How the Law Makes Smart Cities Unaccountable, and How to Start Making It Better: Lessons from Sidewalk Toronto

*Beatriz Botero Arcila**

ABSTRACT

Sidewalk Toronto was the flagship project of Sidewalk Labs, the smart-city subsidiary of Google's parent company, Alphabet. It was the largest smart-city project planned in North America or Europe. It is also the most notable failure of such a project to date.

Smart city projects and the technologies behind them improve the delivery and efficiency of city services, produce data to help local policymakers learn from their policy interventions and bring several economic development benefits. At the same time, they can create important risks to fundamental rights and enhance the capabilities of corporate and public surveillance. When Sidewalk Toronto was abandoned many suspected it was because of the concerns and opposition it raised regarding the risks of increased corporate surveillance it posed.

Although concerns about surveillance were the political driver of Sidewalk Toronto's failure, this Article argues that the reason why the project failed, and perhaps had to fail, is because there was no apt legal framework to sustain it. Sidewalk Toronto was an interesting project from a local economic development perspective, and from an innovation perspective. However, existing privacy laws in Canada were not up for the task of handling, reasonably limiting, and ensuring the safe use of

*Assistant Professor, Sciences Po Law School; Faculty Associate, Berkman Klein Center for Internet & Society at Harvard University beatriz.boteroarcila@sciencespo.fr.

Special thanks to Barry Friedman (NYU), Sukriti Issar (Sciences Po), Yochai Benkler (Harvard Law), and Gerald Frug (Harvard Law) for their useful comments on previous versions of this piece and the organizers and participants of the Google and Territories conference in Sciences Po, Paris, 2023, for their great comments and feedback. Special thanks as well to Madeline Strasser, Amaris Aloise, and the team at *Vanderbilt JETLaw* for their thoughtful edits and suggestions, which significantly improved this Article. All errors remain my own.

ubiquitous data collection in the city's public spaces and infrastructures. Additionally, and most importantly, the public-private structure of governance behind the project was unaccountable and unfit to oversee its safe development.

This Article demonstrates that the interplay between data protection law and public and private governance structures that govern smart city projects around the world are crucial to guarantee smart cities safety and trustworthiness; and for cities to be able to harness their benefits. In doing so, this Article calls for not only reform of data governance law, but also reform in other fields of law better equipped with dealing with the power asymmetries and particularities of the sectors where digital technologies are being adopted. This Article focuses on cities and how local law and governance should be adapted to address these risks.

While digital technologies promise solutions to urgent urban challenges, the Sidewalk Toronto story teaches a stark lesson: without robust legal frameworks and accountable institutions, smart city projects around the world will create substantial risks.

TABLE OF CONTENTS

I. INTRODUCTION

Sidewalk Toronto was the flagship project of Sidewalk Labs, the smart city development subsidiary of Google's parent company, Alphabet.[1] It was the largest smart city project planned in North America or Europe.[2] It is also the most notable failure of such a project to date.

1. Jennifer Elias, *Alphabet to fold Sidewalk Labs into Google as Project's Founder Steps Down*, CNBC (Dec. 16, 2021, 3:26 PM), https://www.cnbc.com/2021/12/16/alphabet-to-fold-sidewalk-labs-into-google-as-doctoroff-steps-down.html [https://perma.cc/9UEZ-G6PM].

2. *See* M. Martinez Euklidiadas, *Sidewalk Toronto, The Vision Behind Google's Failed City*, TOMORROW CITY (Jan. 19, 2024), https://www.tomorrow.city/sidewalk-toronto-the-vision-behind-googles-failed-city/ [https://perma.cc/5X6G-RDTV].

Sidewalk Toronto was announced in late 2017 by Canadian Prime Minister Justin Trudeau as a partnership with Sidewalk Labs to develop 800 acres of Toronto's eastern waterfront.[3] According to Trudeau, Sidewalk Toronto was going to "creat[e] a new type of neighborhood that puts people first" and "transform Quayside into a thriving hub for innovation and a community for tens of thousands of people to live, work and play."[4] Nevertheless, in May 2020, Sidewalk Labs abandoned the project, citing the economic turmoil from the COVID-19 pandemic.[5] Many suspected that the real reason for abandoning the project was the vast local opposition to the project, primarily driven by widespread concerns about how the project would increase surveillance in the city and the role that a Google-affiliated technology company would now have in Toronto's governance.[6]

Sidewalk Toronto did pose important surveillance risks, and the opposition was vigorous.[7] However, this Article shows that such a project could have made sense from a local economic development perspective. Yet, the risks it posed were very high and accentuated in no small part because there was no apt legal framework that would guide and ensure the project's safe development. There were two main ways in which the legal framework was lacking. First, existing data protection and privacy laws in Canada, like around the world, were (and are) not up for the task of reasonably guiding and ensuring the safe use of ubiquitous data collection in cities' public spaces and infrastructures.[8]

Second, and most importantly, the government structure behind the project was unaccountable and lacked expertise in digital governance.[9] Sidewalk Toronto was a large-scale urban development project led by a public corporation called Waterfront Toronto, tasked

---

3. *Id.*

4. Andrew J. Hawkins, *Alphabet's Sidewalk Labs Strikes Deal to Turn 800 Acres of Toronto into an 'Internet City'*, THE VERGE (Oct. 17, 2017, 1:46 PM) https://www.theverge.com/2017/10/17/16488942/alphabet-sidewalk-labs-toronto-quayside [https://perma.cc/WG6S-67TV] (quoting Justin Trudeau, Canadian Prime Minister).

5. Ian Austen & Daisuke Wakabayashi, *Google Sibling Abandons Ambitious City of the Future in Toronto*, N.Y. TIMES (May 7, 2020), https://www.nytimes.com/2020/05/07/world/americas/google-toronto-sidewalk-labs-abandoned.html [https://perma.cc/AB88-CF5T].

6. *See id.*

7. *See id.*

8. *See, e.g.*, Lilian Edwards, *Privacy, Security and Data Protection in Smart Cities: A Critical EU Law Perspective*, 2(1) EUR. DATA PROT. L. REV. 28, 42 (2016).

9. *See* Burcu Baykurt, *Algorithmic Accountability in U.S. Cities: Transparency, Impact, and Political Economy*, 9 BIG DATA & SOC'Y 2, 7 (2022).

with developing a specific area of Toronto's waterfront.[10] Waterfront Toronto is owned by the city of Toronto, Ontario and the Canadian governments, but it is governed by a CEO and a board.[11] As such, it was at arm's length of the democratic bodies that owned it. Additionally, Waterfront Toronto was established at a time when urban development was more focused on infrastructural improvement, and thus Waterfront Toronto lacked the expertise and authority needed to effectively oversee a digitally enabled urban development project or adopt and approve policies that would ensure the safe handling of all the data that was to be collected. Interestingly, the involvement of this public corporation seems to have allowed the officials of the City of Toronto to avoid full political responsibility.[12]

This Article's central contribution thus lies in illustrating that smart city projects may make sense for cities' local economic development, but their safety and trustworthiness strongly depend on the interplay between data protection law and the public and private governance structures behind them.[13] Building on the work of the many Canadian scholars and activists who, from 2017 to 2020, followed the project closely, this Article demonstrates that there were important economic reasons and institutional incentives for building a project of this kind in Toronto. Yet, those same institutions were unable to instill trust in Torontonians that their data would be safe. [14]

Before moving forward, it is appropriate to introduce some key definitions and the academic conversation this Article covers. Smart city technologies generally refer to data and artificial intelligence

---

10. Austen & Wakabayashi, *supra* note 5.

11. *See id.*

12. *See id.*

13. Roberto Tallarita, *AI Is Testing the Limits of Corporate Governance*, HARV. BUS. REV. (Dec. 5, 2023), https://hbr.org/2023/12/ai-is-testing-the-limits-of-corporate-governance [https://perma.cc/BL72-5U8G]; Paul Oudin & Teodora Groza, The Governance of AI Companies: Reconciling Purpose with Profits 9 (Sept. 20, 2024) (unpublished article) (on file with SSRN).

14. *See* Bianca Wylie, *In Toronto, Google's Attempt to Privatize Government Fails—For Now*, BOSTON REV. (May 13, 2020) [hereinafter Wylie, *Google's Attempt to Privatize Government Fails*], https://www.bostonreview.net/articles/bianca-wylie-sidewalk-labs-toronto/ [https://perma.cc/W2V3-37DB]; *see also* Bianca Wylie, *Searching for the Smart City's Democratic Future,* CTR. FOR INT'L GOVERNANCE INNOVATION (Aug. 13, 2018), https://www.cigionline.org/articles/searching-smart-citys-democratic-future/ [https://perma.cc/SL8X-BJU5]; Teressa Scassa, *Designing Data Governance for Data Sharing: Lessons from Sidewalk Toronto*, TECH. & REGUL. 44, 54 (2020); Blayne Haggart & Natasha Tusikov, *Sidewalk Labs' Smart-City Plans for Toronto Are Dead. What's Next?*, THE CONVERSATION (May 8, 2020, 10:20 AM), https://theconversation.com/sidewalk-labs-smart-city-plans-for-toronto-are-dead-whats-next-138175 [https://perma.cc/6MGM-3QY2]; Alexandra Flynn & Mariana Valverde, *Where The Sidewalk Ends: The Governance of Waterfront Toronto's Sidewalk Labs Deal*, 36 WINDSOR Y.B. ACCESS TO JUST. 263, 266 (2019); Ellen P. Goodman & Julia Powles, *Urbanism Under Google: Lessons from Sidewalk Toronto*, 88 FORDHAM L. REV. 457, 457 (2019).

