance for the continued success of Toronto as a world-class waterfront destination:

Issue for feedback #1 – Ideal *alignment of Waterfront East LRT acceleration plans* and finance strategy in MIDP with existing and potential plans of Waterfront Toronto, TTC and the City of Toronto.

- A [report prepared by Hatch](#) for our BIA and highlighted in the MIDP indicates that an accelerated build of the LRT through the Port Lands by 2025 would result in \$22.8 billion in new tax revenue, 132,000 new jobs and 67,000 new residents along the corridor by 2045.
- The MIDP indicates the LRT's development potential is integral to their development plans. To accelerate the LRT's implementation, they offer both a specific financing support plan and an offer to consult with all three levels of government to identify the most appropriate option to accelerate the LRT's build (Vol. pg. 132).
- We request Waterfront Toronto outline ideal options to align the MIDP's LRT acceleration plans with those it is preparing with the TTC and City of Toronto. This includes the potential to build east-west connectivity first prior to the longer construction horizon of the Queens Quay-Union tunnel connection. A primary goal of LRT planning must be minimizing disruption to local stakeholders and operations, including existing LRT mobility.

Issue for feedback #2 – Ideal *role of an expanded Waterfront Toronto* as “public administrator” and tri-level government oversight body requested in MIDP, including representation of existing waterfront development.

- Waterfront Toronto has had an integral role in supporting the development of the waterfront over the last 20 years. This can clearly be seen in the higher quality public realm along Queens Quay including wave decks, additional parks and large-scale and active mixed-use developments.
- The MIDP requests a strong tri-level governance body to coordinate and oversee its ambitious development plans. It also suggests creation of additional governance bodies such as the Open Space Alliance and Waterfront Transportation Management Association that could be implemented to integrate with and continue to improve developed areas such as our BIA that have benefitted from Waterfront Toronto’s leadership.
- We encourage Waterfront Toronto to embrace the opportunity of an expanded role and present its suggested approach, including an extension of its original mandate and scope if necessary. This must include not just future opportunities like those presented in the MIDP, but how Waterfront Toronto’s expanded role could assist in maintaining and improving on the high-quality public realm and mobility it has already developed along the waterfront.

We look forward to the next round of consultations and will continue encouraging business stakeholders to engage in the process and contribute towards a constructive deal with Sidewalk Labs and the three levels of government represented through Waterfront Toronto.

Thank you,

Tim Kocur
The Waterfront BIA,
Executive Director

cc: Meg Davis and Michael Nobrega

#BlockSidewalk (Organization), Jul 31

(See following page for original submission).

#BlockSidewalk

July 31, 2019

Dear Waterfront Toronto Board:

Stephen Diamond (Chair)
Councillor Joe Cressy
Mohamed Dhanani
Susie Henderson
Andrew MacLeod
Mazyar Mortazavi
Sevaun Palvetzian
Janet Rieksts-Alderman
Patrick Sheils
Jeanhy Shim
Kevin Sullivan
Christopher Voutsinas

#BlockSidewalk has encouraged our supporters to participate in Waterfront Toronto's recent round of public consultations to record their thoughts and concerns through your facilitated process, online surveys or other communications. That said, we are writing to you today to communicate a few high-level concerns from the campaign's organizing committee as well.

In a letter delivered to you on June 4, 2019, we communicated our concerns that the Quayside *Request for Proposals* blurred the line between vendor and evaluator, one of the reasons our campaign began calling for a re-set of the Quayside procurement. This process is a departure from and a discredit to your agency's long track record on the waterfront. We remain concerned about the soundness of the process by which Alphabet subsidiary Sidewalk Labs was awarded the Quayside bid. We remain concerned that a proponent with such sophistication, resources and market power has been given a quasi-governmental role developing digital infrastructure in a relative regulatory vacuum.

Alphabet's Sidewalk Labs' behaviour over the last year and a half has heightened these concerns. Sidewalk Labs has, among other things:

- Engaged in an unprecedented volume of lobbying at all three levels of government before even submitting a proposal;
- Sought non-disclosure agreements with individual and institutional stakeholders providing input into the project;
- Carried on months of market-testing activities without disclosing potentially controversial plans, such as its request for various forms of public subsidies.

In addition, the “draft MIDP” finally released by Sidewalk Labs in June takes this heavy-handed approach to new levels. For example, in this document – a masterpiece of obfuscation – Sidewalk Labs asserts rights to buy and develop additional public lands without further competitive procurement; requests our laws, regulations and governance bodies be re-written to accommodate their business plans; proposes plans for an “IDEA district” on tracts of waterfront land where precinct plans are still being prepared and proposes plans that are not only beyond the scope of the Quayside RFP, but out of Waterfront Toronto’s jurisdiction entirely.

We welcomed the concerns Waterfront Toronto expressed in its “Note to Reader,” but do not believe Waterfront Toronto has a mandate to consult the public on proposals (or lands) not called for in the RFP. This is not how we do business in Toronto. The fact that members of the public were asked to comment on proposals far beyond the scope of the RFP appears to be a sign of Sidewalk Labs/Google overpowering the better judgement of a public steward. It is an alarming development, and another in a long series of signs that this business relationship should be ended. How can it be, for example, that Waterfront Toronto set out as a co-creator of the MIDP only to distance itself from this role down the road to become its evaluator? This blurring of lines between our public agency and the Google subsidiary we highlighted in our June 4 letter, in other words, continues on and has us highly concerned.

As Waterfront Toronto staff told participants at a recent public consultation, if we say “no” to a deal with Sidewalk Labs, we can and should proceed with an inclusive, sustainable, complete and innovative community on the 12-acre Quayside site.

We urge you to not waste further time and resources – It is past time to re-set the procurement process and build the waterfront Torontonians want, in the public interest, under strictly public control.

The BlockSidewalk Organizing Committee

Name Withheld #12 (Individual), Jul 31

I am concerned about the lack of transparency surrounding Google / Alphabet's desire to take over a vast swath of prime waterfront, city- owned land.

The original "ask" was for a much smaller parcel of land. The offer of a few rental units with vague descriptions applying to their much touted affordability leaves me wondering why details are scant.

Then there are the statements about this waterfront land parcel, describing it as derelict and abandoned, as if Toronto needs Google to tell us waterfront land is desirable. This is the language of a con-artist. Toronto has an acute housing shortage, and this tract of land is one of the few remaining city-owned parcels that hasn't been utterly squandered by developers, whose gross sense of entitlement has rendered Toronto as expensive as it is for renters.

The city doesn't need Google to move its headquarters around, least of all on to free land, courtesy of the people of Toronto. We need housing more than Google needs to do anything here.

Of course, the data collection leading to Google's offer of a temporary profit sharing plan in which they give the city a mere 10% (of net, not gross, one must assume) for a decade also leaves much to be desired. Surely someone with a head for business, and an understanding of Google's ambitions here would be most helpful. Please keep citizens posted of ongoing developments, even if this a fait accompli.

Jane Rucchetto (Individual), Jul 31

Dear Mr. Diamond,

I believe it would be a grave mistake, with far-reaching consequences, to allow Sidewalk Labs to exert any control over a master plan for 190 acres of waterfront land in Toronto, some of the most valuable real estate in North America. We must not allow ourselves to be seduced into accepting this proposal, or allow Sidewalk Labs to influence or be involved in decisions about the development of our city, as enticing buzz words, catch phrases and promises are touted: “economic windfall”, “inclusive growth”, “equity investment”, “affordable purpose built rentals”, “foster innovation”, “job creation”, “eco-friendly development.”

Our levels of government work with the goal to provide the best they can for our citizens, in a myriad of areas such as education, public health, housing, employment, public safety, urban development – motivated by the goal to provide the best standard and quality of life as is possible, for as many of its citizens as is possible - beneficiaries of the government’s policies.

Sidewalk Labs has only one beneficiary, and it is not the citizens of Toronto.

Toronto must remain for Torontonians to plan, design and manage and we must maintain control over our lands. We must decide not to sell our public lands. We must not be coerced, chided, manipulated or duped by an American tech giant, and we must remember that this giant has only one overriding interest at heart – and it is not our welfare.

We must decide not to provide taxpayer money to help fund Google’s first venture into a Smart City: they themselves have stated there is no such precedent. We must not become that precedent.

Toronto must remain at the helm of all decision-making about our city: what we will fund, and when we will fund it, and not be bound to irrevocable agreements with Google.

To quote James Laurence Balsillie, Canadian businessman, philanthropist and former co-CEO of the Canadian company Research in Motion: “With politicians rushing to show Canada’s innovation chops, “smart cities” have emerged as their new frontier. Most consequential of these is a high-profile agreement between Waterfront Toronto and Sidewalk Labs, a subsidiary of Google’s parent company Alphabet. Canadians were treated to an announcement involving the leaders of all three levels of government gushing and fawning about an enlightened urban partnership with a foreign company whose business model is built exclusively on the principle of mass surveillance.”

Who would be the beneficiary of such an alliance?

“The most insightful comments during the public announcement came when Eric Schmidt, Google’s former executive chair said “they had realized their long-running dream for ‘someone to give us a city and put us in charge’. He also thanked Canadian taxpayers for paying, creating and transferring the core artificial-intelligence technology he credits for Alphabet’s success, making it the world’s third most valuable corporation.”

The question hanging above us: can we trust Sidewalk to develop a portion of Toronto’s waterfront in our best interest? I think it would be naïve to believe this would be so. There are a multitude of sound reasons for lack of trust. Do we want an American tech giant involved in any area of management or governance of our city?

“Sidewalk Toronto is not a smart city. It is a colonizing experiment in surveillance, capitalism attempting to bulldoze important urban, civic and political issues. Of all the misguided innovation

strategies Canada has launched over the past three decades, this purported smart city is not only the dumbest but also the most dangerous.”

Please step back from the precipice and let our government maintain control of the planning and development of all areas of our, to date, strong city. Please do not let this happen.

Blayne Haggart (Individual), Jul 31

This submission is based on an almost-complete review of Sidewalk Labs' Master Innovation and Development Plan. After having spent three weeks reviewing the Plan (chronicled on my blog¹), I have read to page 63 of Volume 3, or page 1,313 of the overall consolidated document. In this submission, I address fundamental problems with Waterfront Toronto's consultation process; the inadequacy of Sidewalk Labs' proposed plan when measured against Waterfront Toronto's original Request for Proposals; and some of the more problematic aspects of a poorly thought-out development plan.

For the reasons discussed below, I strongly recommend that Waterfront Toronto reject Sidewalk Labs' Master Innovation and Development Plan and sever its relationship with this company. If Waterfront Toronto remains interested in pursuing an innovative smart-city community plan, it must pursue the internal capacity to develop and evaluate such plans.

A. Flawed consultations process

This submission is lodged with the recognition that the consultation process that Waterfront Toronto has initiated to review this project is both compromised and fundamentally flawed. These flaws go beyond the substantive issues addressed in Waterfront Toronto's Quick Survey and its Substantive Survey. For this reason, I am submitting a written brief, with my name attached, rather than filling out an anonymous survey.

1. Lack of review time for initial consultations

Sidewalk Labs released its Master Innovation and Development Plan (MIDP) on June 24. Waterfront Toronto initiated two rounds of consultations, one ending July 31 (today) and the other to be held sometime in the Fall. The first round of consultations, which consisted of a series of public meetings and information sessions held between July 8 and 25, and an anonymous short and long online survey.

The MIDP is a long, complex document that, if implemented, would involve extensive multi-level governance reforms and the implementation of currently non-existent technologies, or technologies that have not yet been proven at scale. It is based on assumptions regarding the future development of cities – such as the appropriate balance between cars (self-driving or otherwise) and public transit – that are policy-based, not technological. It invents terms, such as “urban data,” that are not in wide use (beyond these documents) and whose meanings are thus unclear.

It is, to be blunt, ridiculous bordering on absurd that Waterfront Toronto began its “Public Consultations on Sidewalk Labs' Proposal for Quayside”² only two weeks after the report was released, in the dead of summer. I have been reading, writing and blogging about it nearly non-stop for the past several weeks, and I will likely finish reading the whole thing tomorrow (August 1, one day after the first deadline). As for Sunday, July 28, Bianca Wylie, probably the person who's paid the most attention to this file outside of Waterfront Toronto and Sidewalk Labs, had not yet finished reading and analyzing it. Choosing an arbitrary deadline 38 days after this report

¹ <https://blaynehaggart.wordpress.com/midp-liveblog-entries/>

² <https://quaysideto.ca/get-involved/public-consultation/>

was released, in the summer, is a recipe for shallow or prejudged hot takes. Any public information that Waterfront Toronto will get from this process will be relatively useless.

As a barometer of public opinion, Moreover, the anonymous nature of the surveys leaves the system open to being gamed by pro- or anti-Quayside partisans, will make it similarly useless.

2. Minimizing effective public input

What's more, the exact nature of the Fall consultations and the overall timeline remains frustratingly opaque. Waterfront Toronto's website cryptically notes³: "Feedback received over the summer will help us design the second round of public consultation planned for this Fall."

However, it does not make clear what the exact topic of consultation will be. Waterfront Toronto's Note to Reader⁴, released days after the MIDP as a seeming first reaction to the MIDP, merely states that submissions received up to July 31 "will be summarized and shared publicly by the end of August 2019."

A July 17 *Financial Post* article⁵ that sources two senior Waterfront Toronto officials, reports that: "In September, Waterfront Toronto will publish a response to the MIDP pulling together criticisms and concerns based on public commentary and responses from the various levels of government." Then, "After Sidewalk Labs receives the formal response document from Waterfront Toronto, the public agency says it will hold a second phase of public consultations toward the end of 2019 to solicit public feedback on any substantial changes that Sidewalk makes as they turn the draft MIDP into a final document."

Finally, in correspondence with Waterfront Toronto, I've been told that the timing of the consultations is "TBD."

This lack of clarity for consultations on a multi-billion-dollar project is profoundly disturbing. Is Waterfront Toronto merely writing a report on these summer consultations? Is it designing consultations based on the summer sessions? Is it preparing a formal September response to Sidewalk Labs, with the public only allowed full voice on a final, take-it-or-leave-it proposal?

Based on the *Financial Post* story, as well as the aggressive timelines Sidewalk Labs has proposed for the project (Volume 3, p. 203), it looks like Waterfront Toronto will be basing its formal response to the MIDP on three weeks of flawed (to say the least) summertime "consultations."

If the *Financial Post* article is accurate, by delaying substantive public contributions until after Sidewalk Labs has released a final MIDP, Waterfront Toronto is denying the public the opportunity for meaningful feedback on the MIDP, since they will only be commenting on changes Sidewalk Labs would make. And at any rate, these consultations would have to address the quality of and recommendations in Waterfront Toronto's September report.

At the very least, the process Waterfront Toronto is following needs to be made clear. An informed public's voice – beyond the July consultations – must be included in Waterfront Toronto's formal response to the draft MIDP.

³ <https://quaysideto.ca/get-involved/public-consultation/>

⁴ <https://quaysideto.ca/wp-content/uploads/2019/07/Amended-Note-to-Reader-July-8.pdf>

⁵ <https://business.financialpost.com/technology/eyes-fully-open-waterfront-toronto-executive-says-agency-keeping-tabs-on-sidewalk-parent>

3. Waterfront Toronto's impartiality

Waterfront Toronto needs to explain the exact nature of its relationship with Sidewalk Labs. As I detail in a blog post⁶, the Plan Development Agreement, which sets out “a roadmap for the planning phase of the Project involving the preparation and creation of a Master Innovation and Development Plan” (Preamble), requires that Sidewalk Labs and Waterfront Toronto jointly produce the MIDP. However, Waterfront Toronto Chair Stephen Diamond claims⁷, “Waterfront Toronto did not co-create the MIDP.”

