MASTERS OF PROFESSIONAL COMMUNICATION
MAJOR RESEARCH PAPER

**City of Surveillance? The Implications of Sidewalk Labs'
Resolution to Build a Smart City in Toronto**

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The Major Research Paper is submitted
in partial fulfillment of the requirements for the degree of
Master of Professional Communication

Ryerson University
Toronto, Ontario, Canada

August 29, 2019

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To Rosie, my Toronto mama, for keeping me sane this past year.

ACKNOWLEDGEMENTS

ABSTRACT

Google's sister company Sidewalk Labs has proposed to build a smart city on the Eastern end of Toronto's waterfront. This initiative is the first of its scale in North America. With the creation of a smart city come implications for the technological, political and cultural life of a city, that give Sidewalk Labs unprecedented power in the realm of urban governance. This study aims to examine whether or not Sidewalk Labs is offering a city of surveillance. Building on existing work on the influence of data, big tech and governance, as well as the cultural importance of neighborhoods, it aims to explain the possible outcomes of the decision to adopt such an initiative in a multicultural urban environment.

Alongside a review of the literature on surveillance capitalism, governance and modern urban theory, discourse analysis of the recent Master Innovation and Development Plan (MIDP) released was conducted. Analysis of the material demonstrated a possible desire to control and lead, with data as the key instrument granting the tech company power of uncompetitive nature. The results indicate that there could be negative implications associated with the creation of a smart city in Toronto, but are not of unruly scale. On this basis, it is recommended that Canada update its privacy protection laws to include technological advancements of this scale, and require government involvement in the project at every stage.

BACKGROUND

In 2017, Waterfront Toronto, created by the three orders of government (Federal, Provincial, and Municipal), issued a Request for Proposals (RFP) asking for plans to revitalize Quayside, a neighborhood located on the East end of Toronto. Quayside was once a thriving node for trade and commerce, but the fall of industry left the area underutilized (Sidewalk Labs, 2019). Sidewalk Labs, a sister company to Alphabet's own Google, won a bid to be part of the development of Quayside in late 2017 (Canon, 2018). It quickly released a document detailing the project's vision: a plan to build a smart city that tackles the different urban challenges that Toronto is facing, including issues related to unemployment, economic development, sustainability, climate change, housing affordability, mobility, as well as an overall lack of innovative approaches to new urban solutions (Sidewalk Labs, 2017). The plan calls for the installation of data-gathering sensors in almost every corner of the smart city in order to improve the quality of life of its residents (Sidewalk Labs, 2017). There were many critiques and concerns that were voiced in response to this announcement, mainly due to the fact that the government was effectively handing governance of a large section of Toronto to a giant corporation like Alphabet to administer and develop. There were also concerns about privacy, and where, what, and how the gathered data would be used (Canon, 2018). These concerns died down when Canadian Prime Minister Justin Trudeau stepped in to say that such an initiative would help turn the neighborhood into a "thriving hub for innovation," and did not rise again until October of 2018, when Ontario's own (now former) Privacy Commissioner Ann Cavoukian, who was an advisor on the project suddenly resigned (Canon, 2018). She later revealed in her resignation letter that Sidewalk Labs had initially agreed that the data collected would be "wiped and unidentifiable at source," meaning stakeholders would not be able to trace the information back to specific people, but would only have access to a certain behavioral

pattern, when that was not the case in reality (Canon, 2018). In fact, it turned out that third parties *were* able to access the information gathered – third parties including partner corporations as well as the government, and the company was quickly "threatened by fears that data collected by the city's systems could be sold on" (Randall, 2019). Opposition to the project began to look at the construction of this smart city as being "anti-democratic," "deceptive," "a corporate hijack of democratic process," and "a slow and dangerous civic and political complacency" (Wylie, 2018). Its initial plan painted a utopian picture of the future, promising economic growth and great breakthroughs in urban form, technology, and organization (Sidewalk Labs, 2017). It was not until the last week of June 2019, however, that Sidewalk Labs' plans became clear. It released a 1500-page proposed Master Innovation and Development Plan (MIDP) explaining in detail how it wanted to go about building the smart city, a plan that gave rise to a backlash from Waterfront Toronto as well as the public (Simpson, 2019). Though the proposal suggests a number of great solutions to some of the city's current urban challenges, there seems to be a shift in perspectives between what Waterfront Toronto calls for and what Sidewalk Labs is planning to do (Diamond, 2019). As the review and evaluation of this report now begins, Waterfront Toronto, in collaboration with experts, the public, and the three levels of government, hopes to go through the proposed ideas to make sure they are in the interest of the public, and address the objectives outlined in the initial RFP (Diamond, 2019).

Waterfront Toronto was created in the year 2000. It has a "25-year mandate to transform 800 hectares of brownfield lands on the waterfront into beautiful, sustainable mixed-use communities and dynamic public spaces" (Waterfront Toronto, n.d.). Since its inception, considering we are more than halfway through the duration of this mandate, not much has been done to revitalize the East end of the waterfront (Sidewalk Labs, 2019). Sidewalk Labs (2019)

claims that as Toronto becomes an even more popular destination with a larger influx of people coming in from all around the world, the government has not been effective in coming up with solutions that address issues of mobility, affordable housing, sustainability, etc.; in response, it proposes beautiful solutions that paint a utopian picture for the future of the city, solutions designed to be both feasible and orderly.

In the initial documents that Sidewalk Labs uploaded to its website, documents that introduced the project, set the scope, and illustrated the challenges, the language used is not that different from what someone out to save the world would use. These documents are ambitious, confident, convincing, and full of hopeful messages that reassure the public of the company's commitment to making impactful changes. One could say that they are a friendly call for supporters. However, the tone shifts slightly with the October 2017 Project Vision that includes details of its plan, uploaded to the website in order to promote transparency and hopefully get people on board. In this memo, and particularly from pages 1 to 23, Sidewalk Labs states that "as the marriage of Google engineers and government leaders who changed the face of New York City, Sidewalk is the only urban innovation company built expressly to bridge the divide that exists between urbanists and technologists [….] No one else has envisioned the integration of technology into the physical environment that will give rise to an urban innovation platform" (Sidewalk Labs, 2017). It also mentions that "nowhere else will mobility innovation meet streets designed for it. Nowhere else will housing be more affordable based not on policy alone but on how things are built. And nowhere else will all this innovation exist in a single place" (Sidewalk Labs, 2017). The tone in general is overwhelming, and paints the project as a utopian ideal that no other company or institution can envision. This is also evident in the way the company talks about the global significance of this project, stating that it will do "things that have never been

done" and that the district will be the first "where the only vehicles are shared and self-driving, where buildings have no static use, where streets are never dug up" (Sidewalk Labs, 2017). When talking about the ways this project will address urban challenges, Sidewalk Labs praises Toronto for its growing success, but also indirectly shades the government for not doing enough saying that "Toronto is on the right track […] but it has to move faster to achieve inclusive growth […] to live up to its billing as 'the city that works,' Toronto must work for everyone" (Sidewalk Labs, 2017). The language used has Sidewalk Labs assuming a superior position than that of the government, and makes it look like this project is the one and only solution for problems that no other institution or governing power has been able to solve. The document also includes discourse that hints at future plans for expansion in other Toronto neighborhoods that gesture towards a plan to "privatize" the city.

Come 2019, and the Master Innovation and Development Plan (MIDP) released during the last week of June had a completely different tone. Sidewalk Labs' plans have recently been subjected to even stronger criticism, and the sudden shift in language used is evident – it has become defensive. In the first few pages of the MIDP, Sidewalk Labs refers back to Waterfront Toronto's initial Request for Proposals (RFP) to point out things that the committee has said that justifies its proposed plans (Sidewalk Labs, 2019). It gives the illusion that the company wants to mitigate the criticism that it knows the action plan will receive once released by preemptively using statements that Waterfront Toronto has in fact included in its RFP. Before looking into these statements, it is important to mention some of the major changes that were revealed in this new plan. Initially, the RFP called for the development of only 12 acres of Quayside. In the MIDP, Sidewalk announced its master plan of developing not only those 12 acres, but creating an entire IDEA District that covers approximately 62 hectares of land – including Quayside, and

what they have come to call the River District, which includes Keating East, Villiers West, Villiers East, Polson Quay, McCleary, and potentially Keating West, assuming its private owners are willing to participate in the plan (Sidewalk Labs, 2019). Sidewalk Labs also proposes to be the lead developer of Quayside, which is not what was initially agreed upon (Diamond, 2019). The RFP calls for an "Innovation and Funding Partner" to work alongside Waterfront Toronto, and not take control over the action plan (Waterfront Toronto, n.d.). The company writes: "In total, Sidewalk Labs proposes leading development (with local partners) on less than 7 percent of the Eastern waterfront" (Sidewalk Labs, 2019), to which Waterfront Toronto's Chair Stephen Diamond responds "this is not contemplated in the PDA" (2019). To justify its proposed action plan, Sidewalk Labs constantly points back to the RFP, insisting that it complies with what Waterfront Toronto had put out a call for. In the MIDP, it states that "the RFP recognized the potential constraint of Quayside, at just five hectares, including a requirement to 'describe your team's ability and readiness to take the concepts and solutions deployed on Quayside to scale in future phases of waterfront revitalization'" (Sidewalk Labs, 2019). This may get the reader thinking that perhaps Waterfront Toronto did in fact hint that it may consider an expansion. Sidewalk also defends its involvement as a private company in public affairs stating that it is what the City of Toronto was looking for in its Official Plan. "The private sector marshals its resources to help implement public objectives"; the Official Plan calls for leaders in the private sector "with courage to take risks, develop proactive solutions and to follow through" (City of Toronto, n.d.). So far, the public has blamed Sidewalk Labs for not being transparent enough, or for keeping secrets (Rizza, 2018). In an attempt to restate what has been said in these governmental documents, it seems as though Sidewalk Labs is trying to shift the attention to

government parties, showing the public that the company is not to blame for the concerns that rise from these propositions.