(AI)-powered tools or programs that cater to urban governments and stakeholders. These technologies collect data about a particular urban phenomenon—such as traffic and air pollution—and draw insights from that data.[15] Sometimes, these technologies can also influence the built environment by acting upon those insights by, for example, adjusting traffic lights to real traffic.[16] The term smart city projects refers to larger projects that involve the implementation of multiple smart city tools for large-scale urban development projects. Sidewalk Toronto was such a project, but smaller smart city projects may be, for example, innovation districts or a city-wide free Wi-Fi network.[17] When effectively adopted and utilized, smart city tools and technologies can improve the delivery and efficiency of city services. Thus, smart city projects can improve urban infrastructures and have positive effects on local economic development because they can attract investment and create quality jobs.[18]

At the same time, it is also well-documented that the digitally driven nature of smart city tools and projects pose several risks, especially to fundamental rights such as privacy, equality, and due process.[19] Since many of these tools are powered by AI, smart city technologies raise the same risks inherent in AI. For example, the reckless use of these technologies in urban decision-making may entrench patterns of discrimination and inequality while remaining

15. Beatriz Botero Arcila, *Smart City Technologies: A Political Economy Introduction to Their Governance Challenges*, *in* THE OXFORD HANDBOOK OF AI GOVERNANCE 820 (Justin B. Bullock et al. eds., online ed. 2022), https://doi.org/10.1093/oxfordhb/9780197579329.013.48 [https://perma.cc/6MKN-3TKX].

16. *How Do Smart Traffic Lights Work?*, SPECTRUM ENTER., https://enterprise.spectrum.com/support/faq/smart-cities/how-do-smart-traffic-lights-work.html#:~:text=How%20do%20smart%20traffic%20lights%20work%20to%20reduce%20traffic%3F,more%20efficiently%20throughout%20the%20city [https://perma.cc/6832-FX33] (last visited Mar. 2, 2025).

17. Charlie D. Osborne, *The Definitive List of Smart Cities Projects Taking the World by Storm,* ION WORLD TODAY (Sept. 28, 2017), https://www.iotworldtoday.com/smart-cities/the-definitive-list-of-smart-cities-projects-taking-the-world-by-storm [https://perma.cc/JY5F-JYP6].

18. RICHARD FLORIDA, THE RISE OF THE CREATIVE CLASS 142 (2019) (Basic Books rev. ed. 2019); *See also* Aaron Sankin, *How to Use Reported Crime Data to Actually Prevent Crime,* THE MARKUP (Oct. 28, 2023, 8:00 AM), https://themarkup.org/hello-world/2023/10/28/how-to-use-reported-crime-data-to-actually-prevent-crime [https://perma.cc/FZP4-Z2MF].

19. *See, e.g.*, SHANNON MATTERN, A CITY IS NOT A COMPUTER: OTHER URBAN INTELLIGENCES 54 (2021); Sarah Barns, *Smart Cities and Urban Data Platforms: Designing Interfaces for Smart Governance*, 12 CITY CULTURE & SOC'Y 5, 7 (2018), Federico Caprotti, I.-Chun Catherine Chang & Simon Joss, *Beyond the Smart City: a Typology of Platform Urbanism*, 4 URBAN TRANSFORMATIONS 1, 5 (2022).

opaque and difficult to audit.[20] Additionally, because these tools are used by government agencies and in public spaces, individuals have little to no choice in their exposure to these tools.[21]

Because smart city tools pose risks emerging from data-driven and algorithmic practices, the law oriented literature on smart city governance has often focused on discussing these risks and their interplay with privacy, data protection law, and AI regulation.[22] On the other side of the spectrum, most political economy accounts of smart city technologies emphasize the role of political and market institutions in shaping smart city development, and the effects of the heavy involvement of the private actors that often develop these tools.[23] This literature, however, rarely offers a detailed account of how legal structures lead to specific technology choices and outcomes.[24] This Article contributes to fill that gap by emphasizing how local government law and the governance structures of public-private corporations influence smart city development.[25]

In focusing in local government law and local administrative law, this Article also builds on recent legal scholarship arguing that data may be the wrong or insufficient target of regulation when addressing the challenges associated with the fast adoption of digital technologies.[26] Professors Nadya Purtova and Bryce Newell, for example, have argued that the regulatory focus on data, as a way to address different harms emerging from algorithmic practices, has

---

20. *See, e.g.*, Alex Cosmas, Guilherme Cruz, Sebastian Cubela, Mark Huntington, Sohrab Rahimi & Sanchit Tiwari, *Digital Twins and Generative AI: A Powerful Pairing*, MCKINSEY DIGIT. (Apr. 11, 2024), https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/tech-forward/digital-twins-and-generative-ai-a-powerful-pairing [https://perma.cc/M92N-6YDJ]; BEN GREEN, THE SMART ENOUGH CITY 91 (2019); Solon Barocas & Andrew D. Selbst, *Big Data's Disparate Impact*, 104 CAL. L. REV. 671, 674 (2016).

21. *See, e.g.*, Marion Fourcade & Jeffrey Gordon, *Learning Like a State: Statecraft in the Digital Age,* U. CAL. DAVIS J. L. POL. ECON. 78, 93 (2020); Astrid Voorwinden, *The Privatised City: Technology and Public-Private Partnerships in the Smart City*, 13 L. INNOVATION & TECH. 439, 444 (2021).

22. *See, e.g.*, *Canadian Civil Liberties Association Files Lawsuit on Sidewalk Labs Project*, THE CANADIAN PRESS (Apr. 16, 2019, 1:16 PM), https://www.cbc.ca/news/canada/toronto/ccla-sidewalk-labs-lawsuit-1.5100184 [https://perma.cc/97XU-HLBD]; Leyland Cecco, *'Surveillance Capitalism' Critic Urges Toronto to Abandon Smart City Project*, THE GUARDIAN (June 6, 2019, 5:00 PM), https://www.theguardian.com/cities/2019/jun/06/toronto-smart-city-google-project-privacy-concerns [https://perma.cc/U2WX-CM3V9J2B-G6GE]. *But see* Voorwinden, *supra* note 21, at 444.

23. Voorwinden, *supra* note 21, at 444.

24. *See* Baykurt, *supra* note 9, at 5; MATTERN, *supra* note 19, at 83–85.

25. Flynn & Valverde, *supra* note 14, at 267; Goodman & Powles, *supra* note 14, at 498.

26. Nadezhda Purtova & Bryce Clayton Newell, Against Data Fixation: Why 'Data' Fails as a Regulatory Target for Data Protection Law and What to Do About It 11 (June 2024) (unpublished article) (on file with SSRN); *see also* Voorwiden *supra* note 21.

prevented the modernization of other bodies of law, such as consumer law and administrative law.[27] These bodies of law, however, may often be better equipped than data protection law to handle information harms or power asymmetries that arise in specific contexts such as the workplace, the market, or in government.[28] This Article argues that the safe development and adoption of smart city tools and projects requires modernizing project governance at the city level, via local government and administrative law.

The case study of Sidewalk Toronto poses important lessons for cities around the world. Cities generally have similar interests in improving their public service delivery and attracting companies that can improve their local economy, such that smart city tools and projects remain interesting and important options. However, the governance structure behind Sidewalk Toronto is not extraordinary and many other cities may be unequipped to ensure the safe adoption of these tools.[29] Indeed, as this Article explores at length, current legal frameworks around the world (but especially in North America) often fail to guarantee the safe adoption, deployment, and use of digital technologies in cities.

On the one hand, existing privacy and data protection laws in many cities are unequipped to deal with the adoption of digital technologies that collect vast amounts of data in cities' public spaces and infrastructures.[30] This leads to complicated situations where private parties such as Sidewalk Labs may end up making important decisions on the governance of data and, importantly, privacy, which easily makes these projects undemocratic.[31] Consequently, data protection and privacy laws around the world must be reformed to address some of the specific risks that ubiquitous data collection in cities poses, but also to provide clearer baseline rules for city governments and private actors developing and adopting these technologies.

On the other hand, data protection law reform is important but not enough. This Article also demonstrates how the legal structure of the private partnership behind Sidewalk Toronto was also unfit to manage a smart city project. Local governments often rely on public corporations to pursue their development projects.[32] Yet, often the

27. Purtova & Newell, *supra* note 26, at 30–31.

28. *Id.* at 26–27.

29. See Flynn & Valverde, *supra* note 14, at 267.

30. *See* Botero Arcila, *supra* note 15, at 824.

31. *See, e.g.*, Baykurt, *supra* note 9, at 7.

32. *See* Flynn & Valverde, *supra* note 14, at 267.

entities behind these tools and projects are hard to track, audit, and hold accountable. Specifically, these legacy public corporations may lack the expertise to lead digital projects and the power and legitimacy to create digital policy. Thus, local government and administrative law must be revised to ensure that the entities adopting and deploying these tools are transparent and fit for their purpose.

Importantly, this Article is not arguing that the adoption of digital technologies in cities is always dangerous or reckless. Smart city tools offer very real opportunities to improve local decision-making. Local government and cities often lead in establishing best practices and regulations to ensure the safe adoption of these tools.[33] Similarly, this is also not to say that urban development projects are always harmful or that the involvement of corporations in the delivery of public services is undesirable. Public and private partnerships are often useful structures that advance urban economic development and service delivery and can result in policies that positively serve the public interest.[34] It is precisely because smart cities hold potential that it is important to get their governance right. The case of Sidewalk Toronto reveals, however, that these projects should also not always be pursued and that crucial legal structures are not always up to date and do not guarantee the safe adoption of these technologies and projects. That must change.

In Toronto, local opposition tapped into the visibility of Sidewalk Toronto to mobilize and oppose the project vigorously, which eventually led the project to feel politically unsustainable for Sidewalk Labs.[35] As a matter of policy, however, it is undesirable to rely on society's mobilization to determine the success or failure of these projects.

Part I of this Article introduces the relationship of local government law and local economic development policy, and illustrates its influence on urban policymaking and the governance choices of city governments (such as partnering with Sidewalk Labs and shaping the adoption and diffusion of technologies in cities).

Part II details the rise and fall of Sidewalk Toronto with a focus on the legal structures governing it. It presents Waterfront Toronto and the lack of accountability surrounding the project, as well as the arguments raised by the opposition to the project, especially the #BlockSidewalk movement. Part III shows that Waterfront Toronto's

33. *See* SARA MARCUCCI, UMA KALKAR & STEFAAN VERHULST, AI LOCALISM IN PRACTICE: EXAMINING HOW CITIES GOVERN AI 24 (2022).