This goes directly against what is in the Plan Development Agreement, as well as common sense. From the very beginning, as I detail in the aforementioned post, Sidewalk Labs and Waterfront Toronto have pursued a collaborative approach to governance:

a bold, first of its kind, and innovative approach to city-building to deliver transformative benefits in quality of life to a diverse set of residents, workers, and visitors in Toronto. This requires the collaboration of Waterfront Toronto and Sidewalk Labs to develop the MIDP. (Plan Development Agreement, Schedule J, 1.01(a)), emphasis added)

Diamond's comments and attempts at running a public consultation in the manner that it has comes across as an attempt to present Waterfront Toronto as the independent arbiter. However, the PDA and Waterfront Toronto's past collaboration on this project render it impossible for Waterfront Toronto to play this role. It would have been far better for Waterfront Toronto to admit that this is a collaborative effort and proceed on those grounds. Instead, it is now very difficult to believe that these consultations are a sincere attempt to gauge public opinion or to incorporate it into the review process.

⁶ <https://blaynehaggart.wordpress.com/2019/07/22/liveblogging-sidewalk-labs-master-innovation-and-development-plan-entry-7-the-july-2018-plan-development-agreement/>

⁷ <https://blaynehaggart.wordpress.com/2019/07/24/liveblogging-sidewalk-labs-master-innovation-and-development-plan-entry-9-open-letter-from-waterfront-toronto-board-chair-stephen-diamond-regarding-quayside/>

B. MIDP an inadequate response to the Request for Proposals

1. Beyond Scope

The MIDP represents an inadequate, over-reaching response to Waterfront Toronto's original Request for Proposals. The RFP officially focuses on the 12-acre Quayside Development (RFP, p. 6), although it is envisioned as “a pilot environment for the broader eastern waterfront revitalization” (RFP, p. 14).

The RFP, in other words, clearly saw Quayside as the main focus, with Waterfront Toronto reserving the right to advance Quayside-developed “solutions, processes and partnerships across the eastern waterfront “as those lands become available to Waterfront Toronto (as per the established protocols with the City of Toronto)” (RFP, p. 6).

⁶ <https://blaynehaggart.wordpress.com/2019/07/22/liveblogging-sidewalk-labs-master-innovation-and-development-plan-entry-7-the-july-2018-plan-development-agreement/>

⁷ <https://blaynehaggart.wordpress.com/2019/07/24/liveblogging-sidewalk-labs-master-innovation-and-development-plan-entry-9-open-letter-from-waterfront-toronto-board-chair-stephen-diamond-regarding-quayside/>

Instead of a Quayside development that could potentially be rolled out into the entire Eastern Waterfront “as those lands become available to Waterfront Toronto (as per the established protocols with the City of Toronto),” Sidewalk Labs’ MIDP presents a comprehensive plan for developing Quayside and part of Villiers Island, and for regulating and rolling out technology for a much larger part of the Eastern Waterfront, which it terms the IDEA District (Quayside plus what it refers to as the River District). While the MIDP claims that Quayside is the initial development, it is only the initial development in the way that installing a foundation is the initial part of building a house.

Moreover, Sidewalk Labs’ emphasis on bringing Google’s Canadian branch headquarters to Villiers West, which it would own, further suggests the extent to which this is an Eastern Waterfront, and not Quayside, development project. As the urbanMetrics-supplied economic analysis of Sidewalk Labs’ proposals⁸ remarks, and as Sidewalk Labs reiterates throughout these 1,496 pages, Google’s presence is designed to be the economic catalyst for this entire project:

Notwithstanding the range of other urban innovations proposed, this initiative alone presents an opportunity to cement the Eastern Waterfront as an innovative new district that could become an industry leader in advancing city-based technologies. (p. 15, emphasis added)

That Sidewalk Labs is not presenting a Quayside development that might be expanded into the Eastern Waterfront, but rather a comprehensive plan for development of a huge swath of said waterfront, is further reinforced by March 6, 2019, comments by Sidewalk Labs CEO Daniel L. Doctoroff. In a Canadian Press interview⁹, Doctoroff indicated that Sidewalk Labs will abandon the entire project if light rail is not extended to the Eastern Waterfront: “At the end of the day, if there is no light rail through the project, then the project is not interesting to us, to be perfectly honest.”

In the MIDP Overview, Sidewalk Labs frames the light rail as part of its Quayside-plus plans to develop at “geographic scale”:

Quayside alone is not large enough to support the financing of the proposed LRT extension, a major, new public work; the density across a larger area is needed to cover the projected cost. (Volume 1, p. 225)

Doctoroff’s comments, combined with Sidewalk Labs’ positioning of light rail in terms of its overall project, make it pretty clear that Sidewalk Labs is not proposing a Quayside development phase, but rather a comprehensive Eastern Waterfront development project, of which Quayside is only one district, not a project in and of itself as envisioned in the RFP.

Based on this failure to follow the RFP, this MIDP should be rejected.

C. Substantive issues: Brief overview

I will be laying out my analysis of the substantive issues regarding the MIDP in my blog¹⁰ over the next several weeks. Due to the length and varied subject matter of the MIDP, this series will

⁸ <https://storage.googleapis.com/sidewalk-toronto-ca/wp-content/uploads/2019/06/20224636/Sidewalk-Labs-Economic-Impact-Analysis.pdf>

⁹ <https://business.financialpost.com/pm/business-pmn/sidewalk-labs-could-pull-out-of-quayside-project-if-transit-isnt-built-ceo-says>

¹⁰ <https://blaynehaggart.wordpress.com/midp-liveblog-entries/>

likely run until the end of August 2019. From a general perspective, however, I can make several points.

1. Overly optimistic proposal

Almost all (if not all; I still have a few pages to go) of Sidewalk Labs' promised outcomes presented in the MIDP are based on absolutely nothing going wrong with anything. It presents no second-best scenarios, no assessments of the effect of particular parts of the plan not coming to pass. For a proposal that is based on using never-before-tried (either at all or at scale) technologies and convincing the three levels of government to change laws and regulations, the lack of such assessments is reckless.

Some of the most problematic assumptions are:

- Self-driving cars. This proposal has as a fundamental assumption in its mobility plans that self-driving cars will become a transportation mainstay by 2035. This might come to pass. However, as an engineer once told me, self-driving cars are five years away, and will continue to be for the foreseeable future. Moreover, their arrival would require not only technological advancements, but also policy and regulatory changes that would be made at the national, if not international, level. This fact would leave the success of Sidewalk Labs' plan dependent on factors outside its (if not fully Google's) control.
- A mass timber industry. The emergence of this industry would depend on regulatory changes as well as the industry proving viable at scale. Again, this might happen. Or it might not. Its success lies outside of Sidewalk Labs or Waterfront Toronto's control.
- Building currently illegal apartment units. Most of the economic efficiencies that Sidewalk Labs claim would allow it to build cheap affordable housing are based not on technological innovations, but rather on convincing the City of Toronto to change its laws to shrink the size of the smallest legal apartment. My first solo apartment was a miniscule studio in Toronto that could barely fit three people standing up. It was a legal apartment – my landlord was very conscientious. Personally, I can't imagine allowing the construction of even-smaller apartments, but more to the point, Sidewalk Labs' attempts to get this concession from the City of Toronto will be sure to attract vehement opposition from housing and tenants' rights activists.

The main point here is that it would be very easy to imagine one or all of these things failing utterly and completely for reasons almost totally out of Sidewalk Labs or Waterfront Toronto's control. That Sidewalk Labs does not introduce any plans for such contingencies means that we have to assume that the benefits of its proposals will almost certainly be smaller (perhaps much smaller) than they currently predict.

2. No cost-benefit analysis

With the slight exception of an analysis of the weather's effect on outdoor activity, the MIDP does not include any attempts at quantifying the degree of "harms" that its technological solutions (in some cases, quite pricey solutions) are designed to solve. Heated sidewalks may be nice, but what is the current cost of not having heated sidewalks?

A more direct way to make this point is, why should Torontonians divert scarce resources to build the transit link that Sidewalk Labs claims is a deal-breaker rather than build the long-

needed downtown relief line? It's not that the case can't be made for one or the other; it's that Sidewalk Labs doesn't even bother, in the MIDP, to make the case.

Sidewalk Labs' failure to present such figures means that we have no idea, from reading this report, whether its proposals represent an efficient investment of public money.

3. Dramatic, inefficient expansion of bureaucracy

Perhaps the most surprising part of Sidewalk Labs' plan is its proposal to create several new bureaucracies, including one that would either replace or rewire Waterfront Toronto itself.

The surprise comes from the shocking lack of specificity about the financial and human resources that these organizations would need to do the amazingly complex and varied tasks they would be asked to undertake. As it currently exists, Waterfront Toronto does not have the capacity to manage all the tasks Sidewalk Labs wants these new agencies to perform.

How many employees would be needed to run these organizations? Nothing in the MIDP addresses this question.

How much money would be needed to run them? Sidewalk Labs assures us, without providing any specifics, that user fees and a share of taxes can do the job? But this assurance is empty if it's not accompanied by any kind of analysis.

Given its proposed dependence on user fees, Sidewalk Labs should provide a comprehensive tally of the extra taxes and user fees Quayside/Eastern Waterfront residents and users would be expected to pay.

Neither, in a report single-mindedly fixated on arguing that the Eastern Waterfront and not Quayside is the proper financial and technological scale for this project, is it ever justified (either financially or logistically) why the Eastern Waterfront – a relatively tiny piece of land in the scheme of the entire City of Toronto – is the correct scale for such bureaucratic changes.

a. Example: The Waterfront Transportation Management Association

The (uncosted) Waterfront Transportation Management Association provides us with a good example of everything wrong with Sidewalk Labs' bureaucracy proposals.

As a subsection of the Waterfront Toronto-like agency supervising development, it would be responsible for coordinating “the transportation system in the IDEA district by deploying a mobility management system” (pp. 84-85). It would not have much of an effect at the Quayside level (Volume 2, p. 85).

Its roles would be varied, focusing mainly on the operational, technical and administrative:

- Creating a mobility subscription package
- Deploying a holistic mobility management system
- Managing and setting prices for the curbside and parking systems
- Procuring and operating new technologies, such as adaptive traffic signals, dynamic pavement, freight and deliveries, or other third-party systems and apps
- Integrating systems with third-party navigation apps
- Allocating space across the needs of mobility, access, safety, and the public realm

- Reporting on performance targets related to congestion, mode share, and customer service (p. 86)

It would also:

- Develop specific guidelines (p. 87);
- “Oversee planning, operations and maintenance” of all roads, hardware and software for parking, curb and traffic management;
- Set and enforce parking, curbside and road usage fees;
- setting speed limits;
- Manage street closures for construction or events;
- handle data properly;
- create a trip-planning interface/app Sidewalk Labs is all keen for;
- Snow and debris clearing “beyond heated pavement”;
- Constructing and financing roads or parking facilities; and
- Run the “advanced mobility management system”.

These are a lot of roles, and it will take many people to fill them. It would require workers to do both physical labour and maintain complex IT systems, systems that are much, much more complex than anything Toronto has today, in part because everything is interconnected. Again, how much would this type of bureaucracy cost? Can this cost be justified for such a tiny parcel of land?

This is not a concrete plan for an actual organization, but a list of things that Sidewalk Labs needs to be done for its project to work. That Sidewalk Labs has not fully thought this through – that they have not come up with a plan, but some ideas – is suggested by the lack of attention to resources needed.

It is also reflected in the fact that its sole concrete suggestion for a WTMA is that the agency responsible for plowing the roads, maintaining the software, closing off roads for block parties and collecting fees “would include a steering committee with representatives from all three orders of government” (Volume 3, p. 70). It makes less than no sense that this form of governance – a recipe for inaction that contributed to Waterfront Toronto’s inability to move quickly on waterfront development in the first place – be placed at the operational level. As proposed, the WTMA would not be a policy-making body; there would be no need for a tripartite steering committee here.

This kind of thing is Federalism 101. That Sidewalk Labs isn’t aware of this type of politics demonstrates the extent to which this report is not ready for prime time.

4. Sidewalk Labs as de facto governmental body

Sidewalk Labs sees one of its key roles as the de facto tech and infrastructure standards governor for the IDEA District. This would give it regulatory powers akin to those of a city, as it would determine the standards that residents and businesses would have to adopt.

This is a role that should only be conducted by an accountable body. Sidewalk Labs is not such an organization. Moreover, while Waterfront Toronto or its successor agency would have some

official power in this area, nothing to date suggests that the organization is capable of dealing with issues of technological governance. Indeed, the Auditor General of Ontario's December 2018 report into Waterfront Toronto¹¹ noted that neither Waterfront Toronto nor the Province of Ontario had sufficient capacity in this area.

In the case of Sidewalk Labs, its involvement in the Eastern Waterfront raises the strong possibility that, as a Google company, it will adopt Google standards and technologies, which may not be the most appropriate for the area. Rather than run a competition to see what type of standard the districts should adopt, as would a normal government agency, in the MIDP Sidewalk Labs says it would implement a Google internet network technology called Super-PON. This proposal, a clear conflict of interest from a Google sister company, should be a harsh reminder that Sidewalk Labs' primary loyalty will always be to Google. It would be unreasonable to assume that a de facto Google company like Sidewalk Labs would act otherwise.

It suggests why it is a very bad idea to put companies in charge of standard-setting: the temptation for self-dealing is too great.

This conflict of interest from Sidewalk Labs highlights the fundamental flaw with the original Request for Proposals: it gave the responsibility for these powers to its private-sector partner. By asking a for-profit company to tell it how it should govern, rather than to help it carry out a plan, Waterfront Toronto abdicated its responsibility to the public.

5. Unclear data commitments

As I will be covering in my blog posts, Sidewalk Labs' data commitments are much less than meets the eye. Its definition of "urban data" and "transaction data" serves to obfuscate more salient descriptions of data as "public" or "private." Its commitment not to sell personal data or to use it for advertising is undercut by its claim that it will only do so if given "explicit consent." The problem here is that, as Sidewalk Labs defines the term, urban data is data collected in public for which individual consent is very difficult. Consent must therefore come through some kind of collective regulation. This is not how most people would understand "explicit (individual) consent."

This type of commitment is no commitment at all; at best, it defers the actual discussion about what data can and cannot be collected for another day, once the MIDP has been approved.

D. Conclusion

This paper represents a very incomplete analysis of issues arising from the MIDP, the process that led to it, and the current consultations process. As already stated, there are sufficient fundamental flaws with this process, as well as with what the MIDP promises to deliver, that it cannot be salvaged.

There is no independence between Waterfront Toronto and Sidewalk Labs. Sidewalk Labs has failed to deliver on what the RFP required. It has failed to fully account for the bureaucratic burden of its proposal while also failing to make clear, explicit commitments on data use. Waterfront Toronto does not have the capacity to implement a smart-city-style project. Finally, the consultation process does not give adequate voice to the public that Waterfront Toronto is supposed to serve. For these reasons,

¹¹ http://www.auditor.on.ca/en/content/annualreports/arreports/en18/v1_315en18.pdf

I strongly recommend that Waterfront Toronto reject Sidewalk Labs' Master Innovation and Development Plan and sever its relationship with this company. If Waterfront Toronto remains interested in pursuing an innovative smart-city community plan, it must pursue the internal capacity to develop and evaluate such plans.

John Yu (Individual), Jul 31

I participated the public meetings held in the George Brown Waterfront Campus on July 20, 2019. According to the introduction of the meeting. I skimmed through the Note to reader and MIDP. I have the following suggestions regarding the Quayside project.

First, there is no study regarding the influence of the whole IDEA development to the Tommy Thompson Park which already became an important stopover point for the migrating birds and regional and locally rare bird species. In the process of designing the street blocks by using digital tools, upon the considerations such as solar energy, density and green spaces, etc., is it possible to add the facts considering the influence to the species in the Tommy Thompson Park to achieve the optimum results for both the development and surrounding environment and species?

Second, the condo resale fee may face the legal challenge if it does not follow properly legislature process. The condo resale fee using on the affordable housing has the fundamental characteristic of government fee or tax which requires properly government or legislature process. The resale fee creates the imbalance of the private owners in the IDEA area and outside of the area. Furthermore, with little function as a tool of controlling the real estate speculation, more function as a new private funding source with specific purpose, the condo resale fee should have a cap of period of time or a cap of amount, for example 2048 or \$321 M mentioned in the volume 2, chapter 3, p. 279, because the investment of the affordable housing in the IDEA area can be calculated during the budget or planning period.