Another change that was revealed in the MIDP is Sidewalk Labs' intention of participating in Toronto's LRT extension project (Diamond, 2019). A mobility project of this scale could grab the attention of Torontonians. Sidewalk Labs' promises, especially in this recent document, seem to sound like an excerpt of an ongoing political campaign against the government. Sidewalk promises a utopian future and, although it openly praises Toronto and its development efforts, reminds people that the public sector has not always done the best job (Sidewalk Labs, 2019). It promises great economic development that is difficult to say no to. A revelation from the Ontario Auditor General suggested that "Waterfront Toronto had given preferential treatment to Sidewalk in its selection of the Alphabet-owned firm as partner" (Randall, 2019). But Alphabet has a successful track record of ventures, listed as #17 on Forbes' Global 2000 list in 2018 (Forbes, 2019). It would not then be beyond the realm of possibility that the government trusts it would succeed in its mission and be able to make the profit it needs to pay back the financing of the LRT. Note that Sidewalk proposes the extension of the public transit to Quayside prior to development, and promises the government that in a matter of a couple of years, it will be paid for by the profits generated from the smart city (Sidewalk Labs, 2019).

Waterfront Toronto has been given a tight deadline (till March of 2020) to either accept or reject Sidewalk Labs' proposal (Roth, 2019). It is also important to note that this deadline comes after the October 2019 Federal elections in Canada.

If you think you've consulted so widely and well, why are you coming up for so much criticism from so many who believe that the process has not been adequately transparent? - Steve Paikin to Dan Doctoroff, founder and CEO of Sidewalk Labs, and the former deputy mayor of New York City (A Bumpy Road for Sidewalk Labs, 2019).

INTRODUCTION

There has been a lot of controversy surrounding the different aspects of the Sidewalk Toronto project. Between concerns of privacy and the company's desire to revitalize not one but six, and potentially seven, neighborhoods, as well as its intentions to insert itself into pilot projects in other areas of Toronto, Sidewalk's plans leave the public with a lot of questions about the implications this initiative will have on the political, urban and cultural environments of the city.

The MRP analyzes the language and rhetoric used in Sidewalk Labs' recent MIDP in order to determine whether or not the themes outlined in the Literature Review can be applicable to the project at hand. It examines the potential impacts of Sidewalk Toronto's plans on the life of the city by looking at the propaganda and policy materials developed by Sidewalk Itself. The MRP will look at the technological, political and cultural implications using both a content analysis and a theoretical framework in order to explain the possible effects of Sidewalk's proposed initiatives.

I first look at surveillance capitalism and the implications of big data on society. I focus on data itself, its past and current roles: how it persuades, predicts and controls variables. I then describe how data is at the heart of the smart city and narrate it as a modern panopticon.

The second part of the MRP introduces the concept of a surveillance intermediary and explores theories of governmentality in order to find a link between big tech and governance. I

look at the recent expansion of big tech and corporatocracy, as well as the privatization of public space in order to put into question the relationship between tech companies and governments. I pose the question of how innovation can or should be governed by looking into Canadian data protection laws.

Finally, the MRP observes the relationship between modern urban structure and cultural identity from the perspective of culture-led regeneration as well as the concept of neighborhoods within an urban setting. It ends with a focus on smart cities and supports the claim that culture and cultural heritage should not be ignored when planning for such initiatives.

RESEARCH QUESTIONS

This MRP engages with the following research question – questions that run parallel to the themes outlined in the Literature Review:

1) What is the role of data in the exercise of control in the city?

2) What are the technological, political and cultural implications of allowing a major surveillance intermediary like Sidewalk Labs to create a smart city in a multicultural megalopolis like Toronto?

3) How does modern urban form and structure impact the cultural identities of diverse communities?

Through the conceptual framework defined in the previous sections, this MRP aims to link surveillance, governance and culture to the potential involvement of Sidewalk Labs in the future of Toronto. These research questions will be answered through both a critique of technological, political and urban theory as well as a rhetorical analysis of the language and tone used by Sidewalk Labs in their recent MIDP.

METHODOLOGY

1.1 RHETORIC AND THEORY

Data Collection and Analysis

What does Sidewalk Labs' resolution to build a smart city in Toronto communicate? The main purpose of this MRP is to critically analyze this project from a theoretical perspective informed by the readings outlined in the Literature Review and by a close reading of Sidewalk Labs' own promotional material. I focus on the idea of persuasion and examine its implications on the technological, political and cultural environments of the city. I focus on persuasion since at this stage Sidewalk Labs is focusing its efforts on persuading the public as well as the government to take on its proposed initiatives.

This MRP engages in a critical reading of the Sidewalk Toronto project using theories that address data's ability to persuade, predict and control behavior; big tech's involvement in governance and the government's ability to manage innovation; and the effects of modern urban structure on the cultural life of a city. At each stage of the MRP, I use a range of theoretical approaches to explain the implicit and explicit ways through which big tech companies shape today's world, and to examine the influence they have and the power they hold over governments and the public because of their access to identifiable data.

1.2 DISCOURSE

Data Collection and Analysis

Sidewalk Toronto was first introduced to the public in late 2017. Since its inception, the leadership team has persistently uploaded documents to the Sidewalk Labs website, updating the public on the progress of its project (Sidewalk Toronto, n.d.). There is a considerable amount of

literature for the public to go through, including the company's vision, action methods, partnership announcements, public consultation overviews and more. Initially, the document chosen as the main sample of analysis for this MRP was the company's vision document, uploaded to the website in late 2017. However, in June of 2019, a Master Innovation and Development Plan (MIDP) was released outlining the details of Sidewalk Labs' proposal, and was therefore identified as a more appropriate reference for analysis due its recency, legitimacy and length.

In order to address this MRP's research questions, a qualitative discourse and linguistic analysis was performed, an attempt to extract meaning from words. The analysis hypothesizes that language and tone are used by Sidewalk Labs with the intention of persuading and controlling the discourse (as well as persuading and directing public sentiment). To match the scope of this MRP, the MIDP was selected as the main sample, as it is a work of non-fiction and provides direct examples of language and tone used by Sidewalk Labs. In total, the MIDP consists of 1,500 pages. For this analysis, pages 16 to 37, where Sidewalk Labs provides a general summary and outline of plans, were selected. The content of the MIDP is multi-modal, and my analysis included both the visual (mostly maps) and textual elements within the document.

The analysis looked at two things: the words used, and the tones that accompanied them. The tones sought were: critical (finding fault), arrogant (proud), audacious (bold, daring, recklessly brave), candid and direct (straightforward), condescending (looking down on others, superiority), ecstatic (with great enthusiasm), encouraging and optimistic, and persuasive.

The analysis began with sentence detection. Each sentence was taken separately and then broken down into words. The tonality of each word was examined.

The MIDP is a very recent document that accurately reflects Sidewalk Labs' current state of mind, which is what makes it an ideal sample for analysis.

The results of the research are summarized in the Analysis section below.

LITERATURE REVIEW

1.1 SURVEILLANCE CAPITALISM

One of the biggest concerns with the Sidewalk Toronto project is privacy (Canon, 2018).

Cavoukian states that the smart city will wield sensors that track activities 24/7, and that leaves

little room for its residents to consent or dissent to the collection of their personal data (Jones,

2019). Sidewalk Labs has made it clear that the data will not be unidentifiable at source, and that

such technology does not yet exist. It proposes, however, that the data be managed by an

independent third party organization (Sidewalk Labs, 2019). Since Sidewalk Labs is an

American company, it should not only comply with Canadian laws governing local businesses

but also to U.S. laws governing international trade (Winer, 1999). According to the USA Patriot

Act, "those who handle individuals' personal information, including financial details, in the

course of business are required to treat that information in accordance with Canada's privacy

laws. This includes obtaining each individual's consent to the purposes for which, and persons to

whom, this information is disclosed. If this information is transferred for storage or processing,

or otherwise shared with a U.S. or U.S.-controlled Canadian company (collectively, a 'U.S.-

linked' company), there is a risk that the U.S.-linked company could be compelled to disclose

that information to U.S. authorities without the individual's knowledge or consent" (FindLaw

Attorney Writers, n.d.). Canadian Information Experts and Professors Andrew Clement and

Jonathan A. Obar (2015) even coined the term "boomerang routing" to place emphasis on how a

great deal of Internet traffic goes through the U.S., and Canadian data is easily accessed by U.S.

surveillance agencies. It then becomes a challenge to ignore the possibility that by accepting

Sidewalk Labs' proposal to transform Quayside into a smart city, the government of Canada

could be accepting that the data collected from its residents be shared with the U.S. government.

Sidewalk Labs has not been unreservedly transparent with what this data will be used for from day one. The scandal with the Toronto Star and Former Privacy Commissioner Ann Cavoukian, as well as the public's ongoing skepticism over the project are proof that these concerns are there, and the company is yet to address them (Rizza, 2018). Dan Doctoroff, founder and CEO of Sidewalk Labs, however, as a previous member of the U.S. government, knows well enough that people are not prepared to accept such rule-bending innovations, not without proper debate. He has been understanding, and he wants these conversations to proceed (Wylie, 2018).

With new technologies like sensors or face recognition software that facilitate the collection of data, however, data has become the ultimate tool for persuasion. But what makes its collection a subject of mass concern? In order to understand data's role in this project and why it is so widely feared, we need to first look at its ability to persuade, predict, and possibly alter the public's decisions and behavior.

Data as a Tool for Persuasion

Media's role as a tool for persuasion dates back to the First World War, when governments began to deliberately create organizations to direct propaganda at the public as a way to wage war. They did so using traditional media like newspapers and the radio (Badsey, 2014). This type of media did not use data to persuade, but words. In the recent years, particularly after the rise of social media, data has been gathered and used as a tool to influence the public's decisions and actions (Disparte, 2018). Technology has changed the course of communication. With every app we download, every platform we log into, every smartphone we buy, we accept terms and conditions that allow tech companies to access our personal data for

profit and to enhance their platforms. This data is then used by companies that create behavioral profiles of us, and target us with ads that sell products or services they think we may like (Disparte, 2018). What is communicated to us is a direct result of the data that is collected from us. Data, then, has become the ultimate tool for persuasion.