34. LAURENCE CARTER, RYUICHI KAGA, THOMAS MAIER, CHRIS HEATHCOTE, JOSÉ AGUSTÍN AGUERRE, WALID ABDELWAHAB, ROLF ALTER, GEOFFREY HAMILTON & SHAMSHAD AKHTAR, PUBLIC-PRIVATE PARTNERSHIPS REFERENCE GUIDE 2 (2017).

35. *See* Austen & Wakabayashi, *supra* note 5.

partnership with Sidewalk Labs, a transnational corporation closely related to Google, aligned closely with the urban governance best practice described in Part I. Yet, Waterfront Toronto was not equipped to ensure the accountability of the project in a way that a project of the size and sensitivity of Sidewalk Toronto required.

Based on the accounts of Parts II and III, Part IV discusses the two central legal questions underlying Sidewalk Toronto. First, it discusses how and why current privacy and data protection laws in Canada were unfit to support the project. Second, it demonstrates how the mix of local government law and administrative law governing Waterfront Toronto made the public corporation inadequate, and perhaps legally unable, to govern such a project. Part IV finishes with recommendations for a path forward to address the specific challenges faced by governments on governing personal data collection in city spaces and improving the accountability and responsibility of the local institutions adopting digital technologies in cities.

II. THE FRAMEWORK

"Smart cities" and "smart city technologies" are catch-all terms that refer to efficiency-enhancing technologies and development projects that seek to help urban stakeholders grapple with a variety of local problems, from transportation to utility supply and public security.[36] Ultimately, the term "smart cities" refers to a city's policy decision to use a digitally enabled tool to understand or address a particular local issue.[37] Smart city technologies are often powered by AI or other data analytics systems, collect data via smartphones or sensors, and rely on high-speed internet that translates that data into city-related predictions or recommendations for urban stakeholders.[38] Smart city technologies influence the virtual or physical environment of a city.[39] For example, a smart city tool may be a "smart traffic light"

36. *See* Botero Arcila, *supra* note 15, at 822 (explaining that the term 'smart city' is loosely defined and stems from the narrative put forward by technology companies on cities and technologies). IBM first used the term in its 2008 "Smart Cities" and "Smarter Planet" advertising campaigns to promote the use of technology and data to analyze urban problems. *Id.*

37. Jesse Woo, *Smart Cities Pose Privacy Risks and Other Problems, But that Doesn't Mean We Shouldn't Build Them,* 85 UMKC L. REV. 953, 953 (2017).

38. *See* Botero Arcila, *supra* note 15, at 820.

39. *See OECD AI Principles Overview,* OECD AI POL'Y OBSERVATORY (May 2024), https://oecd.ai/en/ai-principles [https://perma.cc/H3ME-D928] (defining AI systems as a machine-based system that, for explicit or implicit objectives, infers, from the input it receives, how to generate outputs such as predictions, content, recommendations, or decisions that can influence physical or virtual environments). Different AI systems vary in their levels of autonomy and adaptiveness after deployment. *Id.*

that responds to and collects traffic and pedestrian data.[40] Through their data collection and analytics capabilities, these tools enable better or automated decision-making in a variety of fields, especially in the supply and management of city services.[41]

The term "smart cities" has been criticized for suggesting that local governments require digital technologies to meet their different policy goals, as if they weren't "smart" already.[42] It is also criticized for neglecting that complex policy issues often require solutions that go well beyond building "an app for that."[43] Indeed, scholars and local practitioners have documented that these tools are marketed and sometimes adopted as part of shortsighted policymaking, a term some scholars have come to call "technological solutionism."[44] However, these tools and techniques can be very useful when they are part of rigorous policy thinking and making.[45]

Besides the risk of technological solutionism, like many data and AI enabled tools, smart city tools also pose a variety of risks to fundamental rights (like privacy), even when adopted as part of sound policymaking processes.[46] It is well-documented that, without proper governance and calibration, these tools can affect access to services and opportunities for certain communities and replicate (as well as accentuate) discrimination and inequality patterns in local government decision-making.[47]

Additionally, because smart city technologies are data-driven and often require personal data, they create risks of increased corporate and government surveillance, which in turn poses important risks to civil liberties like freedom of speech and association or the presumption

---

40. Jim Pickering, *Smart Traffic Signals Create More Efficient Transportation*, OKI REG'L COUNCIL OF GOV'TS, https://www.oki.org/smart-traffic-signals-create-more-efficient-transportation/ [https://perma.cc/V67B-QTTW] (last visited Mar. 4, 2025).

41. *See* Stephen Goldsmith, *One City's Collaborative Approach to Putting Data to Work*, GOVERNING (Apr. 4, 2018), https://www.governing.com/archive/col-mississauga-city-collaborative-technology-innovation.html [https://perma.cc/CLP2-V469]; *Our Mission,* DATA-SMART CITY SOLS., https://datasmart.hks.harvard.edu/data-smart-city-solutions [https://perma.cc/YQD4-J5FZ] (last visited Mar. 4, 2025).

42. *See* Botero Arcila, *supra* note 15, at 823.

43. *See* GREEN, *supra* note 20, at 21; Botero Arcila, *supra* note 15; NANCY AYER FAIRBANK, CHRISTOPHER S. MURRAY, AMY COUTURE, JENNIFER KLINE & MARTIN LAZZARO, THERE'S AN APP FOR THAT: DIGITAL CONTACT TRACING AND ITS ROLE IN MITIGATING A SECOND WAVE 51 (2020).

44. GREEN, *supra* note 20, at 4–5, 37; *see also Boston Smart City Playbook*, GITHUB PAGES, https://monum.github.io/playbook/#play2 [https://perma.cc/N4Z7-73LU]; MATTERN, *supra* note 19, at 72.

45. *See, e.g.*, GREEN, *supra* note 20, at 1–2.

46. *Id.* at 95–96.

47. *Id.* at 91.

of innocence.[48] This is especially the case for smart city tools that gather data in public spaces and are used in the context of law enforcement.[49] Lastly, critically oriented communication and information scholars have highlighted that the opacity of these systems makes them difficult to scrutinize, which, as these tools become embedded in high-stakes policy areas, creates challenges to democratic accountability.[50] Law professors Ellen P. Goodman and Julia Powles, in an early legal analysis of Sidewalk Toronto, focused on the obscurity and unavailability of information that would allow civil society to scrutinize the project.[51]

Legal scholars have demonstrated that the law shapes and enables the digital information economy. In the United States, legal scholars have found that the law has not only failed to mitigate the risks highlighted above, but that it has also facilitated the exploitation of personal data to the detriment of consumers.[52] Among many scholars, law professors Julie Cohen and Amy Kapczynski have detailed how US corporations leverage contract law, trade secret law, and the absence of comprehensive privacy regulations to build an inequitable data economy.[53] AI governance scholars Solon Barocas and Andrew Selbst have highlighted the limitations of current law in addressing issues of AI-driven discrimination and inequality, noting that both these tools and their users are often hard to scrutinize for organizational and technical reasons.[54] Law professors Michael Birnhack and Niva Elkin-Koren foresaw that public and private collaborations would increasingly lead to unchecked state surveillance.[55] Most recently, law professors Barry Friedman and Danielle Citron have shown and confirmed how a regulatory vacuum allows policing agencies at all

48. CLARISSA VELIZ, PRIVACY IS POWER: WHY AND HOW YOU SHOULD TAKE BACK CONTROL OF YOUR DATA 103 (2021); Michael Birnhack & Niva Elkin-Koren, *The Invisible Handshake: The Reemergence of the State in the Digital Environment,* 8 VA. J.L. & TECH. 1, 52 (2003); Barry Friedman & Daniel Keats Citron, *Indiscriminate Data Surveillance,* 110 VA. L. REV. 1351, 1355 (2024).

49. Alina Wernick & Anna Artyushina, *Future-Proofing the City: A Human Rights-Based Approach to Governing Algorithmic, Biometric and Smart City Technologies,* 12 INTERNET POL'Y REV. 1, 3–4 (2023).

50. Baykurt, *supra* note 9.

51. Goodman & Powles, *supra* note 14, at 480.

52. *See generally* JULIE COHEN, BETWEEN TRUTH AND POWER: THE LEGAL CONSTRUCTION OF INFORMATION CAPITALISM 15–16 (2019); Amy Kapczynsky, *The Law of Information Capitalism*, 129 YALE L. J. 1460, 1464 (2020) (reviewing SHOSHANA ZUBOFF, THE AGE OF SURVEILLANCE CAPITALISM (2019) and JULIE E. COHEN, BETWEEN TRUTH AND POWER (2019)).

53. *See* COHEN, *supra* note 52; Kapczynsky, *supra* note 52, at 1499

54. Jenna Burrel, *How the Machine 'Thinks:' Understanding Opacity in Machine Learning Algorithms,* 3 BIG DATA & SOC'Y 1, 4 (2016); Barocas & Selbst, *supra* note 20, at 674.

55. Birnhack & Elkin-Koren, *supra* note 48.

levels of government to acquire vast reservoirs of personal data collected by private companies.[56]

Although many of the technologies, partnerships, and practices analyzed by these scholars are often deployed in urban public spaces, the current scholarship tends to overlook the particularities of urban governance and how these particularities shape the adoption and effects of smart city technologies. This is the case, for example, for facial recognition or other video surveillance technologies such as closed-circuit television cameras (CCTV), which have been a key focus of the policy conversation, and which are often deployed in cities' streets.[57] The scholarship that recognizes the role of urban governance in smart city technologies has identified how cities innovate to regulate technology and the tension between digital surveillance technologies in public spaces and existing data protection law.[58] However, there seems to be less analysis of how the laws governing cities interact with data governance to encourage, shape, and support (or undermine) smart city project planning and development.[59]

One of the main critiques of Sidewalk Toronto surrounded the corporate nature of the project and its coexistence within the legal framework governing Toronto.[60] This critique underestimates, however, that capital and cities have an intricate relationship, especially relationships between global cities like Toronto and large corporations such as Google or Alphabet. This relationship was reinforced by the legal framework governing the project.[61] Public and private partnerships between technology companies and cities or public entities can represent real opportunities for local economic development and advancing local well-being. However, for this to occur, the right legal frameworks must be in place.[62] What follows illustrates how urban economics influence local law and urban governance, and how

---

56. Friedman & Citron, *supra* note 48.

57. *See* KASHMIR HILL, YOUR FACE BELONGS TO US: THE SECRETIVE AI STARTUP DISMANTLING YOUR PRIVACY 240 (2024).