Third, the choice of subsystems of the advance system should be more cost-effective. According to the Toronto Tomorrow A new approach for inclusive growth overview p176, to achieve the climate-positive district, the total of advanced building energy system, advanced power grid and active stormwater management bring the decrease of 0.09 per capita emissions which accounts the 1.6% decrease from 6.3 to 0.72 per capita emissions, however, the total investment listing on the volume 3, ch-2, p. 140 regarding the advanced power grid and stormwater management is \$760 M, which is 37% of the total investment of the advance system. Since the big part of advance system investments only brings a small portion of decrease of per capita emissions, these systems should be eliminated or replaced by other cost-effective subsystems in order to achieve the objective of not only sustainability for the environment but also the affordable for the residential, as well as future maintains and operations.

Last, the future residentials in the IDEA area will have different mechanism regarding the payment of services such as the garbage disposal, energy cost and management fee, etc. Is it possible to provide the details of these payments by the different family structure, for example, single people, two people family, etc? It will also be easier for the future residentials to make a comparison with the area outside of the IDEA.

Melissa Goldstein (Individual), Jul 31

Toronto's waterfront land is an incredible valuable public resource. Significant care should be taken that this resource and public funds are only used on projects that serve the public interest.

This is only an initial submission on the proposed MIDP. As the 1500+ page plan has only been available to the public for a little over a month, I will have more to say as I am able to read and analyze more of the plan and as public consultations continue. I look forward to participating in those consultations and having the opportunity to provide input into Waterfront Toronto's decision-making.

After reading a lot (but not all) of the MIDP, I have many concerns. To address those concerns and ensure the MIDP serves the best interest of Torontonians, it must not be approved unless the following conditions are met:

1. Plans and commitments implicating lands outside of Quayside must only be considered once the development of Quayside has been completed and the project deliverables (infrastructure, buildings, public realm, etc.) have been evaluated against the objectives of the RFP and have been proven to not negatively impact the health, well-being, privacy, rights and finances of Torontonians and our governments.

2. Public land must not be sold without going through a competitive public request for proposals process.

While Sidewalk Labs has stated repeatedly that they must "earn" the right to have the potential to proceed to subsequent stages of the plan involving lands outside of Quayside (consistent with the RFP, the PDA, and the concept of a pilot project), the MIDP's entire plan for Quayside is dependent on Sidewalk Labs' acquisition of the Villiers West lands from the City of Toronto before any work on Quayside has been done or any successes beyond getting development application approvals have been demonstrated, and without going through a competitive RFP process to acquire the land (Vol 3, Ch5, p. 204). "Sidewalk Labs' role as developer of real estate and advanced systems at Quayside and Villiers West is core to both achieving the project's objectives and its commercial viability. [...] Quayside and West Villiers [...] would be the proving ground, where Sidewalk Labs would make special investments in order to demonstrate the impact and prove the financial viability of its innovations. (Vol3,Ch3, p157)" The proving ground must be limited to Quayside, as outlined in the RFP.

Sidewalk Labs says that to construct the buildings in Quayside, they first want the commitment of 190 acres of publicly-owned waterfront property to their building method and their materials (neither of which currently comply with the provincial building or fire code, and both of which are completely untested) as they say that roughly 6 million square feet of development area is needed to justify an investment in the factory-based production of mass timber needed to implement the MIDP's building plan (Vol 1, Ch1, p95). No commitments implicating property outside of Quayside should be made until Sidewalk Labs proves that its innovations are financially viable, have the promised positive impacts, and do not negatively impact the health, well-being, privacy, rights and finances of Torontonians and our governments.

3. Torontonians (and visitors) must not be forced to be research subjects without their consent.

The implementation of experimental technologies and the creation of a site that functions as a testbed means that Torontonians and visitors would become research subjects without the opportunity to provide informed consent, or to opt out/withdraw their consent. In Canada, institutions and researchers that receive funding through Canada's three federal research

agencies (the Canadian Institutes of Health Research (CIHR), the Natural Sciences and Engineering Research Council of Canada (NSERC), and the Social Sciences and Humanities Research Council of Canada (SSHRC)) are required to comply with these agencies' *Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans* policy, which requires researchers to secure voluntary, informed, and ongoing consent from research participants. These are widely accepted standards designed to protect people's rights and interests. If Waterfront Toronto and the City of Toronto were to agree to subject Torontonians to being research subjects without their consent by approving the implementation of this plan, this would make them vulnerable to a huge number of potential lawsuits in the event that people are harmed or their rights are violated through non-consensual participation in research. In addition to ethical and human rights concerns then, turning Toronto into a living lab is also a financial risk to our governments and to taxpayers as a result of this legal vulnerability. As a government agency mandated to work in the public interest, Waterfront Toronto should make it a priority to ensure that any research conducted as part of this project complies with the Ethical Conduct for Research Involving Humans policy.

4. Torontonians, their governments, and visitors must be protected from the unacceptable levels of risk the MIDP currently exposes them to.

Sidewalk Labs' risk mitigation strategy of allowing Waterfront Toronto or the City of Toronto to halt the progress of the project and prevent Sidewalk Labs from proceeding with its implementation if they aren't happy with how the project is progressing (Vol 3, Ch6, p. 208-215) does nothing to protect Torontonians and our governments from the many risks related to this project. Waterfront Toronto and the City must ensure that Torontonians and their governments are not left to shoulder the costs should something go wrong. For example:

- Should an experimental technology experience a technical defect/glitch, design flaw, cyber attack, or inadvertent disruption, causing it to harm/injure/damage individuals, the City, neighbourhoods, businesses, or the environment, Sidewalk Labs must be liable, not Torontonians or our government, and should be required to pay for the full costs of fixing the problem (whether through maintenance, removal or replacement with a proven/conventional equivalent), fairly compensating injured parties for damages, and be able to be held accountable in a court of law if necessary.
- Waterfront Toronto and the City of Toronto should not approve anything that isn't future-proof. What is approved today will likely be out-of-date or obsolete by the time this plan is implemented. To serve the public interest and make best use of public funds, we should be using our public land and public funds to build a community that will be enduring and sustainable, that won't be quickly out of date, and that won't require constant and expensive updating by third parties to remain functional. The innovations we should be approving are the ones that will be great for Toronto in the long term, not things that are novel today and will be useless or commit the City to using out-of-date technology and operating systems far past their intended lifespan.
- The MIDP proposes tax increment financing as a method of self-financing the development of the LRT (Ch1, 108), however it was recently shown that rather than being self-financing, this form of financing ending up costing New York City \$2.2 billion at Hudson Yards. This proposal puts the City at significant risk of incurring substantial costs should tax increment financing fail to produce the revenues required to finance the LRT. Toronto should take note that "the self-financing label bypasses a necessary discussion of risks and costs inherent in financing an urban megaproject, and can short-circuit essential public debate about potentially substantial costs to taxpayers."

- In the event that untested, experimental technology doesn't work, needs to be replaced (because it is broken/not-working/unfeasible etc.), becomes obsolete, needs to be updated, or requires operation costs as a result of being a "unique systems and assets" (also known as "proprietary") Sidewalk Labs should bear the financial costs, not taxpayers. (Vol3, Ch6, p.209-213)
- Sidewalk Labs' plan makes their sustained involvement critical to the functioning of the community through the operation and maintenance of all of Sidewalk Labs' proposed launch services. (Vol 2, Ch5). Dependence on service contracts with privately owned companies for the basic operation of necessary proprietary infrastructure makes it difficult (if not impossible) for the City to negotiate contract terms that are good for the public. Toronto needs a plan where buildings and communities are sustainable so that they aren't reliant on technology or anyone investing anything after Sidewalk leaves the site.
- Mass timber buildings and their systems must be fully tested for fire safety and resiliency before they are sold, rented, or occupied to ensure people's lives, property and investments are not put at risk by occupying or purchasing property. 20% of residential fires in Toronto are started as a result of smoking, so buildings need to prove that they are safe in that context. The Grenfell tower fire in London, UK, which killed 72 residents, is a prime example of what can happen when people are subjected to the use of building materials and construction methods that don't conform to well- established building codes and fire standards. Testing must address potential safety risks of a tech-enabled building that is more prone to fire. How will a fire or the use of water-based fire prevention systems in a building impact the functioning of technical systems? What are the safety implications of the failure of those systems?
- Risk to affordability: The proposed advanced power and thermal grids would require a \$19 million subsidy just to keep customer costs in line with current averages due to factors including the high cost of geothermal exchange and the poor economies of scale for operating costs. It is unclear how much power will cost consumers once the \$19 million runs out. (Vol 1, Ch1, p95) The potential threat to health, safety, and personal property (to people's belongings and to their homes, investments, businesses, etc.) also has implications for insurance, as the risk for property losses increases with the size of the building p8. While Sidewalk Labs says they are working to develop new policy and coverage strategies (Vol3, Ch6, p.212), in the context of affordability goals, the insurance cost implications for the tenants and owners of these buildings and units needs to be considered, along with the financial risks to tenants who don't purchase/can't afford tenant insurance.
- Torontonians should be protected from harms and damages as a result of the re-identification of their data, security breaches, and the violation of laws.
- Stage gates and off ramps must be tied to meaningful project milestones, not superficial milestones set by Sidewalk Labs. Sidewalk Labs must be required to meet project deliverables on time and on budget.
- Waterfront Toronto and the City of Toronto should be protected from harms and damages caused by the failure of the project as a result of project unfeasibility and unmet deliverables.
- Waterfront Toronto and the City of Toronto should not have to reimburse Sidewalk Labs for any costs if the project is halted or expected results aren't achieved.

- Risks to democratic governance, transparency, accountability, and equity as a result of the erosion of public processes, governance and service delivery through Sidewalk Labs' proposed new governance bodies and public service delivery should be avoided.
- Sidewalk Labs' plan is to intentionally work to increase land values and housing prices to finance their project and to achieve their desired profits. This will function to further inflate land values of both neighbouring properties and nearby communities, which will contribute to increased housing unaffordability and to increased cost of living and working in Toronto. As Toronto is already experiencing a serious crisis in housing unaffordability and record levels of homelessness that it is struggling to address, Sidewalk Labs should find a way to finance their project and achieve profits that doesn't negatively impact Torontonians and City finances.
- Waterfront Toronto and the City of Toronto should not conform to the aggressive, rushed timeline proposed in the MIDP, as it will prevent them from undertaking the necessary due diligence to properly assess this plan and ensure the public interest is served if it is implemented.

Waterfront Toronto, the City of Toronto and the province of Ontario should ensure they are not required to compensate Sidewalk Labs for situations that effectively undermine Sidewalk Labs' ability to achieve their desired outcomes. Should the LRT not receive adequate funding to be implemented, for example, there should be no financial penalty for any level of government.

5. There must be regulatory frameworks in place that have been proven to be effective in protecting the public interest and keeping Big Tech companies compliant with the law before any contracts are signed.

Existing municipal and provincial regulatory frameworks are not designed to address issues related to smart city development. Our regulations governing land-use planning, property, building/development, and infrastructure, and the tools we have to enforce them, do not address issues that are specific to urban technology, such as digital security, intellectual property, privacy, financial costs, maintenance standards, public health and safety, and social equity. The solution is not to create new regulations and governance structures, but to update our existing ones. At this moment, no one on the planet has figured out how to regulate multi-billion dollar Big Tech companies Alphabet, Facebook, and Amazon effectively. Where regulations exist, these companies have too much money and too much power for the regulations to be effectively enforced; multi-billion dollar fines are like pocket change for these companies. Our existing fines and penalty structures are not designed for actors of this size. These companies are being subjected to anti-trust challenges and lawsuits from governments around the world. The lesson to be learned here is that it is not in the public interest to partner with these companies until evidence exists that it is possible to regulate them and that we have a regulatory framework in place that will be effective in regulating them. To do otherwise is to enter into contracts with companies that are effectively above the laws we have in place to protect the public interest.

6. Until we are certain that Waterfront Toronto and the City of Toronto have the capacity and expertise to protect the public interest, neither one should sign any contracts with Sidewalk Labs.

Alphabet has a legal department of over 800 people, and more than 400 of them are lawyers. Does Waterfront Toronto and the City of Toronto have the experience, expertise and capacity to protect the public interest against the interests of one of the biggest corporate monopolies in the world, and in the context of a smart city development no one has ever undertaken before? In other cities procuring tech-enabled infrastructure components, civil servants often rely on the

technology company/contractor for the terms of the contract because the technology isn't well understood by civil servants. This is not a practice that ensures the public interest is protected. Sidewalk Labs' proposed timelines leave no time for the City to build the necessary capacity, if such a thing is even possible. As noted in the MIDP, Sidewalk Labs has engaged Marsh & McLennan, who are the world's leading Insurance Broker and Risk Advisor, to support and advise Sidewalk Labs throughout the life of this development. Marsh will assist Sidewalk Labs with the identification of key risks to the Waterfront Toronto development during the planning, construction, and operational phases. It will also facilitate the most appropriate risk allocation and insurance solutions, engaging with underwriters and specialists around the globe. (Vol 3, ch6, p.215) **Who will be engaged to ensure that the public interest is protected, and how much will that cost us?**

7. Data relating to individuals should not be collected without the informed consent of those individuals, as research shows that de-identified data can be easily re-identified.

Researchers have been noting how easy it is to take de-identified unit record-level data (data related to individuals) and re-identify it. We must assume that every mention of data collection of personal data in the MIDP will not be anonymous. Informed consent of the collection of de-identified data must make clear the data may not stay anonymous and that the data may be re-identified. Sidewalk Labs' proposal relies on a considerable amount of surveillance/data collection related to individuals through the use of smart phone apps. Most of the individual-level benefits proposed in the MIDP are only available to people who choose to use Sidewalk Labs' smart phone apps and are surveilled and have their data collected and used in the process. The benefits of the project should be assessed with the recognition that many people will not be using these apps.

8. Public spaces must be publicly owned, publicly governed, and publicly managed.

It is unclear from the MIDP who will own the "public spaces" Sidewalk Labs is proposing in the MIDP. Are they proposing Sidewalk-owned spaces that are accessible to the public and privately governed, or public spaces owned by the City? In the interest of accessibility and accountability, Toronto must own, govern and manage our public spaces. The City of Toronto should manage these spaces and gardens, just as they manage the majority of the city's spaces, and any fees, fines and taxes collected at Quayside should go to the City to pay for this work. The MIDP includes fanciful descriptions of possible uses of infrastructure, like "a year-round open-air theatre where artists can create immersive, multi-sensory installations using flexible infrastructure" and "a forest of large-scale swings hanging for all to enjoy, each swing triggering sounds recorded on Lake Ontario, harmonizing when people move together," without addressing the cost of accessing these spaces or the labour and costs involved in creating these installations, as though these things just happen organically...and for free. (Ch1, 158)

9. Waterfront Toronto should only approve feasible proposals.

Fundamental elements of Sidewalk Labs' proposal are not feasible at the scale of Quayside, which means that not only does the plan for Quayside fail to meet the RFP's stated objectives, but it is not a feasible plan.

- As Sidewalk Labs notes, the MIDP's climate positive infrastructure solutions will not be effective or feasible at the scale of Quayside. This means that the MIDP fails to deliver both the required "highly sustainable and mixed income community" as required in the RFP. Their proposed advanced power and thermal grids would require a \$19 million subsidy just to keep customer costs in line with current averages due to factors including the high cost of

geothermal exchange and the poor economies of scale for operating costs. It is unclear how much power will cost consumers once the \$19 million runs out. (Vol 1, Ch1, p95)

- Even though the Quayside proposal dedicates a significantly higher percentage of land to commercial space instead of much-needed residential development, Sidewalk Labs says that without the Google Canadian headquarters on Villers West, Sidewalk Labs is not confident that the proportion of commercial space proposed in the MIDP is economically viable. (Vol3,Ch3, p.160)
- The MIDP is structured around an aggressive implementation timeline that seems completely unrealistic. If the project takes longer to implement than what is proposed it will have a significant impact on the financial aspects of the plan, which will undermine its viability. The credibility of the project partner should be assessed in part based on its ability to implement plans on time and on budget, and this proposed timeline suggests that don't have the knowledge or expertise to do that. Sidewalk Labs took them 20 months--8 months longer than planned-- just to complete a draft plan. In the MIDP they estimate that the initial approvals for the project (the approval of a "term sheet" by Waterfront Toronto, completion and approval of detailed implementation agreements with all three levels of government, the establishment of boundaries of the IDEA district, and a policy framework and implementation timetable) could be completed by April, 2020 (Vol3,Ch3, p.197). Given the speed at which government/democratic processes work, this is highly unrealistic. The MIDP sets 2025 as the proposed date for Quayside's "first day" (Ch1, p.129), at which time all infrastructure (including the proposed new experimental systems and products that don't currently exist in any form other than ideas on paper) are built and functioning, including the LRTs, flexible streets, buildings, logistics hub with underground freight delivery via self-driving delivery dollies, and the technologies required to make it all function reliably. This requires the prior development of a functioning mass timber factory and supply chain and adequately tested building prototype, site remediation of a brownfield site, the acquisition of City of Toronto lands that are not currently available/on offer, changes to provincial and municipal laws, and the development and delivery of LRT vehicles. Sidewalk Labs proposes that all of this will be complete in 6 years from now, roughly the same amount of time as a traditional development project.