In 1867, Karl Marx hypothesized a positive correlation between the technification and scientification of production and the increase of the profit rate, which he associated with the creation of capitalist crises. He put together a formula that explained how the rate of profit depended on the rate of surplus value and the organic composition of capital (Fuchs, 2018). In his article "Social Media and the Capitalist Crisis," Austrian sociologist Christian Fuchs puts Marx's theory into focus and looks at this relationship following Marx's formula. He concludes that "capitalism's crisis has favoured the expansion of targeted online advertising" (Fuchs, 2018). He uses statistical data to argue that the decrease in the share of broadcast advertising, particularly radio and television, and the sudden increase in the share of Internet advertising "give grounds to the assumption that advertisers find online advertising more secure than other forms of advertising because it can be targeted and personalized, and it is based on consumer and user surveillance" (Fuchs, 2018). Social media is then seen as a more powerful persuasion tool than traditional media *because* it involves a real-time connection with the user, made possible through the collection of data.

But how exactly does data persuade? In order to understand how simple algorithms can have so much influence on human behavior, it is important to refer to Robert Cialdini's explanation of the science of persuasion. Cialdini identifies six principles of persuasion that are key to understand how an audience can be effectively controlled. He argues that in order to persuade, one needs to appeal to the audience's liking, reciprocate, offer social proof, be

consistent, show authority, and exhibit scarcity (Cialdini, 2001). Let us first begin with liking. Cialdini's principle of liking is based on the notion that "people like those who like them." He says that in order to appeal to an audience's liking, one must "uncover real similarities and offer genuine praise" (Cialdini, 2001). If we look at this notion from the perspective of data, data allows companies to understand what the audience likes and gives them the ability to showcase their similarities. Companies use data to communicate with an audience that they share similar interests with, and this relatability draws people to them (Uzialko, 2018). Cialdini's second principle, reciprocity, is based on the notion that "people repay in kind." He argues that in order to show the audience that they are ready to reciprocate, businesses must "give what [they] want to receive" (Cialdini, 2001). To illustrate this notion using the example of data, companies often take the audience's input to give them something that they are looking for in return. There is a sense of trust that builds up when audiences begin to see that they are receiving something in return. His third principle, social proof, is based on the notion that "people follow the lead of similar others." In order to do so, Cialdini suggests businesses "use peer power whenever it's available" (Cialdini, 2001). People rely on their surroundings to make decisions. Influencers are a great example of an application of the third notion. The data used by businesses to identify what the public is interested in results in them often hiring influencers to persuade people to buy their products for them (Todisco, 2017). Then comes consistency, a rather indirect method of persuasion. According to Cialdini (2001), "people align with their clear commitments." In order to appeal to their audiences, businesses must "make their commitments active, public, and voluntary" (Cialdini, 2001). How would they know the public's opinion, however, if not through the collection of data? Data allows businesses to deliver a consistent message and stay up to date with the audience's views and interests. Authority, Cialdini says, is "people defer[ing] to

experts." He advises businesses to "expose [their] expertise, and [not] assume it's self-evident" (Cialdini, 2001). As difficult as it is for us to acknowledge, we do rely on algorithms to know us well, sometimes even more than we know ourselves. We trust the algorithm's expertise in finding things for us that we may not be able to find so quickly and so easily on our own (Zandan, 2019). Lastly, Cialdini explains the importance of scarcity in persuading an audience. According to him, "people want more of what they can have less of," which means businesses must "highlight unique benefits and exclusive information" (Cialdini, 2001). Scarcity communicates value, and data allows businesses to tailor messages and products exclusively for different audiences (Uzialko, 2018). Data checks the boxes of all six of Cialdini's principles. It appeals to liking, reciprocates, offers social proof, is consistent, shows authority, and exhibits scarcity. It must then be a strong tool for persuasion.

In a report on the transformation of influence, the Research + Data Insights (RDI) team studies the way that data is driving the evolution of influence. Following a national survey that interviewed more than 4,400 individuals in the U.S. in 2016, they found that the reasons why data influence is increasing is because 1) people rely on the internet to learn new things, 2) data personalizes their shopping experience, which is what 73% of the public seems to prefer, 3) data is available and out there. Data, then, serves not only the business that is using it to collect information about the user, but also the user who is relying on it to make decisions. Platforms like Spotify for example track user activity in order to create playlists tailored specifically to their taste in music, thus influencing what the users listen to. In turn, users look for recommendations from the platform based on the artists they follow (Pasick, 2015). "Whether we know how to use it or not, we trust data to tell us what to do" (The Transformation of Influence, 2016). Data's influence on the behavior of the public is evident in every aspect of our

lives. From shaping political views to influencing style to molding relationships, data plays a key role in determining who we are and what we are interested in, even if we ourselves do not quite know. In an article published online by Forbes Magazine, author Kalev Leetaru (2018) points out the existence of a "shadowy world [that] buys and sells our most intimate information every day" and adds that "we have no right to demand to know what companies hold on us." If Leetaru's claims are true, then businesses are making money off of our data, and we as users are willing participants in the never-ending capitalist cycle. As users, we are being surveilled to feed capitalism.

The New Role of Data

The type of data we were looking at so far was that collected and used for advertising purposes, data that comes from our digital spaces. But what happens if our personal information becomes available outside of this digital space? What happens if our personal information becomes accessible in our physical space? In her book "The Age of Surveillance Capitalism," Shoshana Zuboff (2018) talks about "a shift from a totalitarian 'big brother' state to a universal global architecture of automatic sensors and smart capabilities that are free from democratic oversight and control." We are no longer talking about data that sells but data that controls by predicting and modifying behavior. With smart homes and smart cities, this data is not only collected from our digital environments but our physical environments as well. Ambient Intelligence, an approach that focuses on enhancing the interaction between people and their respective environments by using sensors and interconnected devices, hopes to aid and facilitate the lives of its users. Examples of applied ambient intelligence could be anything from smart home appliances that do things for you without you having to repeatedly tell it to, to self-driving

cars and automatic home thermostats that control your indoor temperature (Augusto, 2006).

Ambient Intelligence is at the heart of smart cities. Immovable city entities like buildings or

roads within these smart cities are intelligent enough to make decisions based on their

environmental surroundings. In other words, they use environmental data to make decisions

about how to control it. When any kind of technology is set to think ahead and predict

happenings, we as humans lose control over our environment. In "Ambient Intelligence in Smart

City Environments: Topology and Information Architectures" (2018), author Kelvin Bwalya puts

into perspective the design of information architecture to explain how these advanced

technologies are capable of replacing human agency. According to Bwalya (2018), "advanced

development of ambient computing within the realm of Smart Cities will further culminate into

possibilities such as vehicle-to-vehicle communication (V2V) and mobile-to-mobile (M2M)

communication." This means that upon development of such technologies, human input may

someday, in some scenarios, become obsolete. What is feeding these self-operating machines is

data. Data that is not used to sell, but used to predict, modify, and – in effect – predetermine the

future. Data that is (at least for now) in the hands of the tech companies harboring these

machines. Data's role as a tool for persuasion then turns into a role as a tool for prediction, and

when algorithms move into the realm of prediction, there will likely be a concurrent loss of

human control.

One important aspect of artificial intelligence is its ability to learn from the people that

program it. It is difficult to put aside biases when thinking about how these machines are

engineered. There have been many reported instances of AI technologies filtering job applicants

based on race and gender. Timnit Gebru, a computer scientist and former Apple engineer who

currently co-leads the Ethical AI Team at Google, was asked in an interview earlier in 2019

about whether or not she saw biases in the work that she was doing. She pointed out that it is not solely the bias of the people working on programming these technologies but the overall limited representation that exists in the field. She added that "there are very few people of color and very few women in the room, and this has always been a problem for engineering" (Weber, 2019). Gebru's statement reveals a possible bias in AI programming. This implies that if the engineer programming the machine thinks in a certain way, an unconscious bias may result in these technologies excluding certain people, or even assuming that a limited data set is representative of the mass public. These biases could be unintentional, and tech companies like IBM are even working on algorithms that detect biases early on and make for more inclusive decision-making practices (Marr, 2019). One argument that scholars have used to explain this is that biases or models are often left unaccounted for because they are not visible to the public, or because they are too complicated to be understood (O'Neil, 2015). "Weapons of Math Destruction" author Cathy O'Neil (2015) addresses this matter saying that algorithms look a lot like math - there are those who are able to see them as stories, and those who look at them and are immediately frustrated by nominals that they think they cannot understand, and because they assume that they cannot understand them, they ignore them, allowing them to take effect. She argues that a key characteristic of these algorithms is the fact that they are secret, and that the people who are targeted by them often have no idea how they work. She explains that "part of living in a democracy is understanding the rules, and these algorithms are a set of secret rules that we often do not understand" (O'Neil, 2015). She also adds that "the models these algorithms are made of are embedded opinions," which takes us back to Gebru's arguments on the biases of engineers programming these algorithms. O'Neil (2015) contends that because such biases exist, and because the general public is often ignorant of the true meaning of these algorithms and the risks

they pose, it puts the companies gathering and programming them in a position of greater power, which puts them in position to use this data for social control.