58. Ira S. Rubinstein, *Privacy Localism*, 93 WASH. L. REV. 1961, 1967 (2018); Alina Wernick, Emeline Banzuzi & Alexander Mörelius-Wulff, *Do European Smart City Developers Dream of GDPR-Free Countries? The Pull of Global Megaprojects in the Face of EU Smart City Compliance and Localisation Costs*, 12 INTERNET POL'Y REV. 1, 7 (2023).

59. *But see* Flynn & Valverde, *supra* note 14, at 280; Botero Arcila, *supra* note 15.

60. *See, e.g.*, Bianca Wylie, *Sidewalk Toronto: Violating Democracy, Entrenching the Status Quo, Making Markets of the Commons*, MEDIUM (Apr. 19, 2019), https://biancawylie.medium.com/sidewalk-toronto-violating-democracy-entrenching-the-status-quo-making-markets-of-the-commons-8a71404d4809 [https://perma.cc/468F-9CU2].

61. *See* GREEN, *supra* note 20, at 100–01.

62. *See* FLORIDA, *supra* note 18, at 142.

partnerships and development projects like these are rather common (and often beneficial) in urban policymaking.[63]

A. "The Economic Approach to Cities" or Why Global Cities Need Corporations, and Corporations Need Cities

From an economic perspective, cities are agglomerations of people and firms. People and firms cluster together in a place and reap the benefits of their "togetherness."[64] These benefits, along with the objectives of clustering together, are plentiful and diverse. For example, people may cluster in a place for religious or security reasons. They may also come together to reap the economic benefits of a strategic location. A cluster may also form because of an advantageous proximity to a natural resource like a bay or a forest, a road intersection important for trade, or proximity to a major city that serves as an employment hub.[65] But the economic benefits do not end there. For example, agglomerations may result in reduced transportation costs and better access to knowledge.[66] Urban economists refer to these advantages as agglomeration economies, describing the benefits that arise when firms and people are located together in cities or other urban and industrial clusters.[67]

The gains associated with agglomeration economies are very high. Economists and sociologists such as Edward Glaeser and Jane Jacobs have shown that, historically, cities have forged human capital, driven innovation, and fostered the arts.[68] Cities are also typically healthier, more productive, more sustainable, and richer in cultural and economic terms.[69] Even with important advances in transportation and telecommunication technologies, the industrial and social capital agglomeration in cities remains critical for industrial and

---

63. Note, however, that it is not intended to be a unidirectional narrative – the history of local governance is long and intricate.

64. Andres Gomez-Lievano & Michail Fragkias, *The Benefits and Costs of Agglomeration: Insights from Economics and Complexity*, ARXIV 1, 2 (Apr. 19, 2024), https://arxiv.org/pdf/2404.13178 [https://perma.cc/NNR8-7F2X].

65. *Id.*

66. *See, e.g.*, David Schleicher, *The City as a Law and Economic Subject*, 5 U. ILL. L. REV. 1507, 1528 (2010). *But see generally* AGGLOMERATION ECONOMICS, (Edward Glaeser ed., 2010).

67. *See* Gomez-Lievano & Michail Fragkias, *supra* note 64, at 1 (describing the benefits of agglomeration as a centripetal force that pulls people and companies together in cities); *see, e.g.*, Schleicher, *supra* note 66. *But see generally* AGGLOMERATION ECONOMICS, *supra* note 66.

68. *See generally* JANE JACOBS, THE ECONOMY OF CITIES (1970); EDWARD GLAESER, TRIUMPH OF THE CITY: HOW OUR GREATEST INVENTION MAKES US RICHER, SMARTER, GREENER, HEALTHIER AND HAPPIER (2012).

69. *See generally* GLAESER, *supra* note 68.

technological development. For example, the California's Bay Area and the New York City Area agglomerate an important proportion of the United States's technology startups and companies.[70]

In his seminal 1995 article titled "The World Cities Hypothesis," urban scholar John Friedman connected cities' development to the world economy.[71] Friedmann suggested that certain features of the economic globalization process of the second half of the 20th century transformed cities into an important locus of globalization.[72] Friedmann focused on so-called "global cities," such as New York, Paris, Toronto, and Sao Paulo.[73] These cities consist of high concentrations of corporate headquarters and financial institutions, serve as major hubs for transportation and communication networks, and concentrate human capital from professionals like lawyers, accountants, entrepreneurs, and artists.[74] Under the World City Hypothesis, cities are shaped by the form and extent of their integration with the world economy: business leaders want to move their companies to global cities to ensure proximity to other companies' headquarters, specialized services (ranging from public relations firms, top law firms, and financial institutions), human capital, and workers.[75] While these cities are expensive for companies to establish their headquarters in and characterized by stark inequalities, their appeal lies in the access they provide to jobs, culture, services and opportunities for entrepreneurship, and talented people.[76] For city governments, being connected to the world economy is attractive because global capital and global talent represent revenue sources.[77] These cities tax the real estate and consumption of corporations and their employees, which, in turn, generates revenue for the local government to provide various city

70. For an early take on this, see Jess Gaspar & Edward L. Glaeser, *Information Technology and the Future of Cities*, 43 J. URBAN ECON. 136, 139 (1998). For a post pandemic take, see Betsy Gardner, *Edward Glaeser on the Survival of Cities,* DATA-SMART CITY SOLS., ASH CTR. FOR DEMOCRATIC GOVERNANCE & INNOVATION – HARV. KENNEDY SCH. (June 14, 2023), https://datasmart.hks.harvard.edu/edward-glaeser-survival-cities [https://perma.cc/DZD4-MCBM].

71. John Friedmann, *The World City Hypothesis*, *in* WORLD CITIES IN A WORLD-SYSTEM 317 (Paul L. Knox & Peter J. Taylor eds., 1995).

72. *Id.*

73. *Id.* at 320.

74. *Id.* at 322.

75. *Id.* at 318.

76. *Id.* at 326.

77. *See id.*

services, amenities, and infrastructure, thereby attracting more talent.[78]

Cities can, however, decay. Agglomeration comes with downsides, (such as rising housing costs, congestion, or the spread of disease) which act like centrifugal forces pushing people and firms away.[79] Cities rise and fall based on their ability to capitalize on agglomeration economies to offset costs and remain attractive for firms and people.[80] Their success typically depends on the sustained strategic relevance of the location or their ability to reinvent new reasons for people to "be together" there.[81] Changes in transportation technologies, depletion of resources, or migration of certain industries elsewhere affect the attractiveness of a location.[82] When this happens, as it did in areas of the US Midwest in the 1980s, economic activity winds down, capital flees, and labor follows better opportunities and higher wages.[83] Some cities, however, manage to reinvent their economies. Cities that were once industrial hubs or ports may now be important sites for finance, university networks, or a new industry like biotech. Miami, Dallas, or Austin, for example, have leveraged their good weather, proximity to universities, and amenities to attract capital and labor, resulting in recent resurgences as technology and art hubs.[84]

Consequently, one of the main goals of urban governance is to maximize the gains of agglomeration economies while minimizing the costs. There are, however, significant disagreements among urban economists on how to accomplish this.[85] Investing in clean water and sanitation, local police, and building roads along with some form of urban transportation are considered desirable place-based policies

78. *See id.* at 327; *see generally* FLORIDA, *supra* note 18, at 9–10; Aaron Sankin, *How to Use Reported Crime Data to Actually Prevent Crime*, THE MARKUP (Oct. 28, 2023, 8:00 AM), https://themarkup.org/hello-world/2023/10/28/how-to-use-reported-crime-data-to-actually-prevent-crime [https://perma.cc/N7RQ-F4G2].

79. Gomez-Lievano & Michail Fragkias, *supra* note 64, at 2.

80. *Id.*

81. *Id.*; Edward L. Glaeser & Joshua D. Gottlieb, *The Wealth of Cities: Agglomeration Economies and Spatial Equilibrium in the United States* 7 (Nat'l Bureau of Econ. Rsch., Working Paper No. 14806, 2009).

82. *See* Glaeser & Gottlieb, *supra* note 81, at 21.

83. *See id.*

84. Natasha Solo-Lyons, *Your Evening Briefing: Florida and Texas Aren't So Cheap Anymore*, BLOOMBERG (Mar. 18, 2024, 4:50 PM), https://www.bloomberg.com/news/newsletters/2024-03-18/bloomberg-evening-briefing-florida-and-texas-are-not-so-cheap-anymore [https://perma.cc/A99V-HBLM].

85. Glaeser, *supra* note 68, at 37.

that mitigate some agglomeration costs.[86] However, economists agree that good urban policy must be conscious of the fact that people and firms are mobile.[87] This usually means that urban policymakers may face strong limits on their ability to pursue policies perceived as costly and unbeneficial to wealthy taxpayers who may choose to "exit" and relocate elsewhere.[88] Economist Edward Glaeser thus argues that it may be undesirable for cities to offset agglomeration costs through their tax revenue redistributive policies.[89] For the wealthiest residents and taxpayers, the fiscal costs of these redistributive policies may become too high and offset the agglomeration benefits for them (especially if there is a nearby city with lower taxes), causing them to leave and therefore leaving the city worse off.[90]

Just as taxpayers are mobile and may choose to leave, they can also be attracted and retained. For market-oriented urban policymakers, this means that cities should attract corporations and investments that will lead to job creation.[91] Cities attract these investments through a range of projects as varied as hosting large sporting events, a Taylor Swift concert, or (perhaps more useful) attracting a company's headquarters.[92] Urban scholars like Richard Florida also suggest that city governments should pursue policies that attract high human capital residents who will, in turn, attract companies (or leverage the possibility of remote and hybrid work)[93] and generate long-run economic success.[94] Attracting human capital may require providing access to quality education, guaranteeing public

86. *Id.* at 27.

87. *Id.* at 30.

88. *Id.* at 31.