10. The plan must promote inclusivity and improving accessibility, and instead it promotes exclusivity and inaccessibility.

While Sidewalk Labs claims that they approached its project planning with the principles of diversity, accessibility, affordability, equity of opportunity, and inclusion in mind (Ch1, 83), the plan promotes the opposite:

- **Reduces diversity:** People of all ages, abilities, incomes, and backgrounds cannot thrive and belong in this space. People who don't use Sidewalk Labs' smart phone apps for income reasons, for ability reasons, or because they don't want to be constantly surveilled and have their data collected are excluded from accessing features and basic infrastructure of the community.
- **Reduces accessibility:** Requiring people to use smart phone apps to access basic amenities, infrastructure and features of the community significantly reduces accessibility of place, transportation, services, and opportunities, and makes the community not physically, socially, economically, and culturally accessible for all, including residents, workers, and visitors. People who don't use Sidewalk Labs' smart phone apps for income reasons, for ability reasons, or because they don't want to be constantly surveilled and have their data

collected will have significantly reduced access. The MIDP's housing plan makes no mention of accessible units and it ignores established Universal Design standards. Sidewalk Labs also fails to meet many of the accessibility principles it sets out in the MIDP (Ch1,p.137), specifically: 3) Make infrastructure simple, durable, and reliable. Experimental and unproven modular heated pavers, wayfinding beacons, accessible self-driving rides, are examples of infrastructure that are not simple, reliable, or durable. 4) Design predictable, intuitive experiences. The MIDP is premised on buildings, curbs, roads, and other infrastructure being flexible and constantly changing. It is the opposite of predictable and intuitive. 5) Futureproof by default. The technology in the MIDP is not designed to be future-proof and there is no plan for how future-proofing will be achieved. 6) Prioritize autonomy first. Navigating Sidewalk Labs' community is only possible through the use of smart phone apps. People who don't use Sidewalk Labs' smart phone apps for income reasons, for ability reasons, or because they don't want to be constantly surveilled and have their data collected will have difficulty getting around and are excluded from accessing features and basic infrastructure of the community. 11) Eliminate barriers and friction. Requiring the use of smart phone apps for navigation and accessing community features and amenities creates barriers and friction. People who need accessible car parking will also face more barriers and friction than the status quo.

- **Increased Unaffordability.** Sidewalk Labs' plan not only provides inadequate affordable housing, but its approach to financing its development and innovations is premised on drastically increasing the value of land/property which will drive up market values and market rates and serve to make the community less affordable overall. Not only that, but it will function to increase the unaffordability of neighbouring communities, thereby increasing unaffordability in the City substantially.
- **Reduced equity of opportunity.** The reliance on apps significantly functions to increase systemic barriers to participation, further reducing people's ability to exercise the right to fair and respectful access to economic, social, and cultural opportunities, paving the way for inequitable outcomes.
- **Increases exclusion.** Quayside does not create the conditions that bring people together, and instead pulls them apart. From transit and parking, to storage and park benches, this plan gives some people different and better access to the neighbourhood, its features, and amenities, than others. Residents vs non-residents, smartphone app users vs non-smart phone app users. Access to digital literacy services is not the solution for people who don't want to be constantly surveilled through use of a smartphone app. Sidewalk Labs' plan contributes to exclusivity and exclusion rather than an inclusive community.

11. Located along a key migratory route, buildings must meet the BirdSafe building standard to meet sustainability objectives.

The MIDP's building and lighting design does not meet the BirdSafe building standard: <https://flap.org/pdfs/FLAP%20Canada%20BirdSafe%c2%ae%20Building%20Standard.pdf> This is inconsistent with RFP requirements that progressive approaches to preserving and enhancing natural ecosystems, conserving resources, minimizing environmental impacts and reducing waste, should be advanced, as the MIDP's building and lighting proposal will create a deathtrap for birds along an important migratory route. Not following the building standard will likely result in violations of the law: <https://www.flap.org/law.php>

12. Public services should be planned, designed, owned and operated by public and non-profit entities.

“Service delivery partnerships” represent the privatization of public services, with public funds being siphoned out of government budgets to allow private companies to make profits for services that are better and more ethically and equitably delivered by the public and non-profit sectors. Service delivery partnerships are not in the public interest.

13. Targets, performance measures, stage gates and off-ramps must be developed and defined by Waterfront Toronto and the City of Toronto, not by Sidewalk Labs. Meeting basic contractual requirements should not be justification for receiving “performance payments.”

It is a serious conflict of interest to have the vendor define the terms of how they will be evaluated and rewarded. For Waterfront Toronto and the City of Toronto’s to serve and protect the public interest as they are supposed to do, they must develop and define the targets, performance measures, milestones, stage gates and off-ramps that will govern this project. These measures and milestones must be substantial and meaningful and not simply the approval of planning documents and changing of regulations.

14. The affordable housing proposal should be much better than the status quo, not much worse.

Sidewalk Labs is proposing to build six times less housing in Quayside than what is required by current zoning by-laws and City-approved precinct plans, sacrificing this public land’s potential for critically needed housing, and affordable housing in particular. Toronto needs to maximize the affordable housing potential of its public land and should be looking for the proposal that promises to deliver the most units of affordable housing, at the deepest level of affordability, for the longest period of time.

Waterfront Toronto’s RFP sets a target of between 500 and 800 units of Affordable Rental Housing for this project and asks for progressive solutions to deliver high-quality, moderately priced, purpose-built rental housing in the Project. Instead, Sidewalk Labs is only meeting that bare minimum, promising only 530 units of affordable housing, and of worse quality (tiny units that fail to meet the City of Toronto’s Affordable Rental Housing Design Guidelines, than if Toronto pursued a “business as usual approach.” A business as usual approach would have produced 195 more units of affordable housing if the same ratio of units per square foot of residential GFA was used as Sidewalk’s proposal. Sidewalk Labs proposes that 11% of its affordable units be bachelor units, 40% 1-bedroom, 20% 2-bedroom, 16% 3-bedroom, and 14% 4+ bedroom (likely shared “co-living” housing and not family housing), while the Design Guidelines state that bachelor units are unacceptable and that 40% of all housing units should be 1-bedroom, 40% 2-bedroom, 15% 3-bedroom, and 5% 4-bedroom, setting minimum unit sizes for each category that are much larger than what Sidewalk Labs proposes. The guidelines also require that at least 5% of units be fully accessible. Sidewalk Labs does not address accessibility. Furthermore, the affordable housing units that Sidewalk Labs proposes to build will be far more expensive to build and maintain than average (Vol3,Ch3, p158), and that cost will be paid for entirely by public funds. Toronto could produce significantly more affordable housing with the money that will be spent on the affordable housing in this project. It is not a good use of public funds.

Sidewalk Labs’ shared equity housing proposal requires that non-profit organizations purchase units from Sidewalk Labs at cost. Given the much higher cost of Sidewalk Labs’ housing than conventional affordable housing, this is not a good use of non-profit organizations’ limited funds. 5% of the affordable housing plan is premised on the assumption that there are non-profit organizations with funds that are eager and waiting to purchase Sidewalk Labs’ expensive units.

That assumption undermines the feasibility of their proposal and likelihood of achieving their promised outcomes.

Importantly Sidewalk Labs does not indicate the affordability period of its affordable units or how or if the rent levels of “middle income” units will be preserved in the absence of provincial rent control on vacant units. Affordable units must remain affordable in perpetuity, otherwise we are simply pushing our affordable housing crisis down the road.

15. The MIDP must be able to meet economic development goals within Quayside.

A Google HQ on Villiers West is not only out of scope, but a Google HQ in Toronto will not further Toronto’s economic development goals, it will undermine them. Google is currently inundated with lawsuits regarding its business practices, and has been the subject of global protests about its poor labour practices while refusing to address issues raised by employees. Google’s interest in Toronto as an employer is in exploiting our underpaid tech labour force. It is not a company that will support a healthy local tech ecosystem or a healthy city. As required by the RFP, Sidewalk Labs should be meeting its economic development goals within Quayside.

16. In the interests of democratic decision-making, transparency, accountability, equity, fairness, and efficiency, the entire City of Toronto should be governed by the same governance bodies, structures, processes and regulatory frameworks.

The proposed Innovation Framework functions to circumvent democratically developed governance structures and processes that serve and protect the public interest in favour of creating more bureaucracy and new governance structures designed to serve Sidewalk Labs’ interests. Fees, taxes and fines collected at Quayside should be paid to the City of Toronto to finance the operations of the City as a whole, not siphoned out of the public purse to fund new bodies and to support specific neighbourhoods.

17. Sidewalk Labs should be evaluated based on their company’s track record to date to determine its qualifications for the roles that they propose for themselves.

Sidewalk Labs has only existed since 2015. When it won the Waterfront Toronto RFP it had only completed one project: Intersection’s kiosks in NYC, where they were able to steamroll over people’s privacy rights, “An initial 2016 disclosure that the kiosks “may” have cameras somehow evolved—without a public mandate, and without any public process—into a 2017 policy allowing the cameras to operate and record users. CityBridge retains the footage for 7 days.” without clear privacy policies in place. An MIDP was expected after one year, but instead it was delivered 8 months late. And yet Sidewalk Labs proposes to provide technical advice, innovation planning and project management services. Sidewalk Labs does not have development experience, does not have experience delivering tech-enabled infrastructure that meets agreed-upon terms and laws, and does not have proven experience meeting deadlines. Sidewalk Labs as a company should have to demonstrate expertise that is at least as good as the industry standard to be considered qualified for assuming any role.

Tim Warner (Individual), Jul 31

This email is in response to your request for feedback on Sidewalk Labs' proposed Master Innovation and Development Plan (MIDP).

My conclusion from a close reading of the MIDP itself, and your excellent Note to Reader is that the proposal should be rejected in its entirety. First, it fails in terms of providing any meaningful innovation. Second, and critically, it reveals that Sidewalk Labs (SWL) is not a trustworthy partner.

The most paradoxical and striking feature of the proposal, coming from an organization that would surely claim innovation as a core competence, is that almost all the “innovations” that SWL mentions seem slight, nebulous, or specious. For example, in an area where most people (77%) use public transportation, walk, or bike, how can “dynamic curbs” be helpful?

The full list of the 11 proposed “urban innovations” is presented on pp.192-193 of the MIDP. The first six are standard features one might expect of any large-scale IT network, and simply not innovative. (I base this opinion on my long experience as an academic, IT executive, and IT strategy consultant.) The seventh, the provision of cable trays under city streets, is breathtakingly banal. Numbers 8-11, on their face admirable features, are so slight (e.g., “quotidian water leaks”) as to be barely worth mentioning. All-in-all the proposal is a reminder that innovation has not, arguably, been part of Google's DNA. Google has innovated, traditionally, through acquisition, and is not the innovation partner Waterfront Toronto might have hoped for. Without technology innovation it is unclear what special capabilities SWL brings to the table.

What is notable, of course, is that the real innovation SWL hopes to spark is in the use of vast data collection networks to spur new revenue streams for Google, and this is omitted from the list. This is a huge “tell,” directly suggesting, through disguising its intent, that SWL is not a trustworthy partner. This view is reinforced by two other aspects of the MIDP.

1. Having been invited to bid on the development of Quayside, SWL proposes to redevelop the larger Idea District, on the laughable notion that their innovations need to be developed “at scale.” The contempt SWL shows Waterfront Toronto through this manoeuvre is patent, and in my view disqualifies SWL's proposal from further consideration.
2. SWL proposes also to bypass Waterfront Toronto in the governance structure for Idea District, which comprises a proposed set of new agencies in which Waterfront Toronto does not appear to have a defined role.

I do not think Waterfront Toronto can continue to do business with SWL under these circumstances.

West Don Lands Committee (Organization), Jul 31

(See following page for original submission).

Mobility				
Idea	Summary	Benefits	Concerns	Questions
Waterfront LRT Financing	<ul style="list-style-type: none"> Proposes "value capture" to finance new light rail, including north of Keating. Sidewalk assists the financing and works with TTC to test wider platforms, seating bars, weather protection, info displays 	<ul style="list-style-type: none"> Pg 104 -- references QQ West setup and would "accelerate these improvements" with "safe street design, innovative policy & financing tools, and cutting-edge technology". Reduce need to own a car, be more sustainable. pg 105 -- "Parliament Plaza" (transit stop on QQ East light rail) 	<ul style="list-style-type: none"> LRT - apparently critical to Sidewalk Lab's proposal, particularly with respect to Google HQ. decision on the LRT. Not clear that necessary political support for this form of financing. Tax Increment Funding has also raised some public concerns. 	
Vast pedestrian & cycling infrastructure	<ul style="list-style-type: none"> Pedestrian network: weather-protected walkways. Quayside linear plaza on QQE north sidewalk gets wider over years as cars become more automated. Improved underpass connections. pg 112/113 -- cycling network: heated bike lanes for QQE, green wave lighting with priority at intersections Pg 110/111 -- "plans to renovate the Railway underpasses into bright, active corridors to create a more inviting connection". Design anticipates a future with autonomous vehicles that require less road space where more priority can be given to pedestrians, cyclists and public space Pedestrian bridge to Villiers Island. 	<ul style="list-style-type: none"> Slow zone with narrower vehicle and bike lanes to bring vehicles closer to walking speed (10kph max), dynamic lighting and textures calm the traffic speed. Road design would prioritize cyclists and pedestrians 	<ul style="list-style-type: none"> scale and connectivity to the rest of the city is problematic. Benefits of autonomous vehicles may be overstated. They will still take up space. Not clear when/if such vehicles will be available and pass all necessary regulatory standards 	
Mobility subscription	<ul style="list-style-type: none"> Software/Apps to pay all transport fees/costs in one spot regardless of type or provider. All online, see all trips (includes Bikeshare, Carshare, Hail/uber, e-scooters) Management system required to coordinate all modes, signals, infrastructure... including demand pricing for some (i.e., parking) 	<ul style="list-style-type: none"> open data to existing apps for real time pricing and personalized options. preliminary modeling suggests that only 13% of Quaysiders would use a private car (versus 29% in most developments) 	<ul style="list-style-type: none"> Watch to see where that subscription cuts-off for travel northwards How practical is this for only a small portion of the city? 	