Panopticon Surveillance

The Panopticon, created in 1785 by English social reformer Jeremy Bentham, is a type of building that allows a watchman to observe prisoners without them knowing that they are being observed (Sweet, n.d.). The panopticon replaced traditional violent torture methods by effectively motivating inmates to regulate their own behavior. Since they believed they were being watched all the time, they behaved courteously (Sweet, n.d.). The Panopticon concept has been closely related to surveillance theory, particularly with thinkers like Michel Foucault who argue that power and knowledge come from observing others. According to Foucault (1977), the more one observes, the more powerful one becomes. He puts knowledge at the heart of power and explains that through observation, new knowledge is produced, and this in turn leads to an increase in power. Tech companies, through the gathered data, are able to record, observe, and understand human behavioral patterns (Uzialko, 2018). If we look at this from a Foucauldian perspective, data grants tech companies more knowledge, meaning more power. Foucault (1977) adds that only a certain number of people are able to control knowledge as they are the ones recording our actions, and tech companies fall within this realm. Others after Foucault hypothesized an increase in the volume of social surveillance, labelling it as a "superpanopticon" and highlighted the notion of an "electronic panopticon" (McMullan, 2015). Indeed, the concept of the panopticon as seen by both Bentham and Foucault looks different in modern times. The modern panopticon is no longer just an observation of incarcerated individuals or the power of knowledge that the authorities withhold. The modern panopticon, enabled and enhanced by

surveillance technologies such as smartphones, smart home appliances, social media platforms, and others that are found in everyday public and urban spaces observe the average person who is presumably innocent. We are already living in a virtual "electronic" panopticon. From the outside looking in, smart cities, with the use of ambient intelligence, look like hubs for panoptic surveillance. That means we have a panopticon within our wider digital panopticon that also intrudes on a person's physical space. We can choose to shut down our mobile phones at any given point during the day, or leave them home, but data gathered from our physical spaces would allow tech companies to track where we are all the time, granting them more power than ever before.

The unseen power that data has over us can keep us in a submissive state (Los, 2006). How can we, then, speak about freedom? Gilles Deleuze in 1990 saw the rise of this electronic panopticon and described it as moving from a Foucauldian disciplinary society to a society of control (Crain, 2013). Under this society of control, we are free to do whatever we want. We are no longer bound by the constraints of enclosed structures. What we seem to have a lack of within this society of control is free time, something we did not need to worry about under Foucault's disciplinary society (Crain, 2013). What is meant here by free time is time when we are not under surveillance (Crain, 2013). In a disciplinary society, our free time begins as soon as we leave our enclosed structures (our schools, factories, etc.), but while we are given more "freedom" under a society of control, the control of our activities increases (Crain, 2013). While the panopticon enabled a centralized point from which people were monitored, the electronic panopticon, through the algorithmic matrix, allows people to feel free, but also to feel as though they could be surveilled at any given time. What is more is that even this feeling is discouraged. "We are being tracked, but are encouraged not to worry about it" (Crain, 2013). This means that

the entities monitoring us, which in this case are the tech companies gathering our identifiable data, have more power over us, and this puts us in what Los (2006) refers to as a "scientific totalitarian state."

In "Theorizing Surveillance: The Panopticon and Beyond," contributor Maria Los (2006) looks at the future of surveillance and globalization that she believes may lead to scientific totalitarianism. She argues that new surveillance technologies are centralizing control under a single authority. She looks at historical totalitarian experience to understand how such ideals could very much be at work within our current societies through modern surveillance technologies. Los argues that even though we speak of diversity and advocate local narratives, we are bound together under a global condition. The core concept of totalitarianism is the absence of exits, which brings us back to Deleuze's society of control. Under an electronic panopticon, chances of having access to a clear exit are low, if not impossible, and that gives rise to totalitarian scenarios (Los, 2006). Though certain authors like Lianos (2003) insist that control is never the intention of this surveillance, Los argues that the controlling effects are produced regardless of whether or not they are intended. Control could very much be a side-effect of managerial activities, and we, as the public, appear to be willing to accept this control. Tech companies claim that the data gathered is used to safeguard the population and create a better world (Sidewalk Labs, 2017). Though this may be true, and if Los's claim is valid, it becomes difficult to eliminate data's relationship with control. Totalitarianism, then, seems to be at work regardless of whether are not the "observers" intend it to be so. We often look at technology's place in our everyday lives and are aware that we are helpless in the face of electronic surveillance, which could potentially result in our acceptance of being controlled by them. Los observes a great deal of passive acceptance of technological surveillance, which she relates to the

fact that we cannot yet see the effects of this surveillance on our personal lives. She believes, however, that as soon as we begin to see the tangible consequences on our surveilled environments, we will realize that we are slowly sliding into a totalitarian state controlled by tech companies who own our identifiable data.

1.2 GOVERNANCE AND GOVERNMENTALITY

Governments work closely with tech companies like Intel and Google who provide advanced tech services to them for their daily operations, as vendors. The relationship between the government and these companies cannot be ignored. In many instances, especially in regards to criminal activity and security, governments request access to personal data from tech companies (Harvard Law Review, 2018). The question is - what is the true nature of this relationship?

More than anything else, Sidewalk Toronto is a technology project. Privacy is a serious concern, yes, but privacy is not its biggest issue, governance is (Wylie, 2018). All privacy concerns and data-gathering sensors aside, the project is a partnership between Waterfront Toronto (a representative of the government of Canada) and Sidewalk Labs. This means that the government is as involved in the planning process as the company (Waterfront Toronto, n.d.). While during the early stages both parties' visions for the revitalization of Quayside were similar, the ideas proposed in the MIDP revealed a shift in the way Sidewalk Labs was imagining the project, causing tension between parties (Diamond, 2019). The nature of the relationship between the government and the company are then put into question.

We previously looked at data and how it allows for control of variables. Our focus in the first segment was data's influence on the decisions and behavior of the public. But data does not

just control the public, it also controls governments, and it gives tech companies a powerful edge

over the administration who often turns to them for information (Harvard Law Review, 2018).

Government + Better

Tech companies have become significant participants in law enforcement. Governments

have begun to turn to them for information, as they have something the rest of the world does not

- real-time data (Harvard Law Review, 2018). Professor of law Alan Rozenshtein has labeled

these tech companies "surveillance intermediaries," companies that he defines as the new

generation (of corporations) that "stand between the government and our data and, in the process,

help constrain government surveillance" (Rozenshtein, 2018). Surveillance Intermediaries have

access to information about our relationships, purchasing and travel patterns, financial statuses

and so much more. The data they hold could help governments mitigate terrorist attacks, identify

murderers and solve cases, or even find missing people. According to him, we as users, by giving

these surveillance intermediaries custody of our information, have assisted in their creation. On

the other hand, governments, by requesting information from them, have equally participated in

the creation of this new role. The role of surveillance intermediary was given to these companies

by chance because of "their omnipresence in our day-to-day lives" (Harvard Law Review, 2018).

One would assume that the relationship between these intermediaries and the government is

synergistic, but often times these corporations refuse to cooperate and participate in government

surveillance (Harvard Law Review, 2018). Rozenshtein gives many examples that illustrate this

role in action, one of them being Apple's lawsuit against the Federal Investigation Bureau (FBI)

in 2016 when the law enforcement agency commanded the company to help unlock the iPhone

of a San Bernardino terrorist, which Apple refused to do because "the government lacked the

necessary legal authority and that the order would harm its users' security and impose 'unreasonable burden[s]' on Apple" (Rozenshtein, 2018). The truth is that these companies have the right to maintain their discretion and refuse to cooperate with the government, and they are very much incentivized to do so. Rozenshtein identifies three main techniques of resistance. He first talks about proceduralism and litigiousness where intermediaries use the law to resist cooperation. Governments are often in a hurry when requesting access to information due to the fast-pace nature of certain criminal cases, and this leads to them sending informal requests. The intermediaries then often make it difficult for them to get to that data by demanding they go through prolonged legal procedures. The second technique of resistance is what Rozenshtein labels technological unilateralism, where tech companies make technological changes (to their software or hardware) that confound government preferences. While legal procedures do raise challenges, they require the involvement of third parties like courts. Technological unilateralism is almost fully under the control of the company. Encryption is one example of a change the intermediaries use to resist cooperation, where when approached, companies simply say that the information is encrypted, and they have no easy access to it. It does not however mean that accessing encrypted information is impossible. The last technique Rozenshtein discusses is what he argues could be the most powerful of all three. He states that policy mobilization could, in the long run, be the most effective approach, and it pertains to changing the surveillance policy altogether. Since most giant tech corporations have high status connections within the government, they are able to suggest (and perhaps later on implement) policy changes that reform our lives. They can do so because they have become indispensable not only to the public but also to governments. While the public relies on their transparency to inform them of government surveillance, governments rely on their transparency to shed light on their desire to

protect and safeguard the population (Rozenshtein, 2018). "Companies such as Facebook, Google, and Twitter are now responsible for decisions that have major consequences for our privacy, on the one hand, and our safety, on the other" (Rozenshtein, 2018). Their influence in policy-making comes from the power they hold over both the public and governments. According to Rozenshtein, if we choose to believe that surveillance intermediaries are there to either assist or resist the government, we would be ignoring the potential benefits their insights and resources may have on the public good, which is why their involvement in policy-making may not be that big of a threat, given they are guided by the right incentives. By allowing them to get involved in policy-making, we are giving them the opportunity to get involved in governance. We trust the government to protect our physical bodies, and trust these companies to protect our digital bodies (Rozenshtein, 2018). But the very idea that physical spaces like smart cities are very much dependent of a digital space, and the ones creating them are the same surveillance intermediaries, means the weight of the role both parties play in the lives of the public has changed. If we are to look at these intermediaries from a Rozenshteinian perspective, the corporations have a stronger presence and exercise more power within the walls of a smart city than the government. This means that in a smart city setting, where companies protect both our physical and digital bodies, they are taking on the role of the government on top of their own.