89. *See id.*

90. Glaeser, *supra* note 68, at 27, 30; *see generally* PAUL E. PETERSON, CITY LIMITS (1981).

91. Glaeser, *supra* note 68, at 27, 30; *see generally* PETERSON, *supra* note 90.

92. *Generating $5 Billion, the Taylor Swift The Eras Tour Has an Economic Impact Greater than 50 Countries*, QUESTIONPRO (June 8, 2023, 8:03 AM), https://www.globenewswire.com/en/news-release/2023/06/08/2684710/0/en/Generating-5-billion-the-Taylor-Swift-The-Eras-Tour-has-an-Economic-Impact-Greater-than-50-Countries.html [https://perma.cc/VSF6-6M2T]; *Independent Study Reveals Olympic Games Paris 2024 "Economically Beneficial" for Host Region*, INDEP. OLYMPIC COMM. (May 15, 2024), https://olympics.com/ioc/news/independent-study-reveals-olympic-games-paris-2024-economically-beneficial-for-host-region [https://perma.cc/P7C3-Y936].

93. *See* Richard Florida, *How Hybrid Work Is (And Isn't) Reshaping Cities*, HARV. BUS. REV. (Dec. 12, 2023), https://hbr.org/podcast/2023/12/how-hybrid-work-is-and-isnt-reshaping-cities#:~:text=Richard%20Florida%2C%20professor%20at%20the,cities%E2%80%9D%20remain%20important%20places%20for [https://perma.cc/SM3M-DQW3]; Ferdinando Monte, Charly Porcher & Esteban Rossi-Hanberg, *Remote Work and City Structure* 1 (Nat'l Bureau of Econ. Rsch., Working Paper No. 91494, 2023).

94. Glaeser, *supra* note 68, at 31.

security, building local amenities like parks and waterfronts, and promoting a cultural agenda.[95]

From this economic perspective, it becomes clear why a city like Toronto was attracted, at least in principle, to partner with Sidewalk Labs to build Sidewalk Toronto. Sidewalk Toronto represented many of the factors that would make the city more attractive to human capital in a world economy, and it was a project that connected the city with one of the most important corporations in the world: Google.[96] Sidewalk Toronto also promised to develop local infrastructure,[97] offer urban amenities, create employment in technology, and become a platform to strengthen an ecosystem of innovation.[98] In addition to the incentive created by agglomeration economics, the next section demonstrates how local government laws gave Toronto even more incentives to pursue this type of economic development project.

B. How Laws Shape Cities, and How Laws and Cities Shape Technology

This Article utilizes the term "cities" to generally refer to urban settlements that correspond to a local subnational jurisdiction like a municipality. Local government law is the body of law that establishes the formal authority of cities.[99] Cities have limited powers that are shaped by local government law.[100] Consequently, local government law shapes in important ways how cities adopt technology and how technology is regulated in cities.

This subsection details how, in North America, most states and governments adopted some of the main ideas of urban economics to shape and limit city power. As a result, but also to mitigate the fiscal impact of large, and potentially risky, infrastructure projects, special purpose vehicles and public corporations, like Waterfront Toronto, became common to pursue development projects.

---

95. *Id.* at 29.

96. *Sidewalk Toronto: What Is It and What Does It Mean for Toronto?*, TORONTO REALTY BOUTIQUE, https://torontorealtyboutique.com/sidewalk-toronto/ [https://perma.cc/9PET-G46W] (last visited Feb. 11, 2025).

97. *Id.*

98. *Id.*

99. Gerald E. Frug & David J. Barron, CITY BOUND: HOW CITIES STIFLE URBAN INNOVATION 3 (2008).

100. *See id.*

1. Market-Based Local Government Law

Starting in the 1970s, most countries reformed their subnational government regimes, such as local government law, to better adapt to the facts that capital and labor are mobile and that providing local public services are expensive.[101] The seminal article that inspired these reforms stems from a model developed by the economist Charles Tiebout in 1956 in "A Pure Theory of Local Expenditures." [102] Tiebout proposed a solution to determine the optimal way to allocate resources in public expenditure in local jurisdictions.[103] According to Tiebout, competition among local governments through different offerings of public services would lead to more optimal public goods provisions as mobile residents would move to localities that best matched their policy preferences.[104]

In the United States, local government law reform in the second half of the twentieth century utilized Tiebout's main insight to instill fiscal discipline in local governments by creating better spatial marketplaces for capital and labor.[105] Following Tiebout's model, the key idea was that people and firms should choose the local government that offered the combination of tax burden and services that best fit their preferences. In addition, and to encourage the health of local finances, local government law often limits what cities can do if it is perceived as detrimental to investment and capital.[106] Thus, local governments often do not have the power, or get preempted by states and provinces, to do things like forbid ride-hailing services, tax commercial activities, or establish minimum wages.[107]

---

101. *See* Johannes Stübinger & Lucas Schneider, Understanding Smart City—A Data-Driven Literature Review, MDPI (Oct. 14, 2020), https://www.mdpi.com/2071-1050/12/20/8460#:~:text=We%20observe%20that%20the%20first,and%20housing%20quality%20%5B201%5D. [https://perma.cc/8AUX-4GVW]; *see, e.g.*, Erico Przeybilovicz & Maria Alexandra Cunha, *Governing in the Digital Age: The Emergence of Dynamic Smart Urban Governance Modes*, 41 GOV'T INFO. Q. 1, 5, 7 (2024); JULIAN D. LÓPEZ MURCIA, RECENTRALISATION IN COLOMBIA 56, 65, 221 (2021).

102. Charles M. Tiebout, *A Pure Theory of Local Expenditures*, 64 J. POL. ECON. 416, 416 (1956).

103. *Id.*

104. *Id.* at 418.

105. *See* Gerald Frug, *The City as a Legal Concept*, 96 HARV. L. REV. 1057–1154 (1980); Ron Levi & Mariana Valverde, *Freedom of the City: Canadian Cities and the Quest for Governmental Status*, 44 OSGOODE HALL L.J. 409, 459 (2006).

106. Frug, *supra* note 105, at 1062, 1064–65.

107. This limited local power regime built, both in the US and Canada, on top of a local government law model that worked to limit local politicians and city employers' jurisdictional and financial powers since the late 19th century. David J. Barron, *Reclaiming Home Rule*, 116 HARV.

In the United States, these reforms responded to a period of stagnation and inflation known as "The Great Inflation."[108] Federal law was also reformed to encourage "better" capital and labor markets.[109] As a result, the flow of federal redistribution and local tax revenues were reduced in the 1970s and 80s.[110] These reductions ensured that mobile citizens could choose their package of public preferences and created pressure for officials to provide quality services matching local needs with a competitive tax burden and fiscal discipline.[111] These reforms to local government law were also coupled with fiscal structures that made local governments strongly rely on property and sales taxes. Thus, there was an even greater incentive to attract capital or labor subject to those taxes.[112] This came to be known as "market-based local government law" in US scholarship.[113]

Market-based local government law improved fiscal discipline, but starting in the 1980s, US-based urban scholars noted that it also led to fragmented metropolitan areas where poor populations became concentrated in certain localities, often in the older and central parts of the city.[114] Meanwhile, wealthier urbanites "fled" to richer, neighboring suburbs, leading to metropolitan areas characterized by an unequal distribution of economic opportunities, resources, and higher-quality

---

L. REV. 2255, 2292 (2003); Levi & Valverde, *supra* note 105, at 410. This doctrine established that cities could only exercise the powers they were specifically granted by their city charters. Baron, *supra*, at 2292, 2295. Although eventually cities were given a certain degree of jurisdictional autonomy, local government law scholars in many US states and Canada argue that North American cities still often lack the legal powers required to effectively address urban issues. *See* RICHARD SCHRAGGER, CITY POWER: URBAN GOVERNANCE IN A GLOBAL AGE 87 (2016); *see also* Barron, *supra*, at 2295.

108. *The Great Inflation,* FED. RSRV. HIST. (Nov. 22, 2013), https://www.federalreservehistory.org/essays/great-inflation [https://perma.cc/3BDA-48XN].

109. *See* SCHRAGGER*, supra* note 107, at 194–95.

110. *See id.* at 195.

111. *See* ORGANISATION FOR ECON. COOP. & DEV. [OECD], FISCAL FEDERALISM 2022: MAKING DECENTRALIZATION WORK 22 (2021); WILLIAM A. FISCHEL, THE HOMEVOTER HYPOTHESIS: HOW HOME VALUES INFLUENCE LOCAL GOVERNMENT TAXATION, SCHOOL FINANCE, AND LAND USE POLICIES 38, 221 (2001) (developing a Tiebout consistent theory of local voting); Wallace E. Oates, *The Many Faces of the Tiebout Model*, *in* THE TIEBOUT MODEL AT FIFTY 21, 21–34 (William A. Fischel ed., 2006) (summarizing the current state of Tiebout model scholarship); Schleicher *supra* note 66, at 1508–09.

112. ROGER BILES, THE FATE OF CITIES: URBAN AMERICA AND THE FEDERAL GOVERNMENT, 1945–2000, 323 (2011).

113. Beatriz Botero Arcila, The Place of Local Government Law in the Urban Digital Age 10 (May 26, 2021) (unpublished article) (on file with SSRN).

114. *See, e.g.*, Frug, *supra* note 105, at 1117 n.257; Richard Briffault, *The Local Government Boundary Problem in Metropolitan Areas*, 48 STAN. L. REV. 1115, 1137 (1996); *see also* Richard Thompson Ford, *The Boundaries of Race: Political Geography in Legal Analysis*, 107 HARV. L. REV. 1841, 1888–89 (1994).

local services concentrated in local governments where more affluent residents could afford to settle. [115] The shift to suburbanization in the 1970s and 80s coincided with other economic and financial transformations and resulted in decades of "urban decline."[116]

City centers and large cities in the United States came back, however, in the 1990s and 2000s amid a process of urban resurgence.[117] Edward Glaeser explains this shift as driven by an increased economic value on education, which resulted in the appearance of a comparative advantage for denser and bigger cities.[118] Moreover, improvements in urban security and rising incomes raised demand for high-end urban amenities, such as concert halls, varied restaurants, and other forms of entertainment.[119]

Legal scholars like Gerald Frug and David Barron have argued that urban resurgence was tied to local government law structures aimed at pursuing economic developments of a global or tourist city, which included policies aimed at attracting corporations and building infrastructure, but are less supportive of the middle class.[120] Others have noted that this structure, aided by the "pull" of agglomeration economics in main cities, has helped enhance patterns of steep inequality between different US cities and regions.[121]

a. Canada and the Role of Ad Hoc Corporations

In Canada, the original design of the 1867 Constitution foresaw that the federal government would play a dominant role in fiscal

115. *See* Richard Child Hill, *Separate and Unequal: Government Inequality in the Metropolis*, 68 AM. POL. SCI. REV. 1557, 1560 (1974) (stating that "the concentration of low-income working class and the unemployed in the center city and inner ring suburbs has increased"); SCHRAGGER, *supra* note 107, at 250; *see also* Ford, *supra* note 114, at 1850–52; Schleicher, *supra* note 66, at 1544.