Mobility				
Idea	Summary	Benefits	Concerns	Questions
	<ul style="list-style-type: none"> Propose a non-profit entity to manage all waterfront mobility, including setting congestion goals and offering mobility to package. 		<ul style="list-style-type: none"> Is the need for another management "entity" practical? 	
Freight hub/ Logistics hub	<ul style="list-style-type: none"> Underground delivery system to handle 95% of districts deliveries <ul style="list-style-type: none"> Robot deliveries via 2m-wide tunnels to the various building basements. Returning robots could potentially bring back refuse/recycling to avoid too many empty trips back to hub. Logistics Hub in Quayside <ul style="list-style-type: none"> consolidates 95% of deliveries within Quayside, including Canada Post puts package in smart containers for automated delivery to door from underground. Short term and long-term storage of residents' goods Available to retail business as well includes a centralized tools library for borrowing items too big for apartments (ladders, etc.) 	<ul style="list-style-type: none"> Supports pedestrian / cycling positive street design potentially 70+% fewer trucks in neighbourhood. pg 134/135 Companion to smaller residential unit size. Assists retail operators who will need less storage space 	<ul style="list-style-type: none"> Acceptability/ practicality /cost of delivery system Acceptability/practicality/cost of resident storage system Cost of system May only make sense if can be deployed in a wider area (at scale) Complexity 	<ul style="list-style-type: none"> Does this kind of deliver system exist anywhere on a neighbourhood scale? Unit Storage <ul style="list-style-type: none"> - how much storage would be available per unit? -what cost is anticipated? Who runs/ owns the Hub and deliver system?
Dynamic curbs / flexible streetscape	<ul style="list-style-type: none"> vehicle access: prioritize new mobility options re: pickup/drop-off facilities. <ul style="list-style-type: none"> parking/drop-off allowed at busy hours, public space off-peak), Electric vehicle facilities and priority for carshare, etc. Closure of Parliament south of Lakeshore, with traffic diverted to a loop using Small and Silo Streets. Queens Quay slowzone is between those two streets. QQEast, 2025 & 2035: <ul style="list-style-type: none"> Day one includes LRT and one lane each direction roadway. Pedestrians sheltered 	<ul style="list-style-type: none"> pg 106 -- physical & digital innovations: Designated pickup/drop-off (PUDO) zones within the district manages curbside congestion and makes shared services easier to use. Limited parking offset by "vehicle interchange" feature. Short walk live-work neighbourhood: adaptable spaces, high-quality transit connections, extensive wider sidewalks (heated and lush landscaped). Flexible streets: removable pavers/"dynamic lanes", extensive digital infrastructure 		

Mobility				
Idea	Summary	Benefits	Concerns	Questions
	<p>by movable awnings and building "raincoats". Doubled cycling capacity for Martin Goodman Trail.</p> <ul style="list-style-type: none"> ○ In 2035, reclaimed roadways become larger northside sidewalk (still with dynamic PUDO zones), as automated vehicles can safely share the LRT lanes without impeding transit operations. 	<ul style="list-style-type: none"> ● pg 130/133 -- streetscape & modular pavers: adaptive traffic signals, mobility management system for PUDO zones, parking availability, driver guidance to spaces and price adjustments. PUDO spaces change depending on need, using a combination of tactile markings in pavers, movable street furniture and digital signage. 		
Modular pavers	<ul style="list-style-type: none"> ● Sidewalk has prototyped a pre-cast concrete one-metre hexagonal road-grade paver to use from building front to building front, ● Aiming for greater cost-efficient over the long term as they resist wear better and easier/cheaper to access utilities below. ● will work with local universities and gov't to refine the prototype to work in a Toronto context. ● Will include several features by incorporating tech into the pavers Pg 130/133 	<ul style="list-style-type: none"> ● pavers can host other tech like heating, lighting to animate street use, ● will provide greater permeability for rain water infiltration. ● Heated paver means less or eliminated salting. ● Pavers could be fitted for easy install or remove of signs, traffic lights or special events. ● Claim that repairs to pavers could be done in a day, no jackhammers. ● Hexagons with 120° angles distribute vehicle weight more evenly than traditional rectangles, so fewer cracks or potholes. ● An open access channel under the pavers makes network upgrades up to 90% faster (potentially). 	<ul style="list-style-type: none"> ● Not clear how this works with storm water management or run-off. ● Heated sidewalks obviously a bonus for Quayside but of limited utility if one steps beyond the precinct unless, for instance, Queens Quay eastward or westward was retrofitted (when, how and who pays). 	<ul style="list-style-type: none"> ● How do the pavers slope water for run-off? Is it hexagon by hexagon? Or is the whole area sloped? And does that run-off curve or slope lessen smoothness for accessibility users or make tactile indicators less noticeable?
Accessibility & Adaptive traffic signals	<ul style="list-style-type: none"> ● Planning for accessibility right from the start (proposals following workshops with local accessibility groups/organizations). 22 accessibility principles (list on pg 137) that Sidewalk will commit to follow for Toronto project. "Do nothing about us without us". "Make the accessible path the most convenient, delightful path". 	<ul style="list-style-type: none"> ● pg 136/142 -- Post-it size wayfinding beacons that work with BlindSquare and other apps. Sidewalks on all streets at least wide enough for two wheelchairs to pass, and wider still wherever possible. ● Curbless streets, using tactile indicators for usage changes across the common pavers. 		

Mobility				
Idea	Summary	Benefits	Concerns	Questions
	<ul style="list-style-type: none"> Adaptive traffic signals for pedestrians who need more time or to advance transit vehicles 	<ul style="list-style-type: none"> Accessible self-driving rides (popular amongst accessibility participants), "speaks to the essence of what makes people feel at home in their city". Accounts for "threshold moments", i.e., getting through doors -- hope is for a single access device (card, fob, phone) that opens all doors, elevators, access controls, street crossings, etc. Preference of sliding automatic doors over button-controlled. 		
"people-first street types"	<ul style="list-style-type: none"> Only boulevards would have vehicles, accessways would be for bikes/peds, and laneways for pedestrian speed only (like woonerfs, presumably) <u>woonerfs</u> - flexible street sizes with flexible curbs within Quayside. Essentially a fancy more high-tech take on Market Street in service of creating a clean, efficient 21st century quasi-Kensington Market like street condition or Distillery District with (some) cars. 	<ul style="list-style-type: none"> pg 118/121 -- people-first street network: Bonnycastle, Small, Silo. Dynamic curbs, planning streets around public transit & shared mobility fleets allows Quayside to reclaim space for wide sidewalks and safer cycling. Slow zone is a shared space for all users with a 10kph max speed. Buffer zones (3m) between lanes for safety, with "red waves" signaling to peds when LRT vehicles are arriving. Automated vehicles share LRT zone, with max separate 6/6.5m roadway for traditional vehicles, buses, trucks, etc. 		

Public Realm				
Idea	Summary	Benefits	Concerns	Questions
Parliament Plaza	6000 sq. m gathering space – centre/heart of Quayside Surrounded by stoa space and including dynamic water features	<ul style="list-style-type: none"> • Well suited for markets, public art installations, all age play, events that integrate surroundings, all season entertainment/ recreation/ activities • Increased shared space in building to encourage better interactions • Removing the need for onsite parking enables structures that can respond to the needs of people • Promotes well-being, health 	<ul style="list-style-type: none"> • Transit must be executed first • Ensure East Bayfront stakeholders are onsite/informed/ engaged 	
Silo Park	5000 sq. m park across from Victory Soya Mills Silos – to serve as the green and recreational heart of the community.	<ul style="list-style-type: none"> • Exercise equipment for all-ages 	<ul style="list-style-type: none"> • Who will maintain areas like “multi-sport” area? Which City department? • Who will pay for Open Space Alliance costs/service for this part? • survival of trees, etc. in the park? 	
Parliament Slip	6000 sq. m space. Residents, workers and visitors would connect directly with water via a new “cove”.	<ul style="list-style-type: none"> • Offers scenic views of lake, closer connection to the water and the sense of “serenity” many people in urban environments crave. 	<ul style="list-style-type: none"> • Would like to see outdoor pool – like a Sunnyside East? Possibility: floating pool in 	
Arts and Cultural Landscape	Innovation here is the incorporation of high speed internet and a/v in art installations/ cultural		<ul style="list-style-type: none"> • Ensure that what is put forward is compatible with existing technology partners. • Art installations can not end at Lakeshore – must link with Waterfront Toronto’s Lakeshore public realm work. • Caution – a multimedia installation will not do much to enhance area under the Gardiner. 	

Public Realm				
Idea	Summary	Benefits	Concerns	Questions
Ground Floor Spaces	Flexible ground commercial space	<ul style="list-style-type: none"> • Flexible space for retail/business tenants good – would like to outreach to: George Brown College entrepreneurship program; not for profits, non-profits, etc. 	<ul style="list-style-type: none"> • Compatibility of programming for the ground floor space with upper floor residents. • Who will maintain building raincoats? • Concern about Care Collective imposing social infrastructure – should be responsive. • Civic Assembly – need to see more examples of how this will work. 	
Tenants/Retail	Encompassing adaptable design using technology – e.g. Seed Pace to show available space and address market forces while reducing barriers, etc.	<ul style="list-style-type: none"> • Opportunities for short term leases – helpful for startups, small business • Joint programming for the same space – GREAT. Space is fully used throughout the day and night - supports vibrancy of neighbourhood while supporting smaller businesses. • No store/business chains – great! 		
Open Space Chapter 2, v. 2 p. 118-201				
Street Design	91 % more pedestrian space and nearly twice the numbers of trees as compared conventional developments	<ul style="list-style-type: none"> • Narrower streets, wider sidewalks places priority on the pedestrian experience. This will encourage more pedestrian activity which will enhance vibrancy of the neighbourhood, and economic well-being of businesses • Open Space Alliance – helpful in supporting better maintenance and use of space • Increase in sidewalk trees • Accommodating multiple modalities on streets – applaud – excellent way to help achieve +climate outcomes 	<ul style="list-style-type: none"> • Concern that IDEA District is required to test viability of suggestions in Street Design 	

Public Realm				
Idea	Summary	Benefits	Concerns	Questions
		<ul style="list-style-type: none"> Automated vehicles – priority should be for shared use ONLY Dynamic curb is compliant with AODA – good! 		
Adaptable Street	Use of innovation/technology to make streets safer and more adaptable to the elements and responsive to needs of residents/visitors	<ul style="list-style-type: none"> Improves safety, pedestrian experience, utility access and maintenance Good to see buildings/streets designed for multiple purposes (good planning principle). 	<ul style="list-style-type: none"> What are the energy costs for heated pavers and who pays? How will coordination with the city be managed re: maintenance of pavers. Caution against going into Villiers East Need to see more green mid-block connections water/recreation environment is “family friendly” 	<ul style="list-style-type: none"> What is meant by the reference for provision of “regular food and beverage” pg. 145
Part 2 – More Usable Space	Streets, open space, buildings – more usable most of the time.	<ul style="list-style-type: none"> More useable space offers more diverse programming Retractable awnings are good for making space more useable Applaud understanding of how long term leases hurt/block small business entry into the marketplace 		
Ground Floor		<ul style="list-style-type: none"> Co-tenancy options are very good 	<ul style="list-style-type: none"> Discussion of Keating Channel – over-reach 	
Stoa		<ul style="list-style-type: none"> Columns are spread out making space even more usable. Increases opportunities for sustainable success of small businesses (lower cost of access, more flexible leasing arrangements). Increases employment opportunities for residents/Torontonians Digital leasing – Seed Space – great idea but ensure that is accessible and equitable 	<ul style="list-style-type: none"> Caution – over-reaching to the IDEA District Testing of wind speeds re: outdoor comfort – do not extend to IDEA District 	<ul style="list-style-type: none"> Under utilities – will there be a wet box in stoa/retail spaces? Where else in Canada is ETFE being used? Who pays for sensors /maintenance

Public Realm				
Idea	Summary	Benefits	Concerns	Questions
Part 3 – More Responsive	Open Space Alliance (not for profit) entity responsible for managing ops, maintenance...	<ul style="list-style-type: none"> Public areas can be better maintained using technology that is responsive – real time reporting to staff where maintenance is needed –Test first BEFORE we invest in anything larger (e.g. IDEA District testing). 	<ul style="list-style-type: none"> Make sure that whatever we do that we can maintain it – from cultural programming or art installation. Who will be accountable for this entity at the City/government levels? 	
Ops and Maintenance			<ul style="list-style-type: none"> The Bentway offers an example of a collaborative management Urban Data Trust – how will this interface with the work of OSA? 	
Community Programming		<ul style="list-style-type: none"> Open Space Alliance and products like CommonSpace – all good for improved efficiency in managing space, technical connectivity etc. 	<ul style="list-style-type: none"> To ensure relevancy of what is developed re: OSA – suggest including in research, etc. the SLNA and other existing and established community groups in the area. When managing sound – do not focus only on decibels but on all aspects of sound that can impact the human body (like bass levels). 	
Digital Infrastructure		<ul style="list-style-type: none"> Good use of technology to address the fact that people are increasingly less inclined to call 311 to report an issue. 		
Urban Innovators		<ul style="list-style-type: none"> Waste removal innovation is great – address garbage before overflow happens; test for the rest of the city. 		
Public Engagement			<ul style="list-style-type: none"> clarification is needed re: “non-personal data” 	

Social Infrastructure				
Idea	Summary	Benefits	Concerns	Questions
Traditional and advanced Social infrastructure as part of basic plan	<ul style="list-style-type: none"> • 90,000sq. ft. for social infrastructure • Addition of digital prototypes, resources &SWL expertise to bring innovative service delivery models to the community. 			
“Care Collective”	<ul style="list-style-type: none"> • Space for the co-location of preventive health care, and community services • leases at below-market rates to ensure a diverse set of service providers, including non- profit organizations. 	<ul style="list-style-type: none"> • Coordination of services through co-location, proposes to be responsive to community needs and treat people holistically through team-based care. • Preventions is stressed. • If implemented, this could be a new model of health care delivery, although often cited as an ideal. 	<ul style="list-style-type: none"> • Although building on best practices, SWL does not plan to carry this out, so the proposal is aspirational. • SWL intends to provide consulting and digital expertise only. The Care Collective could raise concerns about privatization. • If implemented, under a current universal health care system in Ontario, could raise concerns of inequitable health care resources benefiting a single neighbourhood. 	<ul style="list-style-type: none"> • Who would carry this out.? Health care reform, even on a smaller scale, is slow and financially challenging
“Civic Assembly”	<ul style="list-style-type: none"> • a geographic and virtual commons. • Community members could attend neighbourhood meetings or provide input by using digital tools. • With inclusive access to Wi-Fi and digital support, all community members could use digital tools designed for participation, collaboration, helping residents as well as 	<ul style="list-style-type: none"> • The Civic Assembly would become a central hub for civic action, community, arts, and cultural gatherings and could evolve to meet neighbourhood needs. May provide opportunities 	<ul style="list-style-type: none"> • Could evolve into a mini Facebook with concerns about privacy and social conflict, and trolls, especially if posts are anonymous. • May create tensions among residents and 	<ul style="list-style-type: none"> • Who would organize and act as a moderator? Moderating would be a very challenging task.

Social Infrastructure				
Idea	Summary	Benefits	Concerns	Questions
	those who visit or work in Quayside to have a greater sense of ownership and belonging in the community.	for local tech companies to innovate and create apps.	“outsiders” who only work there, as well as passing pedestrians and tourists.	
Elementary School +	<ul style="list-style-type: none"> • Sidewalk Labs proposes to work with the TDSB to plan up to 60,000 square feet on the lower floors of a mixed-use building for an elementary school for up to 600 students spanning grades pre-K through 8. • A portion of the ground floor space of the school site could also be allocated for a child-care facility and community learning centre. 	<ul style="list-style-type: none"> • Opportunities for lectures, after-school programs, and other learning opportunities to expand outside the classroom in community spaces or even in the public realm. 	<ul style="list-style-type: none"> • Concerns that requires disproportionate resources to be dedicated to this one neighbourhood. 	<ul style="list-style-type: none"> • Even if dubbed as a pilot project, would funding exist for such roles for TDSB and TPL?
Toronto Public Library (TPL)	<ul style="list-style-type: none"> • It is proposed that the TPL offer opportunities to seamlessly integrate the library’s presence throughout Quayside offering life-long learning opportunities. • Opportunities could include pop-up learning labs or lending services; TPL-developed classes, particularly those that support data, AI, and algorithmic literacy; or digital consult rooms in library branches as well as pop-up library stations that could allow residents to easily book a private session or meeting with service providers. 	<ul style="list-style-type: none"> • This builds on research into best practices into lifelong learning already known to educators. SWL relegates the role to TDSB and TPL. 		