Governmentality or "the art of governing," a notion developed by Michel Foucault in the late 20th century, is commonly understood as the way governments aspire to shape citizens that best suit their policies. It tries to answer the question of what makes a society governable (Burchell, Gordon and Miller, 1991). Foucault talks about three basic modes of power. The first is the kind of power we see exercised everywhere in everyday life. He sees it as a game between

individuals where some options are chosen over others, and the people whose options are chosen hold momentary power over the rest. In this mode, the momentary power of one individual does not imply lack of power for the other. The second mode is the disciplinary society we discussed in the first section, where power takes the form of discipline. This type of power is often exercised in prisons or schools, and in this mode, individuals have very little power over their surroundings. Foucault's third mode is governmentality. What differentiates governmentality from discipline is the notion that unlike the latter, it does not "start with having people under your thumb but [by] having people as acting individuals and trying to orchestrate the way they think by suggesting to them" (Neumann, 2014). It starts by slowly inculcating ideas to them about particular ways of doing things until they become the natural course, and "indirectly making people do what they otherwise would not have done" (Neumann, 2014). If this is the case, then tech companies coming in to suggest innovations like smart cities, assuming the public would not imagine it on its own, means they are exercising some sort of governmentality. Foucault (1977) also talks about the rationale behind why there is a need to govern in the first place, and lists three main reasons: 1) to ensure everything follows a natural course, 2) to safeguard and protect the population, and 3) to help advance civilization. Tech companies, with innovations like smart cities, are offering solutions to problems that governments cannot often solve (not to mention to problems that may not exist at all). With smart and sustainable technologies, they are offering to mitigate environmental crises, provide alternative answers to mobility and housing issues, and suggesting ways to make the lives of the population much easier (Sidewalk Labs, 2017). In a sense, tech companies are ensuring that the daily lives of residents follow a natural course, they are protecting the population from potential disasters, all the while proposing ideas that advance civilization (or at least tech companies' own agendas).

Tech companies, then, are attempting to replace the government in all three of these roles, and are perhaps even perceived as better versions of the government.

Big Tech Expansions

After the 2008 credit crisis, there has been a noticeable systematic transformation in the way lands are acquired in major cities around the world (Sassen, 2015). More and more, large corporations are buying existing properties and lands in cities, often to build headquarters (Sassen, 2015). Dutch-American Sociologist Saskia Sassen (1991) argues that even though cross-border economic relationships have existed for a long time, a new era of privatization, deregulation, and participation of foreign firms in national economies has led to the creation of one global city. She sees this as a weakening of the concept of a "national" and a rise of new organizational structures. She hypothesizes that in order to unravel the complexity of their central functions that comes from corporate expansions, companies are outsourcing their activities (accounting, legal, programming, etc.) to highly specialized local firms, and this is causing local companies, who now do business with foreign partners, to slowly disconnect from their national economies. According to Sassen, "cities have typically been deeply embedded in the economies of their region, indeed often reflecting the characteristics of the latter; and they still do. But cities that are strategic sites in the global economy tend, in part, to disconnect from their region." She believes that this disconnection and new emphasis on a global character has created a sense of powerlessness among locals, and has shifted the discourse to other domains such as politics, culture, and society.

A worldwide study led by the Swiss Federal Institute of Technology in Zurich in 2011 discovered that 40% of global trade was controlled by 147 transnational corporations (Upbin,

2011). Scholars have labeled this as a "network of global corporate control" where some firms exert power over others through direct and indirect ownerships in different countries. Some of the top companies on this list are American firms, including Capital Group Companies Inc., State Street Corporation, JP Morgan Chase & Co, Merrill, Walton Enterprises LLC and others, many of which (including subsidiary companies) own properties outside the U.S. (Upbin, 2011). This worldwide shift in sudden dependence on big corporations to manage economic markets rather than the states themselves is what experts and scholars have come to describe as global capitalism (Robinson, 2014). Better yet, it has moved from global capitalism to what the Oxford Dictionary (n.d.) now defines as corporatocracy, a term that refers to economic and political systems governed by corporations. The Trans-Pacific Partnership (TTP) and Transatlantic Trade and Investment Partnership (TTIP) that subject countries to corporate influence are evidence that this corporate takeover is happening, and not behind closed doors. Former Assistant Secretary of the U.S. Treasury for Economic Policy Dr. Paul Craig Roberts was vocal about the implications of this phenomenon on democracy, stating that "politically powerful corporations have gained the power in Western 'democracies' to sacrifice the welfare of all populations to corporate greed for profit regardless of the cost to peoples, countries, and societies. American 'democratic capitalism' is total and irredeemable. TTIP gives corporations unaccountable power over governments and peoples" (Vanbergen, 2016). But Dr. Roberts is not the only one who believes that this corporate takeover by global market leaders is threatening global democracy. Chief Economist and Author John Perkins has spoken about U.S. involvement in offering loans to developing countries for the purpose of construction, and in his book "Confessions of an Economic Hitman" (2004) states that these loans are often too large for developing countries to repay, and that is intentionally done to keep them indebted to the U.S. and guarantee their

support for its political interests. Moreover, he adds that the U.S. often conditions them to hire only U.S. firms to work on these developments. Though corporatocracy is a global phenomenon, the focus that this paper has on U.S. involvement in corporate takeover is because ultimately, Sidewalk Labs is an American corporation, and its parent company Alphabet Inc. is ranked 17th in Forbes' Global 2000 List with a market cap of $863.2B (Forbes, 2019).

An important question that emerges from the conversation on corporatocracy is governments' stance on the takeover. How could governments possibly cede their power to corporations? What would their incentives be? Timothy Carney, author of "The Big Ripoff: How Big Business and Big Government Steal Your Money" (2006), writes that "big business and big government prosper from the perception that they are rivals instead of partners (in plunder). The history of big business is one of cooperation with big government." The keyword here is "perception." While phenomena like corporatocracy leave us thinking there is some sort of an invisible fight for power between governments and big corporations, one could argue that the relationship between both parties (at least for now) is rather centered around mutual benefit. One could even argue that there is such a thing as a "private network" between the government and these corporations. Grossi and Pianezzi, authors of "Smart Cities: Utopia or Neoliberal Ideology?" (2017), claim that big corporations and governments promote smart cities as utopic environments that revolutionize urbanization as an indirect way of pushing their neoliberal ideologies and free-market capitalist visions onto the public. They give the example of the Italian city of Genoa in order to explain how urban issues are often tackled as a way to distract the public from seeing through their "private network" that is incentivized by money, data and policy. As previously mentioned, while governments rely on tech companies for access to information, tech companies "lobby for laws beneficial to themselves" (Frick, 2018). Grossi and

Pianezzi also argue that the "private network" is an implicit invitation to tech companies to participate in policy-making, thus involving them in governance. They add that such technological innovations promote the interests of the companies leading them rather than solving real urban issues, and that business-centric and technological solutions cannot solve urban challenges.

Risk, a strategic board game centered on diplomacy, conflict and conquest is a prime example of what history has so callously taught us for centuries - the more space you have, the more powerful you are. Corporations taking over major cities has also meant privatization of public spaces, or as Academic Geographer and Gonzo Urbanist Bradley L. Garett likes to call, POPS (Garett, 2015). Garett refers to urban theorists like Lewis Mumford, Jane Jacobs and Doreen Massey who believe that "the place where cities get 'remade' is in the public rather than private sphere" and argues that the privatization of public spaces has greatly confined the rights of the public using them. He adds that while they inhabit these privatized public spaces the public is monitored, and "when space is controlled […] we tend to police ourselves, to monitor our behaviour and to limit our interactions" (Garett, 2015). This reminds us of the panopticon theory. The early days of the concept as seen by Bentham and Foucault affiliated the panopticon with a physical space (prisons, schools, hospitals, etc.). If what Garett is claiming is true, then POPS are bringing back the physical panopticon, within public spaces and in these spaces people are controlled by the private companies who now own them. He also quotes Geographer Don Mitchell who states that "by claiming space in public, by creating public spaces, social groups themselves become public" (Garett, 2015). But what happens to social groups when public spaces are privatized? By expanding their "territories" through ownership of public spaces, corporations are exerting more power over the public.

Governing Innovation

Despite their growing influence on international economies and politics, tech companies claim to be working to solve global issues through innovative technologies that other sectors, including the public and the government, cannot tackle by themselves. Aid, climate change and disaster management are only a few examples of global issues tech companies are aiming to resolve (Baker, 2017). In the words of the great Dan Brown, "we all fear what we do not understand." Innovation and change can be difficult to accept, and the fast-pace nature of innovations suggested by tech companies, especially with the rise of AI and talks of building smart cities can be intimidating to the public. But can we, or should we, govern innovation? Hyperbolically, saying that innovation *should* be governed may imply totalitarianism of some sort or other. According to Author and Educator Peter Drucker (1966), it is also almost impossible to manage what we cannot measure. But even though defining the boundaries of innovation is often difficult, one solution to mitigate the risk associated with these innovations could be the development of proper policies.

Let us focus, as an example, on innovations that involve the gathering of real-time data. Let us also focus on the laws that govern privacy and security in Canada. Many argue that Canada's data protection laws are outdated. The Financial Post (2018) even used "internet of the '90s" to describe the country's musty privacy policies. Canada Research Chair in Information Law and Policy Dr. Teresa Scassa has called this out by stating that "we have a nation private-sector data protection law that was designed for the early days of electronic commerce when people were just trying to figure out how to buy shoes online […] we are in a completely different data environment now and what we have is legislation that is just not up to the task" (Powell and Thomson, 2018). According to Scassa, stricter privacy regulations could potentially

scare small to medium sized companies who often do not have the resources necessary to comply. This was the case in Europe with EU's General Data Protection Regulation (GDPR) because of which many small firms were forced to shut down (Powell and Thomson, 2018). Others like the Former Privacy Commissioner of Ontario Ann Cavoukian advocate a "privacy by design" approach that asks for privacy entitlement at every stage of development (Privacy by Design, 2013). What leaders in the field like Scassa, Cavoukian and current Federal Privacy Commissioner Daniel Therrien do believe, however, is that Canada-specific policies that are not as extensive as the GDRP, and that do not (at least to the same extent) harm small local companies are possible (Powell and Thomson, 2018). According to Therrien, "the best strategy would be for Canada to seek to achieve both privacy and innovation at the same time" (Powell and Thomson, 2018).

A practical solution, then, would be to develop, or in this case update, laws that mitigate the risks associated with innovation before innovation potentially harms us.