116. *See* KATHARINE L. BRADBURY, ANTHONY DOWNS & KENNETH A. SMALL, URBAN DECLINE AND THE FUTURE OF AMERICAN CITIES 8 (Brookings Inst. Press ed., 1982).

117. *See* Ingrid Gould Ellen & Katherine O'Regan, *Reversal of Fortunes? Lower-Income Urban Neighborhoods in the US in the 1990s*, 45 URB. STUD. 845, 866 (2008); Edward L. Glaeser & Joshua D. Gottlieb, *Urban Resurgence and the Consumer City*, 43 URB. STUD. 1275, 1275 (2006); Michael Storper & Michael Manville, *Behaviour, Preferences, and Cities: Urban Theory and Urban Resurgence*, 43 URB. STUD. 1247, 1248 (2006).

118. Glaeser & Gottlieb, *supra* note 117, at 1275–76.

119. *Id.*; Megan Wells, *How the '90s Changed the Future of Law Enforcement,* POLICE1 (Sept. 28, 2017, 12:30 PM),
https://www.police1.com/crime-prevention/articles/how-the-90s-changed-the-future-of-law-enforcement-YR02YdrfoAipY6W2/ [https://perma.cc/D9KT-2MHP] (explaining that the 1990s did see an impressive crime drop in the US).

120. Frug & Barron, *supra* note 99, at 204.

121. *See* SCHRAGGER, *supra* note 107, at 170.

policy.[122] Thus, provinces (the equivalent to US states) and local governments had little powers to legislate on social policy and taxation.[123] However, after World War II and the development of the welfare state, the country underwent a series of decentralizing reforms, granting provinces more legislative power and transforming the government into one of the most decentralized in the world.[124] As in the United States, these decentralization reforms were part of a global trend trying to make local governments fiscally responsible and sustainable, but also empower local decision-makers who were recognized as generally possessing better information about local circumstances.[125]

Canadian provinces have full discretion in determining which governing responsibilities they delegate to municipalities.[126] Similar to the United States, Canadian cities are "creatures of the province," and their authority and power are limited by the delegation of provincial as well as federal powers.[127] Yet, what legislative powers are given to municipalities, which are considered administrative bodies, is relatively uniform across provinces.[128] First, local government generally oversees all public services delegated by the provincial government, though some services are often delivered collaboratively with neighboring municipalities to capitalize on economies of scale.[129] In some instances, however, a region or county may handle the services of smaller cities more efficiently, when these are provided over a wider area than just one city's boundaries.[130]

Second, and like in the United States, the main source of revenue for local governments in Canada is property taxes.[131] Municipalities often also rely on "user fees," which are charges for providing specific goods or services, such as issuing a driver's license or a register.[132] Unlike in the United States, in Canada, sub-national competition is less acute because the federal government levels the playing field by making fiscal transfers to provinces that have a

122. *See* Jean-Françoise Tremblay, *Canada*, *in* THE FORUM OF FEDERATIONS HANDBOOK OF FISCAL FEDERALISM 97 (Jean-Françoise Tremblay ed., 2023).

123. *See id.*

124. *Id.* at 97–98.

125. Botero Arcila, *supra* note 113; Murcia, *supra* note 101, at 2.

126. *See* Flynn & Valverde, *supra* note 14, at 271.

127. *Id.* at 269–71.

128. *Id.* at 269–70 (citing 114957 Canada Ltée (Spraytech, Societé d'arrosage) v. Hudson (Town) 2001 SCC 40).

129. *Id.* at 268.

130. *Id.*

131. Tremblay, *supra* note 122, at 104.

132. *See id.*

below-average population. This is to ensure that all provinces can provide comparable levels of public services at comparable levels of taxation.[133] This may mean that, unlike in the United States, the legal structure of Canadian cities creates less incentives for local governments to aggressively attract capital and to fear labor and capital flight. The economic imperative to attract capital and jobs remains, however. Indeed, it was an important element of the creation of Waterfront Toronto.[134]

But what is Waterfront Toronto? Waterfront Toronto is a public, local, urban development corporation owned by the City of Toronto, Ontario, and the federal government of Canada.[135] It is governed by a board where all three levels of government participate.[136] Waterfront Toronto was the public corporation in charge of developing the area where Sidewalk Toronto would have existed, and it was the corporation that partnered with Sidewalk Labs to develop the project.[137]

Mariana Valverde, a local government law scholar at the University of Toronto, explains that despite local governments' relatively limited regulatory powers, in the United States and Canada, local governments often use arm's length bodies, like public corporations or special purpose vehicles, to pursue specific projects without breaching state and judicial limits on city councils' power and while attending to local finances.[138] Waterfront Toronto is such a public corporation. Though much less studied in local government law and administrative law, public corporations are used to pursue a variety of urban projects ranging from building infrastructure like parks, administering certain special services like libraries, or other urban development projects.[139] In New York City, for example, Central Park is maintained by an independent, private nonprofit entrusted by the City of New York called the Central Park Conservancy.[140] The New York Public Library is also an independently chartered corporation by the State of New York.[141] These entities benefit from their quasi-private

133. *See id.* at 107.

134. *See infra* Section III.A.1.

135. *Infra* Section III.A.1.

136. *See infra* Section III.A.1.

137. *See infra* Section III.A.2.

138. Flynn & Valverde, *supra* note 14, at 267–68.

139. *Id.* at 267.

140. *About Us*, CENTRAL PARK CONSERVANCY, https://www.centralparknyc.org/about [https://perma.cc/A53C-AFR7] (last visited Feb. 17, 2025).

141. *New York Public Library (NYPL)*, FUND IT, https://fundit.fr/en/institutions/new-york-public-library-nypl [https://perma.cc/KG5W-DGXW] (last visited Feb. 17, 2025).

corporate structure and boast powers that local governments lack.[142] For example, public corporations may borrow large sums by using future revenue as collateral, thereby circumventing classification as municipal debt. Importantly, these entities were, and still are, managed by boards that are not accountable to citizens or the local press in the way that local decision-makers are.[143]

Public corporations or ad hoc bodies like these exemplify that the proper vehicle for local economic policy and development is not solely vested in public law. Valverde, who was a vocal critic of Sidewalk Toronto, warns against administrative lawyers' and urban planners' default preference for public law tools and explains that creative uses of private law can also lead to good outcomes for citizens.[144] Even if Waterfront Toronto raised issues about transparency and accountability, it effectively served the public interest before Sidewalk Toronto. For example, it established the maximum height of buildings in an area on the waterfront in a way that was likely to be overturned by Ontario Law if the city had done it; only Waterfront Toronto was legally empowered to make these decisions.[145] As Part III explains, however, the legal structure and powers of Waterfront Toronto, which served it well for certain purposes, did not equip it to deal with a digitally enabled project like Sidewalk Toronto.

Just before that, however, the next section briefly illustrates how these mixed assemblages of entities involved in urban governance participate in shaping the diffusion and technological uptake in cities.

b. How Local Government Law Also Shapes Smart City Adoption

Just as local government law shapes urban economic development policy, it also shapes the technological transformation of cities. Science and technology scholars, along with law and political economy scholars, have long shown that technology adoption and diffusion are shaped by institutions, culture, and politics.[146] As a central institution, law in general and, specifically, local government law, play a role in enabling or limiting the distributive effects of the adoption of smart city tools and smart city development projects.

---

142. Flynn & Valverde, *supra* note 14, at 268–69.

143. *Id.* at 269–70.

144. *Id.* at 283.

145. *Id.* at 280.

146. *See* Yochai Benkler, *The Role of Technology in Political Economy*: *Part 3*, LPE PROJECT (July 27, 2018), https://lpeproject.org/blog/the-role-of-technology-in-political-economy-part-3/ [https://perma.cc/DCK9-E7WK].

Consider one of the most significant technological, urban revolutions in history: the rise of automobiles.[147] Critics of the current prominence of cars in cities highlight the pivotal influence of engineers and designers who approached the challenge with a focus on efficiently managing traffic and prioritizing cars over pedestrians.[148] Legal and economic incentives played a significant part in encouraging this transformation as a policy objective.[149] Indeed, in the 1910s and 1920s when automobiles were initially introduced to US cities, the prevailing response was one of fear and opposition.[150] City authorities enacted stringent local laws that created obstacles for car usage, such as mandates demanding motorists to announce their plans to use the roads a week in advance, employing an individual to walk in front of the car while carrying a red flag, or simply widely prohibiting street parking.[151]

Over the years, however, significant legal efforts and financial resources were mobilized to support and create streets, roads, and highways.[152] These endeavors aimed to facilitate alterations in the spatial organization of residential areas, businesses, and industries, steering them toward a more sprawling pattern.[153] For example, in the United States, the New Deal allocated substantial funds toward the construction of new roads and highways.[154] To accomplish this, the federal government created special purpose authorities to build bridges and local infrastructures.[155] The creation of special-purpose authorities was largely motivated by the federal government's suspicion of urban politicians' corruption and wastefulness, which led to local government laws that constrained local power.[156]

---

147. *See* Beatriz Botero Arcila, *Smart City Technologies: A Political Economy Introduction to Their Governance Challenges*, *in* THE OXFORD HANDBOOK OF AI GOVERNANCE 830 (Justin B. Bullock et al. eds., 2022) (presenting a shorter version of this example).

148. *See* GREEN, *supra* note 20, at 8.