Buildings and Housing: Tall Timber/Mixed Use/Flexible Space				
Idea	Summary	Benefits	Concerns	Questions
Timber Building	<ul style="list-style-type: none"> • Provide faster construction time • Wood is lighter than steel or concrete and can be more easily transported • Shikkui plaster instead of drywall, can be mechanically applied at the factory • Offsite fabrication of kitchens, bathrooms and HVAC • Two building heights – 12 Storey and 30 Storey 	<ul style="list-style-type: none"> • Construction time reduced by 35% • Number of site deliveries reduced by 85% • Shikkui is a natural killer of bacteria and mold and can be recycled as plant-beneficial fertilizer • Greater quality control, more efficient inspection and faster installation 	<ul style="list-style-type: none"> • How sustainable is the forestry as more and more timber buildings are proposed everywhere? • 30 Storey buildings are not yet approved • SWL proposal of a Digital Delivery System to coordinate every part of supply chain from factory to construction site – SWL would build the infrastructure but partner with innovative players to provide other components 	Needs more clarity
	<ul style="list-style-type: none"> • SWL supports the launch of a factory in Ontario by 2021 to process mass timber building parts 	<ul style="list-style-type: none"> • New industry could create ~2500 jobs 	<ul style="list-style-type: none"> • Where would it be located • what part would SWL play 	Can there be multiple factories?
	<ul style="list-style-type: none"> • Library of parts provides tools for architects to design buildings 	<ul style="list-style-type: none"> • Accelerates construction with set of tools • Provides flexibility of options helps to create more diverse designs 		
	<ul style="list-style-type: none"> • Healthier buildings 	<ul style="list-style-type: none"> • Concrete and steel buildings emit CO2, timber sequesters carbon 		
Building Spaces				
	<ul style="list-style-type: none"> • Loft Spaces – can be commercial, residential or mix of both – would be 10% of building square footage • Flexible walls 	<ul style="list-style-type: none"> • Allows for changes from commercial to residential or vice-versa • Does not require construction change debris, permits etc. 	<ul style="list-style-type: none"> • Minimum targets for commercial usage to be determined and how would this be managed if a residential unit wanted to change to commercial • How do commercial and residential units co-exist with noise 	

Buildings and Housing: Tall Timber/Mixed Use/Flexible Space

Idea	Summary	Benefits	Concerns	Questions
	<ul style="list-style-type: none"> • Residential Spaces – allows for flexible interior walls with panel inserts that can be removed to create another passage or reinserted • Stoa – flexible ground floor spaces in stalls 	<ul style="list-style-type: none"> • Can be done in half a day • No construction changes or debris • Designed for frequent turnover of tenants at a fraction of launch cost • 50% faster than renovating a retail space 		
Low Voltage Power Systems	<ul style="list-style-type: none"> • Digital, electric system travels over ethernet under baseboards or crown moulding • A controlled system only sends power when device is activated 	<ul style="list-style-type: none"> • Reduces the risk of fire • Eliminates electricity meters by tracking data to electrical outlet 	<ul style="list-style-type: none"> • What about smoke and heat detectors? • What happens if the system fails? What is the mitigation strategy? Who would be responsible for getting it back to work? 	
Mist based fire protection	<ul style="list-style-type: none"> • Can be hidden along a wall surface or ceiling 			<ul style="list-style-type: none"> • Need more detail
Building Code System	<ul style="list-style-type: none"> • monitor interior spaces for noise, air pollution and other nuisance levels • Operated and managed by building owner 		<ul style="list-style-type: none"> • Privacy? 	<ul style="list-style-type: none"> • Who would be the building owner? • Need to be more specific
Efficient/ultra-efficient units	<ul style="list-style-type: none"> • Designs to make the most of the space – particularly for smaller units • Multi-purpose furniture pieces 	<ul style="list-style-type: none"> • Efficiency of space without having to buy some furniture 	<ul style="list-style-type: none"> • What happens when a tenant/owner moves and the replacement doesn't want what is already there? 	
On-Demand Storage	<ul style="list-style-type: none"> • Offsite storage could be used for seasonal clothing, holiday decorations, outdoor furniture • Request for delivery to or from storage – delivery through underground network – at a fee 	<ul style="list-style-type: none"> • Saves in-suite storage space 	<ul style="list-style-type: none"> • Done by an app! – privacy? 	
Co-Living Space	<ul style="list-style-type: none"> • Certain floors designated for this shared space • Communal areas could include work-space, cooking and dining areas, exercise room, child recreation space or, potentially, guest room 	<ul style="list-style-type: none"> • Encourages social interaction • Could be useful for seniors with needs for more in-building care 	<ul style="list-style-type: none"> • Who manages the co-sharing and what happens if it doesn't work out well? 	

Buildings and Housing: Affordable Housing				
Idea	Summary	Benefits	Concerns	Questions
Basic Concepts				Note – Vol.3 might answer some of these questions.
Quayside ~ 2600 residential units (see chart Vol.2 pp 270-271)	<ul style="list-style-type: none"> •50% rental/50% ownership •40% 2-bedroom or better •40% below market (~1,040) <ul style="list-style-type: none"> ○ 20 % ≤ avg mkt rent (~520) <ul style="list-style-type: none"> ▪ Including 5% ≤ 60% avg mkt (~130) ○ 15% - mid range rental: 100-150% of avg mkt (~390) ○ 5% shared equity ownership (~130) •60% market rate (~1560) <ul style="list-style-type: none"> ○ 15% rental (~390) ○ 45 % ownership (~1,170) •Includes a potential co-living pilot that seems to be within the ownership stream... 	<ul style="list-style-type: none"> •Exceeds waterfront commitments to date in terms of amount affordability, commitment to purpose built rental and creation of alternative ownership model 	<ul style="list-style-type: none"> •Commitment to non-profits only in connection with deep affordability units (130) and the shared equity units (130) – why not for all affordable rental, as that is the safest way to ensure permanent affordability? •Not clear that co-living makes sense in the ownership stream. It seems that that should be a rental option 	<ul style="list-style-type: none"> •Ownership and management of affordable units is not clear •Ownership and management of market rental units are is not clear •Need to clarify whether co-living is really intended to be an ownership option... •How would the units be distributed through Quayside?
Duration of affordability	<ul style="list-style-type: none"> •“For the long term” Vol.2 p 272 	<ul style="list-style-type: none"> •Long term affordability is critical. 	<ul style="list-style-type: none"> •Does not specify in perpetuity •Does not specify who the landlord/owner/manager would be for avg mkt rent units •Strategy for maintaining mid-range rental affordability seems vague – “rent cap based on rental bands established by the city” 	<ul style="list-style-type: none"> •Why not perpetuity? •Who would own/manage avg mkt rent units? •Who would own/mange the mid-range rental? How would affordability be ensured in future? •If not non-profits, how would long term affordability be protected?
Affordability strategies- Quayside	<ul style="list-style-type: none"> •<i>Affordability by Design</i> <ul style="list-style-type: none"> ○ Efficient and ultra-efficient units increase profitability •Co-living units 	<ul style="list-style-type: none"> •\$37m savings in cost + revenues from additional units can be applied to fund affordability 	<ul style="list-style-type: none"> •7% smaller units may not be liveable or desirable in the long run – could lead to neighbourhood failure 	<ul style="list-style-type: none"> •Need more examples of efficient design •Not clear how many units in Quayside would be 7% smaller,

Buildings and Housing: Affordable Housing

Idea	Summary	Benefits	Concerns	Questions
<ul style="list-style-type: none"> Estimated cost for 1040 below mkt units = \$229m (\$220,190/unit) 		<ul style="list-style-type: none"> 87 more units can be financed as compared to “traditional design” Applied across unit mix so available for families with children Smaller commercial units will support entrepreneurial innovation 	<ul style="list-style-type: none"> Precedent that could reverse city efforts to encourage liveable units Quality of life dependent upon additional amenities that other developers likely to forego Dependence on off-site storage and delivery may not be realistic or satisfactory – may need to incorporate storage within Quayside 	<p>efficient, ultra-efficient or co-living</p>
	<ul style="list-style-type: none"> Existing government programs 	<ul style="list-style-type: none"> Assumes \$77m public contribution 	<ul style="list-style-type: none"> Government housing programs are notoriously unreliable – no guarantee that they will be available 	<ul style="list-style-type: none"> Is this level of funding currently available/committed?
	<ul style="list-style-type: none"> Free land value or equivalent gov’t contribution 	<ul style="list-style-type: none"> Significant public contribution to costs (\$37m) 	<ul style="list-style-type: none"> Should be a given for WT and City owned land – based on WDL precedent – but not sure that WT or City have confirmed this 	
	<ul style="list-style-type: none"> Contribution from Sidewalk Labs 	<ul style="list-style-type: none"> \$77m pledged Necessary to achieve 40% in advance of strategies that depend on scale 	<ul style="list-style-type: none"> For model to be replicable, replacement for this extraordinary contribution would have to be found 	<ul style="list-style-type: none"> How does this compare to the WDL mixed market housing model where there is no public funding?
<p>Affordability Strategies – Quayside & IDEA District</p> <ul style="list-style-type: none"> Estimated cost for 13,600 below mkt units = \$3.927B (\$288,750/unit) 	<ul style="list-style-type: none"> Affordability by Design – refined - 	<ul style="list-style-type: none"> Estimated \$475m contribution to the cost of achieving 40% affordable 	<ul style="list-style-type: none"> Same as above Risk that affordability by design will not achieve the estimated savings Risk that affordability by design will not achieve the intended quality of life Risk that City will be reluctant to set a precedent for the private sector to construct smaller units – may provoke backlash – may require regulation 	<ul style="list-style-type: none"> What proportion of units to be 7% smaller, efficient, ultra-efficient, co-living?

Buildings and Housing: Affordable Housing

Idea	Summary	Benefits	Concerns	Questions
<ul style="list-style-type: none"> •Cost estimates over build out of IDEA district – 2024 to 2048 	<ul style="list-style-type: none"> •Factory-driven land value increase <ul style="list-style-type: none"> ○ Reduced construction costs at scale (>6m sq ft.) ○ Reduced project time ○ Increased certainty •All combine to make development under the IDEA district rules more efficient therefore developers can pay more for the market developed land – is the theory – I think... 	<ul style="list-style-type: none"> •Estimated \$639m in additional land value that could be applied to affordable housing •Sidewalk Labs to invest \$80m in tall timber factory to catalyze the growth of the industry in Ontario 	<ul style="list-style-type: none"> •Seems like a big uncertainty •Savings dependent upon securing >6m sq. ft. of tall timber development •Supply, logistics, construction savings not yet proven •Timing to get adequate supply may be a challenge •Tall timber construction not yet permitted at 30 storeys – concept not proven •Not clear that the private market will respond as needed – only works if the tall •Development community may need longer than anticipated to skill up 	
	<ul style="list-style-type: none"> Condo Resale fee <ul style="list-style-type: none"> •1% fee on resale of any condo in Quayside/IDEA District •Creation of Non-profit Waterfront Housing Trust to receive and manage proceeds 	<ul style="list-style-type: none"> •Estimated \$321m raised by 2048 (assuming condos are re-sold every 7 yrs.) •Could be applied across the city to fund affordable housing 	<ul style="list-style-type: none"> •Condo purchasers are already subject to the Toronto Land transfer tax which adds 1-2% to the cost of purchase. • Council has already resisted a proposed 3% fee on sale of luxury condos 	
	<ul style="list-style-type: none"> •Existing government programs 	<ul style="list-style-type: none"> •Assume \$997m in public sector contributions 	<ul style="list-style-type: none"> •Without an enduring change in housing policy, government programs are unlikely to be reliable and adequate for to provide this level of funding for a Toronto neighbourhood 	
	<ul style="list-style-type: none"> •Land value and other government contributions 	<ul style="list-style-type: none"> • Contributes the equivalent of \$1.495B in land cost and development fee concessions to fund affordability 	<ul style="list-style-type: none"> •May be challenging to develop an appropriate formula for land value given the intermingling of 	<ul style="list-style-type: none"> • Is the assumption free, development ready land? •Confirm whether this implies that WT or City would forgo

Buildings and Housing: Affordable Housing

Idea	Summary	Benefits	Concerns	Questions
			affordable, mid-range and market housing •Expansion beyond 20% reduces expected revenues to WT and City	revenues on the land for mid-range housing as well?
Shared Equity Housing	<ul style="list-style-type: none"> •~130 units •Own part/rent part of a unit <ul style="list-style-type: none"> ○ Pay mortgage and rent •For Quayside, Sidewalk provides units to a non-profit partner or other entity at cost •Buyers get appreciation on portion they own when they leave •Partner retains control of the unit 	<ul style="list-style-type: none"> •Allows entry into ownership with a lower down payment •Creates a mechanism to keep the units affordable in the long term •“at cost” transfer to partner represents a \$13.5m contribution by SL 	<ul style="list-style-type: none"> •New to Canada – well established in UK <ul style="list-style-type: none"> ○ Could create challenges for financing mortgage portion •Value of the owned portion may need to be protected from full market appreciation to remain affordable. 	<ul style="list-style-type: none"> •What is the significance of the use of the term “partner”? Does the “partner” entity become the owner of the units? •How/where will these units be located? All together? Scattered through the condo buildings?

Sustainability				
Idea	Summary	Benefits	Concerns	Questions
Low energy buildings	<ul style="list-style-type: none"> • Passive energy-savings design • Real-time metering with feedback-loop improvement 			
Optimize Building Energy Systems	<ul style="list-style-type: none"> • “Schedulers” for various uses with varying energy intensities 			
Electrification	<ul style="list-style-type: none"> • Make Full Electrification Affordable- IDEA District -wide • Advanced power grid connection to Toronto Hydro 			
Clean Energy to Heat and Cool Buildings	<ul style="list-style-type: none"> • Thermal-grid within and between buildings • Waste energy recapture systems 	<ul style="list-style-type: none"> • The Thermal grid innovation elaborates on tech already done elsewhere. 	<ul style="list-style-type: none"> • The greatest challenges here will be the nuts-and-bolts of implementation (across multiple-building scale) and management, e.g. billing. 	<ul style="list-style-type: none"> • To what extent have there been discussions with Toronto Water about the “energy recapture” proposals for Ashbridges Bay Wastewater Treatment Plant?
Reduce Waste / Improve Recycling	<ul style="list-style-type: none"> • Digital sorting direction/monitoring • “Pay as you throw” • Vacuum tubes – contamination-sensitive • Anaerobic digesters – off-site, large-capacity 		<ul style="list-style-type: none"> • Recycling innovation feeding into a broken system, especially vis-à-vis mixed consumer recycling. Focusing on paper and compost may be the greatest ROI. 	
Manage Stormwater Naturally and Actively	<ul style="list-style-type: none"> • IDEA-wide • Design water-efficient green infrastructure into neighbourhood • Digital tools to monitor stormwater quantity/quality 		<ul style="list-style-type: none"> • Managing Stormwater solutions depend to a large degree on “street redesign” being achieved as envisioned in the Public Realm section. 	
Overall	<ul style="list-style-type: none"> • Greatest GHG savings are coming from <u>active</u> 	<ul style="list-style-type: none"> • Incorporates classic sustainability system 	<ul style="list-style-type: none"> • “Urban data trust” new institution required but as yet 	<ul style="list-style-type: none"> • Need to be able to negotiate with SWL to determine what are the limits of

Sustainability				
Idea	Summary	Benefits	Concerns	Questions
	<p><u>transportation</u> and <u>low-energy building</u>, areas that involve the application of well-known solutions across a wide area.</p> <ul style="list-style-type: none"> • The innovation is largely in coordinating and extending. The new bells and whistles in the MIDP (e.g. building energy “Schedulers”) apply to areas that, while important, provide relatively modest sustainability outcomes by comparison. • Also these require provincial cooperation with continued application of time-of-use billing. -- Toronto may prove a test-bed for proof-of-concepts that can be spun by SWL as products to a broader market. 	<p>approaches – networking systems, monitoring, incorporating feedback loops, benchmarking, goal-setting and progressive target improvement.</p> <ul style="list-style-type: none"> • There is little, if anything, technically novel in the proposals. But taken together and incorporating the mechanical (“digital”) monitoring opportunities of a large redevelopment site, the proposals offer the closest we have seen to carbon neutrality on a significant scale. • The proposals for Villiers West/IDEA District go a significant way to redressing the risk-averse approach of the Port Lands Framework Plan, officially adopted by Council two years ago. 	<p>conceptual only. Requires thorough conceptualization, transparent constitution, integration with existing regulatory framework, testing and refinement.</p> <ul style="list-style-type: none"> • “Open space alliance” another new institution conceived in the plan but not embedded within current institutional framework. In this context it applies to stormwater innovation concepts. • Innovations, particularly 1. Low-energy building, and 6. Manage Stormwater only make sense if extended across the IDEA district. Need broad buy-in. Need case-studies of energy efficient housing to determine ROI across time. 	<p>“open data” developments and where they wish to apply IP rights.</p> <ul style="list-style-type: none"> • Villiers West, the IDEA District, and the energy-sharing orbit of Ashbridges Bay WTP are all included in the MIDP. The major sustainability benefits offered by SWL’s analysis pertain to applications that stretch beyond Quayside. How do we address this “overreach”? And, if there are major benefits we wish to pursue, how do we determine how to proceed? • What products are being developed for commercial export? Is real-time metering, for instance, an R&D initiative: Is this the business model? • Need to understand those elements that can be done here, within our jurisdiction, and those where we need wider collaboration across departments, governments, non-governmental players. Then we will be able to better understand if we develop an application here, what is the payback at Quayside/Villiers West/IDEA District and what we should go into with the expectation of protecting for development at scale on a broader field. • Need to consider easy-to-do/ hard-to-accomplish and short-term/long-term payback. Need to determine those elements are negotiable and non-negotiable for Toronto and for SWL.