1.3 URBAN STRUCTURE AND CULTURAL IDENTITY

In 2017, BBC Radio recognized Toronto as the most diverse city in the world (Galloway, 2017). With diversity comes neighborhoods that accommodate heterogeneous cultures, and ethnic distribution in the city is widely recognized, with ethnic neighborhoods such as Little Portugal, Little India, Greektown, Chinatown, Little Jamaica and many more (World Population Review, 2019). In 1971, then-Prime Minister Pierre Trudeau introduced Multiculturalism (with a capital M) to the House of Commons, and by 2006, when asked about what made them proudest of being Canadian, multiculturalism ranked second on the list, and as Globe and Mail writer Erna Paris puts it, "somehow, multiculturalism had evolved into a shared identity" (Paris, 2018).

According to Professors Allam and Newman (2018), while "smart cities tend to represent the information, communication, and technological (ICT) industry alone without considering the values and cultural and historical profiles that some cities hold as legacies […] the technology inherent in smart cities promises efficiencies and options that could allow cities to be more inclusive, safe, resilient, and sustainable." In what ways, then, would the construction of a smart city be responsive to a multicultural city like Toronto? In order to answer this question, we need to first look at how globalization and modern urban structure impact culture and identity.

Modern Urban Structures vs. Diverse Communities

Urban regeneration is defined as the revitalization efforts aimed to solve socioeconomic issues. It moves beyond the concept of a physical environment to tackle urban problems that do not just involve infrastructure, but also include the revitalization of communities, creation of jobs, and increase of income (Kyu Hong, 2014). The purpose of urban regeneration, according to Kyu Hong (2014), is to: 1) reinforce urban competitive power by extending employment or conserving historic sites, 2) secure settlement stability by building more low-income housing, renovating existing residential spaces, or even stabilizing the prices of housing, and 3) improving the urban environment by making sure the quality of air and the amount of traffic are regulated, or by offering environmentally sustainable solutions. He puts the residents at the heart of urban regeneration, stating that "though a city may repeat a cycle from growth to decline, the speed and timing of urban decline fully depends on both the direction of city policy and the participation of residents in making relevant decisions" (Kyu Hong, 2014). More than the residents themselves, the cultural programs led by diverse communities within neighborhoods - including performing arts festivals or community get-togethers are what drive urban regeneration (Alexe, 2007).

Cultural institutions within these cities are then seen as key players in shaping this regeneration (Alexe, 2007).

Neighborhoods are a refuge from deteriorating local community ties as they offer "clear physical definitions, organized local institutions, and a communal pattern of activities" (Kallus and Law-Yone, 2000). Kallus and Law-Yone (2000) argue that while it may have been the case in the past, because of modernity, neighborhoods no longer pop up on their own, but must be planned for in advance; and while neighborhoods are perceived to be subjective and entail expressions of culture and human life, we cannot separate its objectivity that comes from the architectural and urban efforts that now have to produce them. In order to plan neighborhoods in a modern urban setting, we need to make sure that the "subjective needs" of the community that will occupy it are aligned with the "objective needs" that come with infrastructure.

The Cultural Dimensions of Smart Cities

But what happens to neighborhoods and communities under a smart city setting? In an attempt to redefine smart cities from the perspective of culture, metabolism and governance, Allam and Newman (2018) talk about how smart city suppliers often brand their designs as a "one-size-fits-all" model that does not consider economic development policies. One may argue that representation of this sort also excludes the complex cultural diversity of urban settings. Rationalist planners of the mid 18th century like Robert Moses who imagined expressways, skyscrapers and the destruction of a city's "uncreative" features as its only salvation in the face of future urban challenges, did not consider the complexities of the diverse communities that made up those cities (Paletta, 2016). Contrary to one size fits all urban planning, activist and author Jane Jacobs believed that the urban vibrancy of a neighborhood came not from the

dynamic of its new and innovative structures but from the culture rooted in its neighborhoods.

Her theory, however, overlooked the complexity of urban challenges that would appear in the

future - challenges like Globalization for instance that came to shape urban structure (Bozikovic,

2017). The Jacobs-Moses battle has had considerable impact on modern urban theory, and while

the debate still continues, the new era of urban planning imagines a whole new type of space -

one infused with digital technology. The dawn of the Internet age initiated a future where space

could be dematerialized (Krivy, 2018). Writers like John Perry Barlow (1996) who saw

cyberspace as an entity lacking of physical matter, and argued that the "legal concepts of

property, expression, identity, movement, and context do not apply to us, [and that] they are all

based on matter, and there is not matter here," envisioned a future where space is no longer a

dependent physical entity. Perhaps in the type of space imagined by Barlow and also Deleuze,

Jacobs' and Moses' theories may not be applicable in a physical sense, but could be relevant if

we look at architecture from a cyber-design perspective, particularly with augmented and virtual

reality. But that is a whole new approach. With the inception of concepts like smart cities that

saw the rematerialization of cyberspace, however, Jacobs' and Moses' theories are relevant now

more than ever. While Jacobs' vision of a city that puts people in the heart of urban structure

seems ideal, and may have worked in the 1950s, today's complex urban situations call for

solutions that tackle a lack of affordable housing or sustainable mobility, issues that were not as

major in her times (Bozikovic, 2017). Strong public housing systems and strategically

constructed expressways can be a lifeline for cosmopolitan cities (Bozikovic, 2017). Smart cities,

as imagined by tech leaders like Sidewalk Labs with a Mosesian ambition to help tackle the

urban challenges of modern day cities, could be the solution that we are looking for. On the other

hand, sacrificing the cultural ecosystem of our cities in the name of innovation could also be a

mistake. According to Sassen (2015), "cities are the spaces where those without power get to make a history and a culture, thereby making their powerlessness complex. If the current large-scale buying continues, we will lose this type of making that has given our cities their cosmopolitanism." Smart City suppliers like Sidewalk Labs also propose innovations such as self-driving cars or self-checkouts (Sidewalk Labs, 2019). The idea that algorithms could replace human life as the heart of the (smart) city can be frightening. But if tech companies manage to strategically incorporate cultural heritage in smart cities, we would have spaces that benefit both worlds (Angelidou & Karachaliou, 2017). In "Cultural Heritage in Smart City Environments," authors Angelidou and Karachaliou (2017) point out the lack of focus on cultural heritage within smart city planning, and by looking into the strategies of three smart cities in Barcelona, Amsterdam, and London respectively, conclude that even though incorporating cultural heritage into the strategies of these particular cities may not have showed good results, this does not mean it would not work in other smaller cities with narrower economies. They add that "cultural heritage is not systematically exploited and formally incorporated in smart city initiatives, despite the fact that it offers and array of opportunities for smart city development" (Angelidou & Karachaliou, 2017).

According to Professors Hawken and Han (2017), while smart cities focus on technological and business outcomes, their strategies fail to address cultural heritage promotion. "The data economy is a major driver of urban change" (Han and Hawken, 2017). Professor Alberto Vanolo (2016) even goes as far as to say that current smart city concepts view the citizen as a subaltern, and its key role in the dynamic of a city is often overlooked. Han and Hawken look back at how the creation of cars and trains in the 19th and 20th centuries changed the dynamic of cosmopolitan cities, and argue that the current digital outlook, through social media,

GPS, AI and more has equally altered our sense of space. They explain that cities are a combination of different already-existing spatial and material things - from sewers to skyscrapers - and if we could use the current smart technologies at hand to reimagine our current spaces rather than inventing a new kind of city, we would be able to do extraordinary things. They also refer to research on smart cities and urban data platforms by Professor Sarah Barns (2018) who argues that as governments begin to play a more active role in managing the data gathered every day from their citizens, they must interpret it as a commodity that offers real-time insight into the culture of their cities rather than focusing solely on its information footprint. Han and Hawken (2017) also state that the current vision and outlook that guides smart city strategy is "positioned within the neoliberal economy," where individuals are seen as consumers rather than as citizens. Though they are not against the creation of smart cities, they do insist that smart cities be imagined in a cultural context just as much as they are driven by technology (Han and Hawken, 2017).

ANALYSIS

1.1 RHETORIC AND THEORY

Sidewalk Labs' sister company, Google, is one of the most influential players in the data-gathering game. According to the Safety Center section of its website (n.d.), it has access to all information pertaining to the things we search for, the videos we watch, the ads we view or click, the websites we visit, the apps, browsers and devices we use to access Google services, our locations, names, birth dates, genders, passwords, emails, photos, documents that we save on Drive, comments, contacts, and calendar events. This information is stored in databases, but can be deleted by the user at any given time (Nield, 2019). While Google has been trying to position itself as a privacy-conscious company (Nield, 2019), it has had issues with breach of privacy in the past, most recently with Google+ that was eventually shut down for exposing the data of around 52.5 million users (Newman, 2018). The idea that Google's parent company Alphabet is the one piloting this project could make trusting the tech company with our identifiable data harder. Alphabet has extensive knowledge about our digital spaces, building this smart city would give it even greater access to our physical spaces. If data is indeed a tool of persuasion, prediction and control, the surveillance we would be subject to within the borders of this smart city - both digital and physical, could greatly alter our behavior in accordance with Google's goals. The lifestyle of a smart city requires citizens to live, act and be a certain way. Sidewalk Labs wants to use the data gathered to make decisions about how the lives of the residents can be improved (Sidewalk Labs, 2017). This implies that there may be constant changes in this lifestyle as the company works to fine-tune the best conditions for the people. Could that hypothetically imply that the residents are human guinea pigs and part of an experimental project run by a private corporation?

The only way for Sidewalk Labs to optimize its operations is by observing, which is what the company intends to do through the gathering of data. The idea of the panopticon within the wider electronic panopticon then does not seem like a make-believe concept. Residents are watched, behave in a certain way, and are influenced by their digitally-inflected lifestyles. The smart city could then be seen as a modern panopticon that joins Foucault's and Bentham's physical "institution," one that has physical boundaries, with the electronic panopticon that surveils our digital worlds. Knowing that the data gathered has the power to persuade and predict, that the lifestyle of the smart city requires residents to act a certain way, and also that the surveillance is happening not only through data gathered in the digital world, but also through data gathered in the physical world as well, may all mean that the company has the power to control the residents. But what makes the data gathered within the smart city more threatening? Could it be the physical space itself?