149. Gregory H. Shill, *Should Law Subsidize Driving?*, 95 N.Y.U. L. Rev. 499, 579 (2020) (citing Glen Jeansonne, *The Automobile and American Morality*, 8 J. POPULAR CULTURE 125, 125 (1974)).

150. *Id.* at 524–25.

151. *Id.*

152. *Id.* at 536.

153. *See id.* at 544.

154. OWEN GUTFREUND, HIGHWAYS AND THE RESHAPING OF THE AMERICAN LANDSCAPE 30 (2005).

155. Marina Valverde, *Ad Hoc Governance: Public Authorities and North American Local Infrastructure in Historical Perspective*, *in* GOVERNING PRACTICES: NEOLIBERALISM, GOVERNMENTALITY, AND THE ETHNOGRAPHIC IMAGINARY 201 (Michelle Brady & Randy K. Lippert eds., 2016).

156. *Id.*

In cities, regulations governing land use played a pivotal role in facilitating the emergence of car-centric, sprawling metropolitan regions with limited denser development (such as suburbs).[157] Real estate development and regulations also played a part in encouraging the construction of office buildings, shopping centers, and additional residential areas to cater to the needs of the suburbs.[158] Consequently, as automobiles enabled people and businesses to traverse greater distances, policies aimed at promoting urban sprawl and stimulating the economy through the construction of specific infrastructure contributed to a distinct transformation of the US urban scenery.[159]

Thus, the evolution of car-centric cities exemplifies how law, policy, and economic incentives can orient city officials and planners in their adoption of technologies. Financial support from the federal government, private grants, and local government law frameworks may push for, or simply facilitate, the pursuit of a particular form of city development and a particular technology over other alternatives.

III. THE RISE AND FALL OF SIDEWALK TORONTO

This Part tells a concise version of the rise and fall of Sidewalk Toronto. It showcases the framework laid out in the previous part and focuses on showing how the institutional background and structures that sustained the project participated in shaping the planning and the failure of the project.

Importantly, it shows how the legal structure and mandate of Waterfront Toronto, the public corporation involved in the development of the area designated for Sidewalk Toronto,[160] oriented the project. Waterfront Toronto is a public company created to establish partnerships with private enterprises to develop Toronto's waterfront.[161] The corporation played an important role in attracting new economic players to contribute to the city's economic revitalization during a moment of urban decline in the late 1990s.[162] Waterfront Toronto, however, did not have the expertise, the legitimacy, nor the power to make some of the critical choices required to support a project like Sidewalk Toronto, specifically regarding the data governance questions.[163]

157. Shill, *supra* note 149, at 544.
158. *See* GUTFREUND, *supra* note 154, at 122.
159. Shill, *supra* note 149, at 539.
160. *See* discussion *infra* Section III.A.
161. *See* discussion *infra* Section III.A.
162. *See* discussion *infra* Section III.A.
163. *See* discussion *infra* Section III.B.1.

Additionally, the City of Toronto did not assume a role of leadership that could have instilled more trust in citizens or better guided the project.[164] This lack of accountability and legal infrastructure for the project backfired when groups of citizens of Toronto started to get nervous about the vast amounts of data collection Sidewalk Toronto would require.[165]

A. Waterfront Toronto: Tasked to Revitalize Toronto's Downtown

Toronto's eastern waterfront is an 800-acre area as wide as Manhattan and, until 2017, stood largely vacant.[166] The Quayside is a twelve-acre area within the eastern waterfront that is on the southern edge of Toronto's downtown. This was the intended site for Sidewalk Toronto.[167]

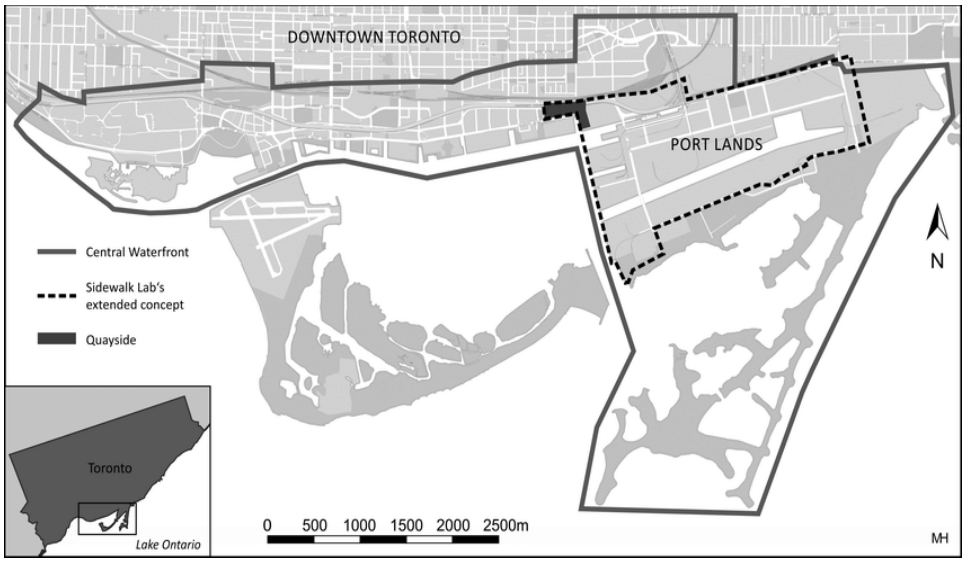

Figure 1. The Waterfront. Map of Downtown Toronto waterfront (Illustration)[168]

164. *See* discussion *infra* Section III.B.

165. *See* discussion *infra* Section III.B.

166. Molly Sauter, *Google's Guinea-Pig City*, THE ATLANTIC (Feb. 13, 2018), https://www.theatlantic.com/technology/archive/2018/02/googles-guinea-pig-city/552932/ [https://perma.cc/SQ7F-TH24].

167. Gabriel Eidelman, *Who's in Charge? Jurisdictional Gridlock and the Genesis of Waterfront Toronto*, *in* RESHAPING TORONTO'S WATERFRONT 263, (Gene Desfor & Jennefer Laidley eds., 2011).

168. Malte Helfer, Map of Downtown Toronto Waterfront (Illustration), *in* Constance Carr & Markus Hesse, *When Alphabet Inc. Plans Toronto's Waterfront: New Post-Political Modes of Urban Governance,* 5 URB. PLAN. 69, 74 (2020), https://www.researchgate.net/publication/339917939_[PERMA] When_Alphabet_Inc_Plans_Toronto's_Waterfront_New_Post-Political_Modes_of_Urban_Governance [https://perma.cc/HJC7-98SU].

1. Waterfront Toronto: Toronto's Revitalization Plans, and the Limited Role of the City Government

Like in many other large cities in North America, Toronto's downtown declined in the late 1990s.[169] Suburbanization processes, which were the result of strong investment in urban highways and subsidies for single-family home mortgages, created fragmented, large metropolitan areas and suburban towns that attracted mostly middle- and upper-middle-class families.[170] This left Toronto's urban cores neglected and poorer.[171] Since the beginning of the 1990s, new office and hotel developments were stalled and virtually no new rental accommodations were built.[172] Additionally, most of the commercial and industrial construction activity in the region, along with new jobs, migrated outside Toronto's boundaries.[173] To combat the decline, the city formed the Toronto Waterfront Revitalization Task Force ("the Task Force").[174]

According to the Task Force's report, "[i]f Toronto . . . [was] to maintain its role as a major world city and act as a gateway or portal on the Canada of tomorrow, it must confront some serious challenges and grasp enormous opportunities."[175] The Task Force also found that the worldwide consolidation of the financial services industry created an important opportunity for the city.[176] Consequently, the Task Force pushed that "Toronto's waterfront has the potential to help Toronto revitalize its tourism industry and to attract the high-quality jobs and economic spin-offs generated by the new creativity, New Media, biotechnology and knowledge-based economy."[177]

The Task Force proposed that the City of Toronto, the Province of Ontario, and the federal government of Canada establish a private corporation tasked with developing the area—Waterfront Toronto.[178] Not only was the corporation in charge of development, it would also

169. DW Rowlands & Tracy Hadden Loh, *Reinvesting, in Urban Cores Can Revitalize Entire Regions*, BROOKINGS (June 2, 2021), https://www.brookings.edu/articles/reinvesting-in-urban-cores-can-revitalize-entire-regions/ [https://perma.cc/4W3Y-W9SZ]; TORONTO REVITALIZATION TASK FORCE, OUR TORONTO WATERFRONT 21 (2000).

170. Rowlands & Loh, *supra* note 169.

171. TORONTO REVITALIZATION TASK FORCE, *supra* note 169, at 21; Rowlands & Loh, *supra* note 169.

172. TORONTO REVITALIZATION TASK FORCE, *supra* note 169, at 21.

173. *Id.*

174. *See id.* at 2.

175. *Id.* at 4.

176. *See id.*

177. *Id.*

178. *Id.*

address the governance and ownership challenges typically handled by multiple government levels.[179] From its inception, Waterfront Toronto was thus meant to be a vehicle to overcome the challenges that government entities might encounter in developing the area and facilitating collaboration with private actors. All these efforts were aimed at securing Toronto's status as a global city. Consequently, these prescriptions largely resonate with the desirable urban development described in Part I.

Waterfront Toronto was created in 2001 with a twenty-five year mandate to oversee, lead, and implement the waterfront's renewal.[180] According to the province's Corporation Act (Act), among Waterfront Toronto's main objectives were "[t]o implement a plan that enhances the economic, social and cultural value of the land in the designated waterfront area and creates an accessible and active waterfront for living, working and recreation, and to do so in a fiscally and environmentally responsible manner" and "to promote and encourage the involvement of the private sector in the development of the designated waterfront area."[181] One of the main aspirations of creating the corporation was to host the 2008 Olympic Games in Toronto.[182] More broadly, the Act also states that Waterfront Toronto's objectives must be carried out to ensure that the revitalization of the designated waterfront area creates new economic growth, jobs, diverse and dynamic communities, among others.[183] With the Act, the federal government of Canada, Ontario, and Toronto made a joint investment of $1.5 billion in the corporation to leverage the "seed capital" needed to fulfill its mission.[184]

179. *See id.* at 4–5.