Digital Innovation			
Idea	Benefits	Concerns	Questions
Super PON (advanced networking)	<ul style="list-style-type: none"> • Allows for a new level of networking and traffic handling. Should allow all the buildings, public spaces be wired or wirelessly connected 	<ul style="list-style-type: none"> • Security might be an issue. They propose a single sign on. • Risk of having a single provider and a single bottle neck to the whole thing. 	<ul style="list-style-type: none"> • Who will provide competition to the sole provider? • Will companies and families trust this single provider (if Google)? • Who will run the network and handle the admin?
Koala (standard mounts, electrical and connectivity points)	<ul style="list-style-type: none"> • Easy to attach sensors to buildings, inside and out, and to street infrastructure. <ul style="list-style-type: none"> ○ Cheap ○ Quick 	<ul style="list-style-type: none"> • Security of the devices? • Verification of device ownership? 	<ul style="list-style-type: none"> • Can a pole have multiple Koala mounts?
Distributed Credential Infrastructure	<ul style="list-style-type: none"> • Easy to get on the network, easy to set up new workstations, etc. • Koala mounts and be used wirelessly. 	<ul style="list-style-type: none"> • Security • A single ID for all communication might be a bit much. • Monitoring and logging 	<ul style="list-style-type: none"> • Who is the gatekeeper? • Would a company competing with Google feel secure using such a system?
Open Data Standards	<ul style="list-style-type: none"> • Anyone can use the data and useful ideas and understanding can come from the data 	<ul style="list-style-type: none"> • Deanonimization risk • Deminifization risk 	<ul style="list-style-type: none"> • Are the public to know how the anonymization and minification algorithms are working? • Will they use standard open source formats (JSON, XML, CSV, Shapefile)?
Data Storage		<ul style="list-style-type: none"> • Where will the data reside after collection? 	<ul style="list-style-type: none"> • Will the data reside in Canada, and travel over Canadian networks? • Will Google handle this? Will there be some competition or a public entity (City of Toronto, TPL, the big three Toronto universities) handle the data
Urban Data Trust	<ul style="list-style-type: none"> • A known store house for all the data created 	<ul style="list-style-type: none"> • Details to come... • The agreement should be a public document created will public consultation. • It should be reviewed every 5 years? 	<ul style="list-style-type: none"> • Much more detail has to be provided before this gets signed off.

Digital Innovation

Idea	Benefits	Concerns	Questions
Responsible Data Use (RDU) Assessment	<ul style="list-style-type: none"> • At least this is being thought about unlike the thousands of CCTV systems that currently exist • Agreements will be public 	<ul style="list-style-type: none"> • Could the board become a Quango for failed politicians and their friends? • The phrasing for the RDU stated that a summary condensed version of the agreement be available for the public. It should be that all whole agreements be available to the public except for parts that have to be hidden for proprietary reasons. 	<ul style="list-style-type: none"> • Will the board for these assessments have members of the public? • Will there be a public process for assessing RDUs? • Will the RDU's be reviewed after a set period of say 5 years to ensure that they still are needed and meet spec? • Will the public have the ability to review minimization and de-identification methods? • Will the public be able to get information on how AI is being used on the data? • Will users have to register to use the data, or can anyone visit an open data portal and just download it or get a data stream (like the City of Toronto) • Will full data dictionaries be provided?
Transnational Data		<ul style="list-style-type: none"> • Transactional Data can easily be tied to the public data. How will this be prevented? • Sidewalk labs appears to be too dismissive of this concern. 	<ul style="list-style-type: none"> • Can we see this concern fleshed out?
Live Feeds	<ul style="list-style-type: none"> • Can be useful for certain forms of enforcement or safety. • Would just be interesting. 	<ul style="list-style-type: none"> • Deanonimization risk • Deminifization risk 	
Scheduler	<ul style="list-style-type: none"> • Good method to reduce energy use and pollution, though marginal. • AI driven, so it could be much more sophisticated than current technologies. 		
Building Code Changes		<ul style="list-style-type: none"> • Wrong word used, but the correct one escapes me. • All structures should exceed the current building code requirements. 	

Digital Innovation

Idea	Benefits	Concerns	Questions
Proposed Launch Services (pg. 444)	<ul style="list-style-type: none"> • These look fairly good and useful, especially for environmental related tracking (mobility, energy management, stormwater management, waste management) 		
Nice to Haves			
Visible Identification of Certified Devices & Anonymization Systems	<ul style="list-style-type: none"> • Increase public trust, ensure standards are met 	<ul style="list-style-type: none"> • Sensing devices should be marked and sealed for easy identification and proof of not being tampered with. It would be all too easy for a private or rogue group to set up sensors in the development and use them for rogue purposes. 	<ul style="list-style-type: none"> • How can this be accomplished?
Data Collection Centre (plus website)	<ul style="list-style-type: none"> • A place where the public could visit and review how the various sensors work and what the anonymization would look at. 	<ul style="list-style-type: none"> • A place where people could get first-hand experience of what is being collected and how it is collected. 	<ul style="list-style-type: none"> • Too much may be hidden away from the public. The whole works should be open as possible.
Patents etc		<ul style="list-style-type: none"> • Don't want patents etc. to be weaponized as in the drug and high tech trades. This should be done for the good of all, not just a few wealthy companies. 	

Digital Innovation		
Idea	Summary	Concerns/Questions
Super-PON		<ul style="list-style-type: none"> • how does this differ from conventional Dense Wave Division Multiplexing (DWDM)? • what additional security would Super-PON offer? (MIDP asserts some benefit in this area)
"Koala™" mount system		<ul style="list-style-type: none"> • more discussion of implications would be helpful, especially as they relate to intellectual property, technology, and life cycle as opposed to simple integration costs
"software-defined network"	<ul style="list-style-type: none"> • MIDP proposes a "software defined network" for Quayside (and later IDEA District) residents, providing "a seamless and secure neighborhood-wide network" 	<ul style="list-style-type: none"> • this idea might be leapfrogged by advances in cellular technology, especially 5G networks • people are increasingly obtaining their Internet access through their phones; is the Quayside or IDEA District scale useful for the "software-defined network" when 5G phone providers will provide competing offerings over much larger geographies?
Distributed credential infrastructure		<ul style="list-style-type: none"> • too vague and "in the future" to provide useful commentary
Technological considerations of geographic scale for Digital Innovations		<ul style="list-style-type: none"> • what specific Digital Innovations does SWL consider technically operable at the scale of Quayside? • what specific Digital Innovations does SWL consider only technically operable at the scale of the IDEA District or larger, but not Quayside? • what specific Digital Innovations does SWL consider fully technically operable only at scales larger than the IDEA District?
Setting data standards that are open and secure	<ul style="list-style-type: none"> • generally a strong section • "SWL proposes that properly de-identified and non-personal urban data can be made publicly accessible by default" • open, published standards need to be applied to protocols, interfaces, APIs, data structures ==> MIDP generally contemplates doing so 	<ul style="list-style-type: none"> • ==> how are non-default cases identified?
Resiliency versus security		<ul style="list-style-type: none"> • while often discussed concurrently in the MIDP, the preponderance of actual detail is given to security • the MIDP would benefit from more detailed discussion of resiliency: a neighborhood relying so extensively and deeply on digital technology and adjunct services needs design for resilience built in:

Digital Innovation		
Idea	Summary	Concerns/Questions
		<ul style="list-style-type: none"> ○ failsafe and other fall-back design ○ redundancies ○ failure models
Responsible Data Use (RDU): creating a trusted process for responsible data use	Urban Data Trust	<ul style="list-style-type: none"> ● "Process for Approval" for RDU of Urban Data is reasonably well defined in the MIDP but is missing a review cycle <ul style="list-style-type: none"> ○ suggested: Step 5: RDU Compliance and Impact Review: a scheduled, built in, well defined process for review of approvals, including a possible "expiry" of specific RDU approvals ● MIDP "proposes that the summaries of approved RDU Assessments be made available by the Urban Data Trust to ensure transparency and encourage accountability by the public, privacy advocates, and regulators alike." <ul style="list-style-type: none"> ○ should consider also summaries of applications received, in process, denied, and approved with conditions ● definition of RDU in the SWL MIDP centres on data acquisition issues and privacy considerations ("privacy impact assessment"); RDU definition should also focus on approval/denial of actual uses of that data ● concept of RDU should explicitly include data life cycle considerations: <ul style="list-style-type: none"> ○ time frames for data use ○ time frames for data collection ○ schedule for data deletion (including having devices supply statements of memory volatility (data residence on devices) wrt flash memory, hard drives, RAM,ROM, EEPROMS, etc.) ○ time frames for cloud data residency
	Chief Data Officer	<ul style="list-style-type: none"> ● role of the Chief Data Officer too broadly defined ● Chief Data Officer should "run the entity's [Urban Data Trust] daily operations" ● Chief Data Officer should not (as proposed) be responsible for: <ul style="list-style-type: none"> ○ "developing the charter for the Urban Data Trust" ○ "structuring oversight and review processes" ○ "creat[ing] a set of RDU Guidelines"
	Defining "Urban Data"	<ul style="list-style-type: none"> ● more detailed and real-world definition of the differences between "public realm," "privately-owned but publicly-accessible spaces," and "private spaces" would be beneficial ● more consideration of the Responsible Data Use implications of data collection when the technology bridges realms (example: a camera monitoring traffic in the "public" realm might also be collecting data in surrounding or embedded "private" realms (example: apartments or vehicles) or "public-private" realms (example: restaurants)

Digital Innovation		
Idea	Summary	Concerns/Questions
		<ul style="list-style-type: none"> • MIDP should clarify further by describing a type of data that is both "Urban Data" and "Transaction Data", or how those two types of data in a single data collection activity could be "disaggregated"
	Geographic Scale of Urban Data Trust	<ul style="list-style-type: none"> • are any aspects of implementing Urban Data Trust not attainable at the scale of Quayside? • are any aspects of implementing Urban Data Trust only attainable at the scale of the IDEA District or larger?
Launching core digital services that others can build on	<ul style="list-style-type: none"> • this section is primarily composed of sample use cases 	
Scalability	<ul style="list-style-type: none"> • Economic considerations of geographic scale for Digital Innovations 	<ul style="list-style-type: none"> • what specific Digital Innovations does SWL consider economically viable at the scale of Quayside? • what specific Digital Innovations does SWL consider only economically viable at the scale of the IDEA District or larger, but not Quayside? • what specific Digital Innovations does SWL consider economically viable only at scales larger than the IDEA District?

Digital Innovation Volume 2. Urban Innovations

What do you see as the potential benefits and risks of the digital proposals put forward by Sidewalk Labs?

The benefits of the digital proposals put forward by Sidewalk Labs are as follows:

The digital proposals support purposeful solutions that will help fulfill Waterfront Toronto's priority outcomes:

In the **Digital Neighbourhoods and Digital Literacy** public meeting hosting by Waterfront Toronto and the Toronto Public Library, participants expressed that while digital technologies can be exciting, they must not be technology for technology sake. Digital solutions that impact communities must demonstrate that there is a purpose beyond just commercial interests. For the Quayside project the purpose is to help fulfill Waterfront Toronto's priority outcomes that include job creation and economic development, sustainability and climate positive development, housing affordability, new mobility and urban innovation.

The digital proposals are meant to generate measurable outcomes: Digital solutions offer capabilities that help measure the performance of a digital solution against Key Performance Indicators (KPIs), These key indicators should be extended to key quantitative and qualitative measures (KQIs) that help measure outcome-based results of a digital solution. In the case of the Quayside Project, KQIs enable Waterfront Toronto and other key policy stakeholders to evaluate an urban technology solution in achieving its priority outcomes.

The digital proposals serve as a catalyst for Toronto's emerging urban tech community: A key priority outcome for Waterfront Toronto is the creation of opportunities for entrepreneurial companies focused on urban innovation. The digital proposals serve to kickstart further development by third-party urban tech partners to build new, improve upon or replace the core digital services initially proposed by Sidewalk Toronto.

The digital proposals support an open architecture approach. A key digital guiding principle in the **Plan Development Agreement between Waterfront Toronto and Sidewalk Labs** is to be an enabler or catalyst for open innovation. The digital proposals support an open architecture approach based on open standards, open source APIs and open access. This will enable a level-playing field for all urban tech companies to compete and prevent any single company from monopolizing a critical digital system or component.

The digital proposals establish best practices for ethical data design for urban tech development community: The digital proposals support current best practices for ethical data design including privacy and security by design. It also proposes new ethical best practices that addresses the challenges of future smart communities including the implementation of a responsible AI framework.

The digital proposals establish a process for responsible data use and governance for urban tech companies: The digital proposals describe creating a new process for responsible data use and governance. This includes a new class of data (urban data) a set of guidelines for responsible data use (RDU Guidelines) and the establish of a data trust that provides independent stewardship of data (Urban Data Trust).

The risks of the digital proposals put forward by Sidewalk Labs are as follows:

While the digital proposals support public data standards, the standards for urban data can become the de facto standards. Large corporate interests often create and drive their own data standards as public or industry-accepted standards. As a result, the urban data standards that are proposed by Sidewalk Labs (and its parent company Google) can become the de facto standards. Public standards for urban data must be accepted and ratified by a collective representation of cities, municipalities, academic and urban technology companies.

While the digital proposals support open architecture API's it is uncertain who owns, controls and maintains the API's: Sidewalk Labs plans to make its own APIs publicly available and share its software code publicly as open source. However, who owns, and controls subsequent versions of the original software code and APIs remain uncertain. At risk is that certain 'gatekeeper' roles and functions may arise if management and maintenance of software code and APIs are led by large corporate interests.

The range of digital proposals can lead to an asymmetrical playing field: Sidewalk Labs lists a minimum of ten digital proposals as "launch services". The breadth and depth of these launch services can potentially dominate the direction of urban innovation and development at Quayside. This opens up a potential asymmetrical playing field for Sidewalk Labs since it gains a first mover advantage in core and essential digital services over other third-parties.

What assurances should be put in place to ensure that neither Sidewalk Labs nor any other party obtains monopolistic control over digital infrastructure?

The following assurances should in place to ensure no one party obtains monopolistic control over digital infrastructure.

Ensure neutrality for wireline and wireless connectivity infrastructure: The digital proposals offer advanced managed high-speed connectivity infrastructure such as Super-PON and Software-Defined-Networks. Assurances should be put in place to guarantee fair and equitable access to both high-speed wireline and wireless services to all citizens residing and working at Quayside. This includes ubiquitous backbone connectivity to the advanced optical network as well as fair and equitable access to next-generation WiFi and 5G wireless services.

Ensure compliancy of IoT mounts and devices to municipal standards: The digital proposals offer new IoT physical mounts and hardware devices that will be installed and maintained at Quayside. Assurances should be put in place by the City of Toronto to develop a list of approvals and procurement process for IoT mounts and devices that comply to municipal standards for IoT hardware and software components.