According to the Office of the Privacy Commissioner of Canada (n.d.), "organizations are required to obtain meaningful consent for the collection, use and disclosure of personal information. Consent is considered meaningful when individuals are provided with clear information explaining what organizations are doing with their information." Sidewalk Labs claims that the data gathered will be used to ameliorate the residents' living conditions (Sidewalk Labs, 2017), but there has not yet been a breakdown of the different uses this data will have. It is still not clear what the managing third party's role will be, and if this data will be used for anything other than what the company has claimed it will be used for. Consent is an important value in Canada, and a key element of the Personal Information Protection and Electronic Documents Act (PIPEDA) (Office of the Privacy Commissioner, n.d.), and lack of it can bring about a lot of public concerns. The data gathering sensors and technologies used within this

smart city will not be turned off, and that leaves no opportunity for people to consent to their

data being collected (Cavoukian, 2019). Perhaps data's involvement in our physical space is

probing issues of consent because it is tangible and has direct consequences on our physical

environments. If the type of data to be gathered were only environmental - data pertaining to

weather, light, sound, humidity, pollution etc. - it may not be as threatening. But because human

data will also be captured, that may be the reason why people are uncomfortable with the idea of

it.

The concept of a smart city is still very new, and since we do not have immediate and

easy access to examples that illustrate what this city would look like and how it will work, it may

be difficult for us to understand its process. Given that smart cities are almost entirely based on

algorithms, and that in this case we may not understand the way they function could potentially

mean that its consequences could be ignored in favour of the benefits it offers. Sidewalk Labs

has yet to explain the true function of these algorithms, and at this stage people do not yet

understand them. To hold consultations and ask the public for feedback on something that they

do not fully comprehend may not be an ideal way to encourage public participation and ensure

transparency.

The kind of advancements that Sidewalk Labs is proposing attempt to solve urban issues

that should really be tackled by government - issues around affordable housing, sustainable

mobility and more. By painting a utopian picture of a possible high-tech and sustainable smart

city space, the tech company is in a sense sending a message to the government that they have

the resources and necessary will to revitalize a neighborhood that the government couldn't fix. If

we look at this from a Foucauldian governance perspective, Sidewalk Labs, with its proposal to

build a smart city in Toronto, is offering to create urban conditions that: 1) ensure that the daily

lives of the residents follow a natural comfortable course, 2) safeguard the population from

potential environmental disasters by embedding sustainable solutions within the city, and 3)

innovate, aiming to put Toronto on top of the most technologically advanced cities list. Even if

this is not the company's intention, slowly, by giving the population what it needs and what the

government is not offering, for whatever reason, the governing power is indirectly being shifted

towards a corporation like Alphabet rather than the government. According to Foucault (1977),

in order to govern a population one needs knowledge (statistics in terms of demographics, health,

housing, etc.), which Alphabet obviously has and will continue to acquire more of through the

collected data. This makes the population much easier to control. Beyond this, Sidewalk Labs

has announced its desire to invest in other pilot projects like the extension of the LRT. A project

of this scale is sure to grab the attention of both the government and Torontonians. One may

even say that by the sound of the developments they are promising, especially with the tone and

language they have used in the recent MIDP (that we will get into later), they are beginning to

sound like candidates running a competitive electoral campaign against the government.

      Within the walls of a smart city, Sidewalk Labs will be omnipresent in the daily lives of

its residents. The company then plays the role of a surveillance intermediary, and its access to

data that comes from a physical space may be invaluable for the government. Similar to other

surveillance intermediaries, Sidewalk has the right to refuse government cooperation through

proceduralism and litigiousness, technological unilateralism, and policy mobilization. Out of all

three methods, policy mobilization may be the most dangerous approach, since it would mean

giving the tech company the opportunity to change surveillance policy. We would be inviting a

giant corporation to co-author public policy, involving them in governance. Sidewalk Labs has

requested to be the leader of the project and hold a higher position than Waterfront Toronto. This

would make the company the main decision-maker in the process, which would mean that it would have more power over other parties involved.

The company has also articulated a desire to get involved in other pilot projects in Toronto, particularly those related to transportation and sustainability. It hopes that the technologies created for the smart city would also help solve other challenges, even if the company itself is not the one leading them (Sidewalk Labs, 2019). In this case, Sidewalk Labs would be selling these technologies to other investors who will take on these projects. Sidewalk Labs could then be seen as not only an investor in the Sidewalk Toronto initiative but also a vendor for Toronto. But the company's desire to get involved in other projects is no surprise, considering the fact that Waterfront Toronto has stated in its initial RFP that the successful bidder would be able to invest in other pilots. Since there are no contracts with the City that account for this involvement, and no clear call for other projects at the moment, it almost seems as though the process is anti-competitive, with Sidewalk Labs proposing other pilot projects, and not the City itself. This would imply a shift in the power dynamic between both parties, and would give Sidewalk Labs higher authority.

Sidewalk Labs is asking to revitalize not one but six neighborhoods on the waterfront of Toronto. This means that the company will privately retain a big portion of the Eastern waterfront. Under the concept of corporatocracy, this takeover of land by a giant American corporation can influence the future of political and economic governance in the city. If this initiative is successful, what is to stop Sidewalk Labs and other tech companies from revitalizing and retaining other neighborhoods in Toronto? Corporatocracy could only spread even further from there, involving them more and more in governance and policy-making. Considering the "private" relationship between tech companies and governments as outlined by Grossi and

Pianezzi, surveillance intermediaries like Sidewalk Labs can at some point offer the government access to information in exchange for policies that are beneficial for them.

Naturally, it may be difficult or even unfair to govern an innovative project of this scale, especially since we do not yet know the full extent of the benefits it may have on our lives. However, since the boundaries of this smart city are outlined and set early on in the MIDP, we do know, to a certain extent, the details of what it will entail. It then becomes possible to set or update Canadian laws to fit the scope of the project and govern it.

The current conversation lacks one important aspect that is integral to life in Toronto. The cultural elements that will make up the smart city have not yet been tackled by the parties. Will the smart city be home to cultural institutions? Will culture be a core component the way it is in other neighborhoods in Toronto? Both Sidewalk Labs and Waterfront Toronto need to plan ways to create communal patterns within the smart city ahead of time in order to make sure that culture is not lost when planning for modern urban structures. The data gathered should not only be used to help find solutions to urban challenges but also to help understand the culture of the city and how it can be praised. Or is Sidewalk Labs simply counting on the idea that new, digital, and algorithmically-governed cultures will emerge anew from out of the smart city ether?

1.2 DISCOURSE

Sidewalk Labs begins its MIDP on page 15 with the headline "A Vision for Unlocking the Eastern Waterfront." The word "vision" implies observation and imagination, and could mean that the proposed ideas are exploratory. It is followed by the word "unlock" that suggests there is something stopping the Eastern Waterfront from being revitalized, that the company knows what it is, and holds the key that will unlock it. The tone here is candid and encouraging.

Sidewalk Labs then writes that it "proposes a vision, beginning with Quayside – designed to realize and maximize ambitious quality of life goals by integrating innovations into the physical development." "Beginning with Quayside" may hint at the company's desire to expand outside of the designated area and may seem a bit audacious. The use of the words "realize" and "maximize" may indicate that the company is sure that its proposed ideas will lead to success, and implies a bit of an arrogant tone. On page 17, Sidewalk states that it aims to "leverage private resources to realize public objectives." This shows that the company is keen on investing its resources in other pilot projects across Toronto. Sidewalk then adds that "certain solutions cannot reach their full impact at the size of a small neighborhood like Quayside while others do not become financially feasible at a smaller scale." In an attempt to persuade the reader that the reasons why the company is proposing extensions beyond Quayside, Sidewalk Labs comments on the financial feasibility and questions the size of the neighborhood to show that the project would not meet its true potential unless it is extended. It also adds that it "proposes to lead this development, working with local partners, and take the risk of proving the market viability." The word "lead" changes the power dynamic and hints at the company's desire to control and be the main decision maker in the process. The word itself sets out a condescending tone. Adding "take the risk" may imply that the company is ready to take on what others cannot and shows a bit of superiority. "Proving" then comes in to reveal Sidewalk Labs' confidence in the plan alongside "greatest amount of planning detail." In a bold headline, Sidewalk Labs writes "The IDEA District can exceed Waterfront Toronto's ambitious priority outcomes – and do so in a way that is both financially achievable and replicable in other parts of Canada." The word "exceed" once again reveals the company's confidence and comes off as a bit condescending. "Replicable in other parts of Canada" indicates Sidewalk's desire to invest in other pilot projects in Toronto.

Sidewalk later adds that "the development of the IDEA district provides a rare opportunity to achieve – and exceed – the priority outcomes established by Waterfront Toronto for the MIDP." By "rare opportunity," Sidewalk is in a way implying that its offer is unlike anything Toronto will see. This may come off as a little arrogant alongside the words "achieve" and "exceed" that reinforce the idea that the company is certain of its proposal. On page 21, Sidewalk clarifies that even though Waterfront Toronto will be leading the urban planning, design, infrastructure delivery and real estate development for the River District, it proposes "to play a different role across the IDEA District". This is candid and straightforward, showing the reader that the company is ready to be transparent in its plan. It then praises Waterfront Toronto's "ability to provide cutting-edge infrastructure and development" in an attempt to persuade the reader that the company is on Waterfront Toronto's side and is not aiming to work against it, but in a sense, implies that Waterfront Toronto cannot successfully achieve this without the help of Sidewalk Labs. This is further hinted in the paragraph that follows where Sidewalk proposes "to provide optional support financing critical infrastructure, such as upfront debt service, to help ensure that the city and waterfront can invest holistically in systems that unlock the potential for future development." Use of the word "support" could sound critical and condescending, implying that the government cannot take on such a project without the help of Sidewalk Labs. By "critical infrastructure," Sidewalk could be referring to the LRT plan. "Upfront debt service" reminds us of the U.S.'s involvement in the development of other countries by giving them loans they often cannot pay back. Sidewalk Labs then states that "the greatest cities are built from the community up," which sounds ironic considering the smart city is said to be built from the *Internet* up. On page 26, Sidewalk refers to Quayside as an area that is "underutilized," with an "untapped" potential. This comes off as critical of the government that has not yet been able to revitalize the

area. It provides before and after photographs (Figures 1 and 2 in Appendix) of the land in order to persuade the reader of the project's urgency. Sidewalk also mentions that it hopes the smart city will become "a model for how urban communities can meet the needs of new generations". This could sound arrogant, but also encourages the reader to imagine a utopian Toronto. In an attempt to persuade the reader, it also includes a map (Figure 3 in Appendix) that illustrates the potential benefits this smart city will have for other parts of the city.