Where needed, ensure legislative/regulatory oversight of the digital infrastructure: The digital proposals acknowledge that no single company should have a monopoly on providing a critical digital system or component. Assurances should be put in place such that any piece of the digital infrastructure 'stack' that is owned and controlled by any entity should be subject to legislative or regulatory oversight.

Ensure an open platform architecture: The digital proposals support an open platform architecture approach to enable open innovation. Assurances should be put in place ensure an open architecture approach applies to all parties and communities including adherence to open data standards, open data access, open source code and open API's. Adequate enforcement through open license and operating agreements should also be put in place to prevent vendor lock-in and control.

De-identified personal data can be re-identified

The digital proposals depend on a wide range of urban data types collected by a wide variety of IoT devices, sensors and cameras. This includes the collection of personally identifiable data. While Sidewalk Labs proposes safeguards to protect personally identifiable data collected in the urban realm such as de-identification at source, the risk of re-identification still exists.

What provisions should be in place, should infrastructure elements fail or no longer be supported by Sidewalk Labs?

In order to specify what provisions should be in place for the infrastructure elements it is important to recognize that the Quayside project is at an early infant stage of the project lifecycle. According to Sidewalk Labs **Technology Update to Waterfront Toronto's Digital Strategy Advisory Panel** Sidewalk Labs plans to test early versions of the infrastructure elements as well as the associated digital proposals at Quayside. Pre-commercially available versions of digital hardware and software infrastructure presents significant risks for an early adopter such as the Quayside Project.

As an early adopter, the following provisions should be in place, should infrastructure elements fail or no longer supported.

Early Adopter Program for Quayside Project

- Prototype release testing and validation
- Beta release testing and validation
- Product and functional acceptance criteria
- Human-centric user acceptance criteria
- Ethical data design and impact assessment criteria
- Responsible data use and governance assessment criteria
- Key Performance Indicators (KPI)
- Key Quantitative and Qualitative Indicators (KQI)

Upon the successful acceptance of the test criteria established within the Early Adopter Program, resulting in the release of a commercially available version the following commercial provisions should be in place, should infrastructure elements fail or no longer supported.

Launch Services

- Customizations to launch services
- Continued update and upgrade support to customized launch services should infrastructure elements be no longer supported
- Perpetual license to all source-code related for customized launch services should infrastructure elements be no longer supported
- Remedies and fixes to customized launch services should infrastructure elements fail.

Transition Services

- Services to support transition to alternatives should infrastructure elements are no longer supported.

Termination

- Maintenance and support of latest installed version of products and services for a reasonable period of time after termination of contract agreements.

Indemnification

- Against claims, damages and unintended consequences.

Should the MIDP consider solutions – such as a decentralized credential service – which does not focus on solving specific urban challenges.

Sidewalk Toronto believes that digital solutions are key to integrating components of the digital layer with the physical layer. A decentralized credential service is one aspect of the role of identity and personal information management for digital solutions that collect urban data. The balance between authenticated identity (and the personal information associated with it) vs the innovation benefits of collecting urban data (which includes personal data according to Sidewalk Labs) presents one of the major urban challenges for smart digital communities.

There are three major issues for decentralized identity and personal information management solutions as it applies to urban data:

1. A stronger alternative to current password-based and two-factor authentication methods using decentralized identity techniques.
2. The ability to enable trusted data transactions with full consent of the individual for the information shared.
3. The recognition that individuals have the right to own and control their personal information.

Sidewalk Labs has proposal for distributed credentials applies mainly to “privacy-techniques to enable trusted transactions with only the minimal amount of information necessary with a person’s full consent over what information is shared. The extent of which the MIDP should consider comprehensive solutions like decentralized identity and personal information management will depend largely on the discussion of digital rights advocated by **Cities Coalition for Digital Rights** as well as Canada’s **Digital Charter**. In terms of possible policy direction, the European Union’s **General Data Protection Regulation (GDPR)** has defined a specific set of digital rights for EU citizens:

1. Access their personal data
2. Know how it’s being used
3. Ask for errors to be rectified
4. Restrict processing of their data
5. Obtain and reuse their personal data
6. Object to certain uses
7. Request the removal of data (the “Right to be Forgotten”)
8. Request an explanation about automated decisions

Organizations like the **Digital Identification and Authentication Council of Canada (DIACC)** are proposing a Pan-Canada Trust Framework that defines the policies, standards, and

regulatory changes with international benchmarks for the standardization of digital identity and authentication for the public and private sectors of Canada.

Organizations like Toronto's **Blockchain Research Institute (BRI)** advocate advanced blockchain technologies as core to decentralized personal information management. According to Alex Tapiscott at BRI: "realizing this "Virtual You" through blockchain technologies could not only preserve our right to privacy and personal security but also restore our control over the data we create. In the case of Sidewalk Labs, for example, it would give Torontonians the power to decide who can use their data and how: They could volunteer or license its usage, or refuse to share it altogether".

Are there specific areas of the digital innovation proposals that you believe you need additional assistance in understanding prior to being able to determine whether or not you support these elements? If yes, please provide the topics that you feel you need additional level of information for.

There is a need to develop a set of Key Qualitative and Quantitative Indicators (KQI) as part of the evaluation process for the digital solutions proposed by Sidewalk Labs. The **Open North Open Smart Cities Guide** recommends that there "should be processes in place to not only examine the results, but also to critically assess and discuss with stakeholders" and "that the system should also be flexible and scalable to capture the dynamics of a city, or be what is referred to as living indicators. Open North have suggested a number of city KQI's that can serve as the basis for the Quayside Project including the **Rockefeller City Resiliency Index (CRI)**, **ITU KPI's for Smart Sustainable Cities** and **ISO 37120 monitored by the World Council on City Data**.

The **Open North Open Smart Cities Guide** suggests that the scope of KQIs can be expanded to reflect quality of life indicators such as well-being as well as broader notions of fairness, justice and equality. At a minimum, KQI's for the Quayside Project should help evaluate an urban technology solution in achieving the priority outcomes established by Waterfront Toronto.

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Do you find the creation of the concept of "urban data" to be helpful by clarifying what data should be considered a public asset and/or subject to enhanced oversight by a data stewardship body? Or, do you think that currently recognized terms, such as personal and non-personal data, are more helpful to establishing the stewardship issued related to these different types of data?

Sidewalk Labs has 'urban data' which is defined as 'data collected in the physical environment, that includes both personal information and information that is not connected to a particular individual'. Sidewalk Labs defines four generally recognizable types of urban data, non-personal data, aggregate data, de-identified data and personal information.

Given the infancy of urban data science, it is uncertain whether all data generated and collected in the urban environment can be classified as urban data. Civic advocates have pointed out the potential non-neutrality of urban data, since many datasets will have multiple characteristics and jurisdictions. To the extent personal data can be de-identified and anonymized, issues related to re-identification of individual data and behavioral bias of aggregate data may arise.

In addition multiple types of datasets will be combined from open, shared and closed sources, blurring the distinctions between individual vs aggregate data, and personal vs non-personal data. Academic scholars have suggested that in the age of big data, processed data can be

representative, implied or derived, thereby changing the original purpose of a given urban dataset.

Data collected in the urban environment raises several issues about the data's fit for the purpose it is intended to be used. Any responsible stewardship for urban data must consider its fit for purpose and to assess the benefits and the risks should the original purpose of any given dataset should change.

Do you generally support the idea of data stewardship for data collected in Quayside? Do you feel it is necessary? If so, what are your views on the model proposed by Sidewalk Labs under the name "Urban Data Trust"? What would you keep and/or change? What central data stewardship structure would you support to oversee compliance of all applicable laws relating to data use in the Quayside? Do you believe governments should be bound by the data trust? Do you believe business should be bound by the data trust?

Sidewalk Labs had proposed an "Urban Data Trust" based on the data trust model developed by the **Open Data Institute (ODI)**. The Urban Data Trust offers a framework for governing structure, data use guidelines, review process and the associated data agreements for all entities providing and using urban data. While Sidewalk Toronto proposes a phased implementation of the Urban Data Trust the concept of data trusts is still, according to ODI, in the early development phase. ODI has proposed a data trust life-cycle approach which includes a co-design phase. During this phase various stakeholder groups will be involved in creating, using or advocating for a data trust. Examples of stakeholders in co-design include the following:

Providers and Users: Sidewalk Labs proposes to launch a minimum of ten digital solutions which (1) will use urban data (2) supports ecosystem partners that will provide this data *and* (3) involve third-party application developers that will build on this data. Co-design of the Urban Data Trust will benefit from the use cases, case studies and business models created by the providers and users of launch services.

Government: The City of Toronto plans to "develop a city-wide policy framework and governance model associated with digital infrastructure and data, such as Smart Cities, and a workplan for implementation, to be used in the evaluating the Quayside Master Innovation and Development Plan"

Community: Open North's **Open Smart Cities Guide** offers a starting point towards formulating a set of common principles for responsible data design and governance. Open North and Future Cities Canada has published a paper that that explains how these principles can be applied to smart cities in the Canadian context. Co-design of the Urban Data Trust should include input from communities actively involved in smart city building

Citizens: Civic advocates have expressed need to engage local citizens in digital-community building since is the scale at which the unintended impacts and consequences of urban data are felt. Co-design of the Urban Data Trust could improve the methods of inclusive citizen participation.

The Quayside project offers a regulatory sandbox to explore how the Urban Data Trust would operate, its structure, the scope of its legal authority and its relation to other regulatory bodies and governmental departments at all three levels of government. Through the digital launch services proposed by Sidewalk Labs, policy makers can measure and evaluate the effectiveness of the Urban Data Trust in achieving Waterfront Toronto's digital principals and key priority outcomes.

Do you support the creation of a digital credential solution to support the delivery of the project? If not, are there any changes and/or conditions which would make you more comfortable with the concept?

A digital credential service is one aspect of the wider role of identity and personal information management for digital solutions that collect urban data. The balance between digital credentials (and the personal information associated with it) vs the innovation benefits of collecting urban data (which includes personal data according to Sidewalk Labs) presents one of the major urban challenges for smart digital communities.

How would you envision data collected in the public realm being used for the public good? Do you think the proposals related to open data would support that? After reading the Draft MIDP, what digital governance concerns (if any) do you consider to remain unanswered?

Data collected from the public realm and made available as open data enables the following:

1. Fosters greater civic innovation among civic organizations that are focused on delivering fair and equitable access to public services and maximizing the public good.
2. Incent new business innovation to create and build new urban tech products and services that addresses and solves the problems of city building

Toronto's diverse civic innovation community is focused on addressing the many complex problems and issues facing the city. Examples includes solving community problems through weekly hackathons organized by Civic Tech Toronto, providing training workshops for human-centric design and technology to deliver better digital public services organized by Civic Hall Toronto and empower communities to solve civic challenges using technology and design organized by Code for Canada. Open data collected from the public realm will significantly improve the efforts by civic organizations to deliver programs and solutions that solve the local and community challenges faces Toronto.

Toronto's emerging urban tech community are investing in innovative new products and services in areas such as cleantech, greentech, urban mobility and smart cities. According to recent research by the **Open Data Institute (ODI)** urban tech companies are beginning to recognize the value of open data to build and enhance their value proposition. Open data collected from the public realm offers news ways to create new business value through new 'as-a-service' models thereby attracting new customers, improve customer experience or capture new markets.

Bianca Wylie (Individual), Jul 31

Dear Waterfront Toronto,

As you wrap up this first round of consultation and continue with your deliberations I have two thoughts to share from a resident perspective.

Firstly, “the whole is other than the sum of its parts.” I have no philosophy background, so this might be a misstep as a reference, but someone will fix it if I’m getting it wrong. From what I understand, this is a translation of Aristotle’s words. His concept lends itself well to understanding the problem with this plan, and its assessment.

The whole of this plan is that the framing of important democratic issues is coming from the wrong party. Many of the urban planning ideas it contains, the sum of some of its parts, when considered independently and at surface-level, seem fine, if not good. That’s by design. The plan was always going to be saleable when viewed through a standard urban planning lens. The large real estate transaction, an area I know you specialize in, begins to get muddier. The economic development and innovation approach muddier still. And it’s because the overarching construct of the plan - the whole - is flawed.

It’s structurally flawed in a way that is deeply challenging to resolve. Basically, the structural problem created in the request for proposal is replicated in the plan. It’s a circular reference. The request for proposal led to an omnibus plan that has offered a corporation the power to define organizing principles and governance changes for how we live. This is not work for a profit-seeking entity to do in a democracy. And it’s far too much at once. The impacts of this framing run through many of the component parts of the plan.

I understand that you want to thoroughly evaluate the plan you’ve received from Sidewalk Labs. Experts can and will be hired to do the piecemeal assessments of the component parts of the plan. Just as lawyers, management consultants, and a retired judge have all signed off on what has happened so far, on behalf of the public.

But how will you, Waterfront Toronto, then explore trade-offs when there are this many concurrent, and interdependent, pieces on the table? Start with just a few and you get a sense of the exponential complexity. Take real estate valuation, economic development, and the governance of public infrastructure. Then consider that these pieces all include cross-cutting democratic governance issues in areas that multiple global policy communities don’t have answers for, including anti-trust, and data governance. Add into that calculation the feature of time. What is being proposed here includes risks associated with time. You appear to minimize privatization risks in your Note to Reader. Uber did not start out in the market explicitly declaring itself a competitor to public transit. And somewhat related to that, what is government’s role in managing increased venture capital in municipal markets, considering recent history?

So my first question at the end of these shared thoughts is: how do you plan to factor this multivariate calculus into your assessment of the proposal?

Secondly, and probably most importantly, please consider that saying no to this plan signals awareness of how to innovate properly and responsibly, within reasonably established guidelines. If you want to help make space for governments to innovate, then the public needs to trust that an experiment will be stopped when the time to end it has arrived.

Should you proceed with another round of consultation, as is currently planned, I will continue to participate as a resident that respects process and trusts in the institutions of government. But it would be disingenuous not to share with you the negative impacts this project is having on trust

in our institutions and the lack of confidence it signals in our political systems. The scariest part of this project for me personally is that it appears as though governments don't want to do their job. That they're more than happy to assign that responsibility to a willing vendor if they have enough money. But even if that's true, I don't think you, or the three levels of government, have the authority or mandate to make that decision on my behalf.

In the meantime, Sidewalk Labs will continue to market itself to the residents of this city, and to those that seek to benefit from the potential capital flows related to the deal. And they will continue to do so in siloed ways that avoid the problem with the whole of the plan, which is democratic governance. This ongoing marketing will continue to undermine your authority.

Many urbanists' excitement about new building design, sustainability, tall timber, garbage management solutions, and playful safe streets and spaces will be further stoked. People are already buying into some of these component parts. Why wouldn't they? Some are good ideas or appear to be good ideas on the surface. But at what cost?

Who is minding the oversight of governance for the public interest? Nothing is worth the loss of integrity that your organization will suffer if you enable the loss of democratic control to corporate capture. No real estate deal, no office opening, no infrastructure finance, no public realm ideas – nothing is worth that. There is no price you can put on our democracy and I struggle to understand the proper valuation method you might use for it in your assessment.

Let's move on from this and move back into building great things on the waterfront, taking the lessons learned and applying them. There is a very bright future ahead for the waterfront and it would be wonderful to pick up where that work left off. You can keep the plan as consultant's work, perhaps do some of the things in new procurements. That was always supposed to be an option. Everyone benefits. Onwards.

Name withheld #13 (Individual), Jul 31

Thank you for the opportunity to comment on Sidewalk Labs.

I am concerned about an org the size and power of Google being given a foothold in Toronto and start to make demands and exert pressure on the city--taking power and decision-making away from the citizens, ie usurping democracy.

I have been aware of various places in the world in which Google has had a negative effect on democracy and/or the finances of the city. In short, I do not have faith in the goals of corporations--- which is to enrich their own entity with no interest in democracy. This is polar opposite to what we should be pursuing.

I'm also thinking that there are plenty of companies that would be able to develop the area being discussed. Google is a company which specializes in online tasks. They are not a 'developer'. When asked to present plans for, I believe, is the 12-acre Quayside site only, Google has come back pushing plans for a much larger area. Already this is Google attempting to push the envelope and to assert it's power over our city and, in reality, it's residents/citizens.

Again, thank you.