The words and tones explained above are repeated consistently throughout the MIDP and do to a certain extent reflect transparency in terms of Sidewalk's underlying desire to make its intentions known. At the same time, the words and tones suggest authority and imply superiority all the while expressing Sidewalk's ambition to lead us all to an innovative new world that the company is confident will benefit Toronto and its residents.

LIMITATIONS AND FUTURE DIRECTION

The concept of a smart city is still very new. Its potential to possibly harm or create new opportunities remains unexploited. Naturally, literature that tries to explain smart cities does not yet tackle every aspect of what they truly are or what they can do; and so, finding concrete academic and professional references to back up or refute the claims of popular media's interpretations of a smart city was a challenge. While this MRP provided an overview of the potential technological, political and cultural implications of building a smart city, there are many other ways to go about this research. A particular challenge was finding literature that focused on Toronto or Canada specifically. Most of what is said about the project itself is based on opinion pieces by pro or anti-Sidewalk Toronto advocates. Though these articles provide a great starting point to understand the different themes and questions surrounding the project, there is still very little proof behind these claims.

This project could have also focused on the public's perception of building a smart city in Toronto, and conducted preliminary research through surveys and interviews. But considering the timeframe of the project as well as the general public's limited knowledge of the new concept, the MRP used theory to answer the research questions.

As smart cities become increasingly popular in the conceptual frameworks of technological, political and urban research, there is much opportunity for future exploration. Each area of research in itself can generate different types of hypotheses about the implications of smart city strategies. One interesting avenue that future research could focus on is the residents of the smart cities themselves: those who are willing to give up their privacies and those who are not, early adopters of innovation and laggards, millennials, baby boomers and generation Z cohorts. Such research could attempt to paint a demographic and psychographic

picture of who the person living in the smart city would and could be, and who would and could

be excluded.

CONCLUSION

The opportunity cost of building a smart city in Toronto is privacy, but the opportunity cost of not building it is to miss a chance to build something great that offers tangible solutions to the everyday urban issues faced by Torontonians. What Sidewalk Labs is proposing to create would not only position Toronto as a hub for innovation and technology, but would attract businesses from all around the world and make for great investment opportunities. An initiative of this scale could have great economic, environmental and potentially political benefits for the city. The question is, are we ready to give up our privacy for the sake of these benefits?

This MRP observed the relationship between access to identifiable data and control of environments. Though data may give tech companies like Sidewalk Labs an advantage over both the public and the government, the exercise of this power must be done in a judicious and measured way. We are already being surveilled through our digital spaces in an abstract electronic panopticon, giving authority to the tech companies gathering our data, and we are aware of that. According to Professor Nancy Baym (2010), we often fear technological advancements when they are first introduced. People feared the radio, television, and even the newspaper would have a negative influence on the course of our lives. But as time went by and these technologies became integral elements in our daily lives, we adopted and no longer feared them. Perhaps it is because we do not fully comprehend the concept of a smart city just yet that we fear its potential negative impacts on our environments. Though the creation of this smart city may give the tech company promoting it some sort of authority, and though it may have negative implications on the technological, political and cultural lives of the city, there are ways to mitigate the risks and make the adoption process quicker, easier, and less risky. One obvious response to these smart city proposals would be for Canada to update its privacy protection laws

to include technological innovation of this scale. These laws would allow the government to maintain authority over activities managed by Sidewalk Labs. It would also increase the government's involvement in the project, which could help gain the public's trust. We need to also understand that technology has become an integral instrument for development. If we want such technological advancements to happen, we should work with it rather than against it, and accept the idea that tech companies need data to come up with solutions that facilitate our lives. But the gathered data in this particular case should be managed by the City of Toronto rather than an independent third party organization. Making sure that the government is playing an active role during the planning, implementation and management processes could help mitigate some of the potential risks.

It is also important that the entire process be communicated with the public from start to finish. Part of the reasons why the public was not as receptive to the idea of Sidewalk Toronto could be because there were many instances where both Waterfront Toronto and Sidewalk Labs were not being transparent. Sidewalk Labs hid the fact that the gathered data is identifiable at source, but Waterfront Toronto equally decided not to make the contract between both parties public, even though Sidewalk had given them the approval to do so: "The contract should be public. If not, there should be a clearer reason given than vague 'commercial sensitivity' so we can move on from this confusion" (Wylie, 2018). Consent is one of the most important elements that make up this project. If people are aware of what they will be giving up and what they will receive in return, and if the process is communicated to them in a clear manner with no vague statements and shocking scandals made in between, it could be easier to get the public on board with the idea.

Sidewalk Labs and Waterfront Toronto should not ignore the cultural aspects of the project. So far, there is very little if any talk about how this smart city would be receptive to a multicultural city like Toronto. Will it be home to different cultural institutions? Would it hold festivals and encourage holiday rituals? Will diverse communities be able to recreate and shape neighborhoods within the smart city? Culture is an essential dialogue, yet it has not been thoroughly discussed.

It is also important to note that Sidewalk Toronto could very well be an experimental project, an opportunity for the tech company, the government as well as the public to explore the different dimensions of a smart city. If that is the case, then all parties need to work together to try to figure out where this can go. Both Sidewalk Labs and Waterfront Toronto are holding public consultations asking people to give feedback and share their opinions. But throughout the project, their lack of transparency has prompted public exclusion rather than public involvement, so it may seem a bit unfair of them to ask people to consult on something they have not been kept on the loop with.

The opportunity cost of building a smart city in Toronto could be great, but the opportunity lost by not building it may be greater. Technology is an important aspect of development in Toronto. Instead of pushing innovation away, we need to embrace it and use it to come up with solutions that tackle everyday challenges. In order to do so, we must first understand what the city's technology needs are. We must look into existing policies and use them to create a vision of what we want the future of our city to look like. If this could be achieved with the creation of a smart city, then Sidewalk Toronto could be an incredible solution. If not, then there could be other solutions out there that align better with our urban

goals. Either way, Sidewalk Toronto is an important initiative that deserves attention, even if it remains a topic of debate.

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APPENDIX

Figure 1 – Image showing construction work on the Victory Soya Mills Sillos in 1944.

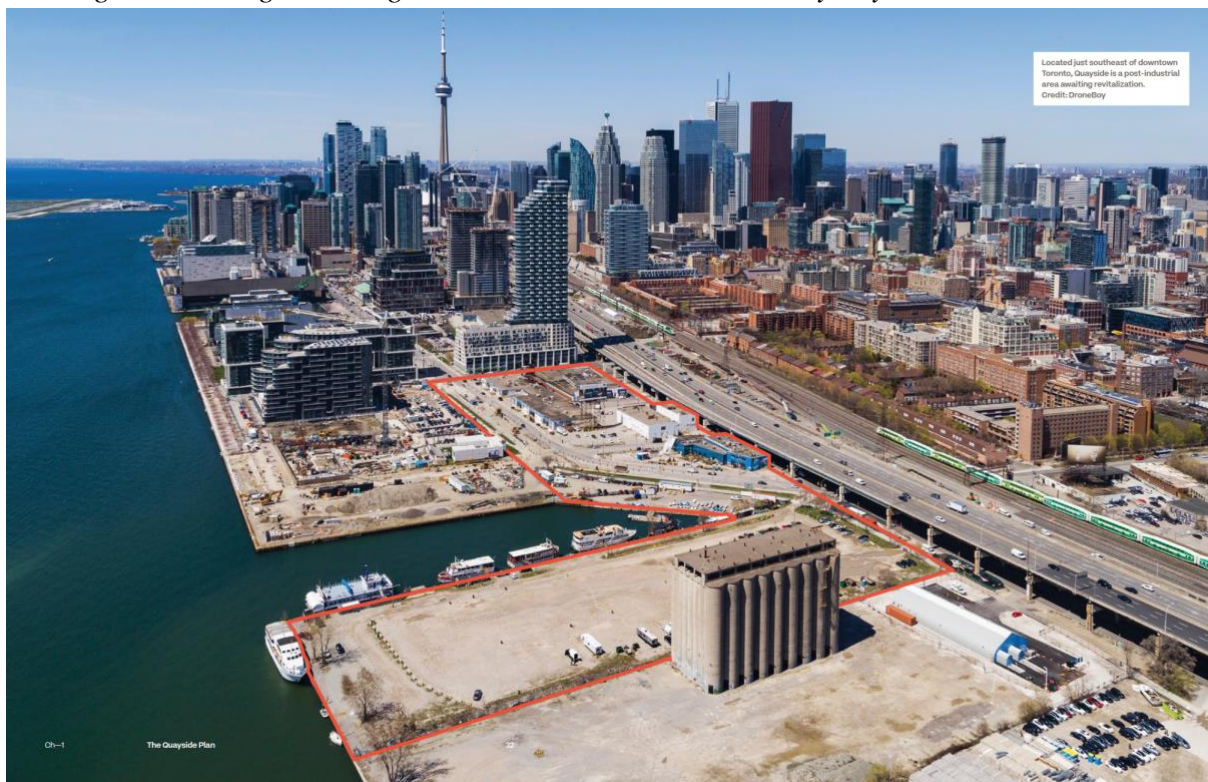*Figure 2 – Image showing Quayside today.*

Figure 3 – Image showing Quayside's connection to surrounding neighbourhoods.