180. *Waterfront Toronto*, CITY OF TORONTO, https://secure.toronto.ca/pa/decisionBody/22.do [https://perma.cc/ZC7M-P5NY] (last visited Feb. 15, 2025).

181. Toronto Waterfront Revitalization Corporation Act, S.O. 2002, c 28 [hereinafter Toronto Waterfront Revitalization Corporation Act].

182. *See* Robert Oliver, *Toronto's Olympic Aspirations: A Bid for the Waterfront*, 32 URB. GEOGRAPHY 767, 768 (2011).

183. *See* Toronto Waterfront Revitalization Corporation Act, *supra* note 181.

184. WATERFRONT TORONTO, RESILIENT WATERFRONT, RESILIENT TORONTO: INTEGRATED ANNUAL REPORT 2019–2020 10 (June 25, 2020), https://www.waterfrontoronto.ca/sites/default/files/documents/waterfront-toronto-integrated-annual-report-2019-20.pdf [https://perma.cc/R3LQ-7RN6].

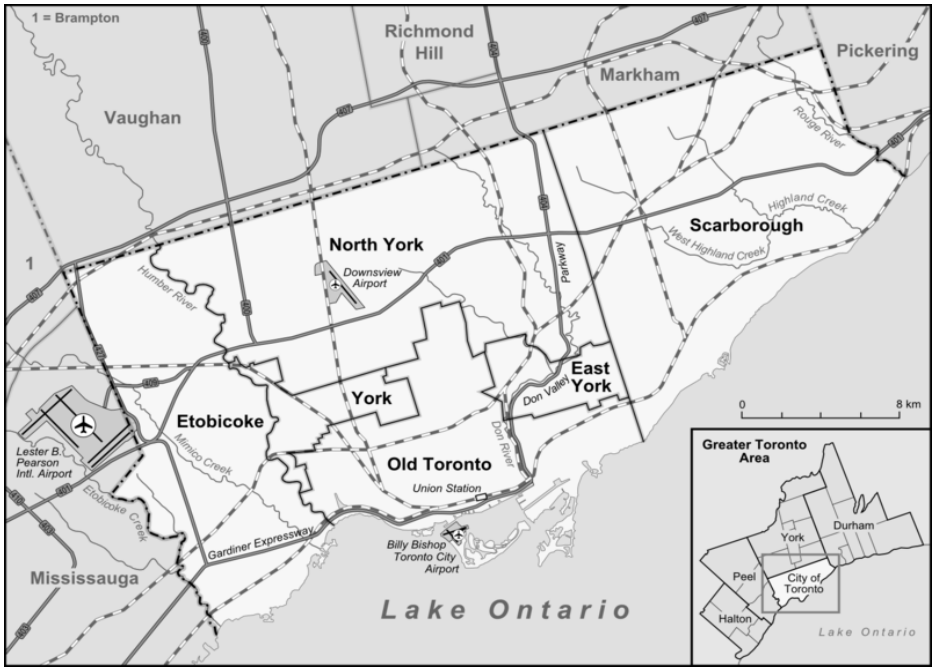

Figure 2. Greater Toronto Area. Lencer, Map of Toronto (Illustration), *in* File: Toronto map.png, Wikipedia (Apr. 3, 2012), https://en.m.wikipedia.org/wiki/File:Toronto_map.png [https://perma.cc/99RR-ZW9V].

Waterfront Toronto is governed by a shareholder-appointed board.[185] In their study of the corporate form of Waterfront Toronto, law professors Alexandra Flynn and Mariana Valverde explain that Waterfront Toronto is not a particularly powerful corporation (for example, it lacks the power to borrow money or raise revenue).[186] However, its corporate structure protects it from real accountability as it is not covered by the freedom of information requirements applicable to federal, provincial, and local governments.[187] Additionally, Flynn and Valverde found that government supervision via the board is "clearly strong, but is not very transparent."[188] The governments behind the corporation did not seem to provide their appointed board members with input concerning all the corporation's affairs, and thus "routine and regular control of Waterfront Toronto [was] in the hands of the board rather than the governments."[189]

185. Sauter, *supra* note 166.

186. *See* Flynn & Valverde, *supra* note 14, at 272.

187. *Id.*

188. *Id.* at 273.

189. *Id.*

Despite its minimal involvement, the City of Toronto still maintained important power over Waterfront Toronto's plans.[190] As per Waterfront Toronto's charter and a memorandum of understanding of 2006, its plans and operations must align with city policy.[191] The memorandum also specified that the City Council maintained its authority on policy and regulatory matters such as zoning, site plan approval, business, and implementation plan approval.[192]

2. Waterfront Toronto Partners with Sidewalk Labs

In the years after Waterfront Toronto's founding, Toronto lost the bid for the 2008 Olympics.[193] Nevertheless, Waterfront Toronto still pursued some smaller development projects in the area, such as building parks and a flood protection project.[194] Sidewalk Toronto was, however, significantly more ambitious than any of the previous projects undertaken by Waterfront Toronto.[195] In 2017, Waterfront Toronto issued a request for proposals that sought an innovation and funding partner to help Waterfront Toronto transform the Quayside into a highly sustainable mixed-use, mixed-income neighborhood that would create jobs and provide affordable housing.[196] Sidewalk Labs' project proposal, Sidewalk Toronto, was the winner.

Sidewalk Labs submitted an impressive—and overwhelming—200-page response to Waterfront's request for proposals (RFP).[197] Its proposal included modular buildings that could

---

190. *See* POL'Y & FIN. COMM., TORONTO CITY COUNCIL, TORONTO WATERFRONT REVITALIZATION: MEMORANDUM OF UNDERSTANDING BETWEEN THE CITY OF TORONTO, CITY OF TORONTO ECONOMIC DEVELOPMENT CORPORATION AND TORONTO WATERFRONT REVITALIZATION CORPORATION 5 (2006), https://www.toronto.ca/legdocs/2006/agendas/council/cc060131/pof1rpt/cl027.pdf [https://perma.cc/3VSR-K5ST].

191. *Id.*

192. *Id.*

193. Jamie Bradburn, *Outbid: How Toronto Lost the Olympics Again and Again – and Again*, TVO TODAY (Aug. 6, 2024), https://www.tvo.org/article/outbid-how-toronto-lost-the-olympics-again-and-again-and-again [https://perma.cc/FYN9-2P47].

194. *Our Projects*, WATERFRONT TORONTO, https://www.waterfrontoronto.ca/our-projects [https://perma.cc/NY5A-9KVH] (last visited Feb. 16, 2025).

195. *See* OFF. OF THE AUDITOR GEN. OF ONT., WATERFRONT TORONTO 662 (2018) [hereinafter Officer of the Auditor General of Ontario Report], https://www.auditor.on.ca/en/content/annualreports/arreports/en18/v1_315en18.pdf [https://perma.cc/HM5L-2Z58]. For the first years of Waterfront Toronto, the corporation struggled to pursue large-scale development. *Id.* Starting in 2007, however, Waterfront Toronto had been able to purchase most of the land of the Quayside, which made it easier for it to develop it. *Id.* Thus, in 2016, and upon the arrival of a new CEO Waterfront Toronto started exploring what it would look like to develop the area with a corporate partner. *Id.*

196. Sauter, *supra* note 166.

197. *Id.*

be adapted to new uses throughout the day, subterranean utility channels where robots would whisk away garbage, and outdoor spaces designed to minimize the impact of inclement weather.[198] The vision document proposed smart city technologies used to administer everything from traffic congestion to healthcare, housing, zoning regulations, and even greenhouse gas emissions.[199] For example, sensors would be embedded in walls and concrete—the plan called it "ubiquitous sensing"—to reduce carbon emissions.[200] One proposed example included embedding homes with Alphabet's Nest smart thermostat, a device that can contribute to reduced carbon emissions by predicting occupancy and autonomously adjust temperatures during the day.[201] Sidewalk Toronto was set to provide affordable housing, incubate start-ups from Sidewalk Lab's portfolio, and house Google's Canadian headquarters.[202] Additionally, though the RFP was only to develop the Quayside, Sidewalk Labs submitted a plan that envisioned developing the entire 800 acres of the waterfront.[203] Despite these grand plans, Sidewalk Labs had no real development experience, something that critics latched onto.[204]

The selection process was openly criticized for the lack of transparency and meaningful consultation with the public.[205] A report by Ontario's auditor established that Sidewalk Labs and Waterfront Toronto were in frequent communication before and after the RFP was issued; a delegation of Sidewalk Labs employees even met with Waterfront Toronto before the RFP.[206] Although Waterfront Toronto responded that it shared information with other local companies that submitted proposals, the selection criteria remained secret.[207] Commentators described the process as having a "certain giddiness" evident "in the speed with which foundational agreements about the relationship between the parties and the bounds of the project were

198. *Id.*

199. Sidney Fussel, *The City of the Future is a Data Collection Machine*, THE ATLANTIC (Nov. 21, 2018), https://www.theatlantic.com/technology/archive/2018/11/google-sidewalk-labs/575551/ [https://perma.cc/5R5G-MQEW].

200. *See id.*

201. *Id.*

202. Sauter, *supra* note 166.

203. *Id.*; Hawkins, *supra* note 4.

204. Blayne Haggart, *No Longer Liveblogging Sidewalk Labs' MIDP, Entry 12: The Master Plan: I Have Some Notes*, BLAYNE HAGGART'S ORANGESPACE (Sept. 11, 2023), https://blaynehaggart.com/2023/09/11/no-longer-liveblogging-sidewalk-labs-midp-entry-12-the-master-plan-i-have-some-notes/ [https://perma.cc/D975-NACQ].

205. Goodman & Powles, *supra* note 14, at 466; *see also* Wylie, *supra* note 60.

206. Officer of the Auditor General of Ontario Report, *supra* note 195, at 648.

207. *Id.* at 652.

consummated—all outside of public view."[208] Blayne Haggart, a scholar who closely followed the process, argues that the main reason why the project was awarded to Sidewalk Labs was because the company offered to commit 50 million US dollars in funding to the project even as the "more experienced and capable Siemens" also submitted proposals.[209] The auditor's report also revealed that not even Waterfront's board nor the mayor's office were given meaningful time to review the deal.[210] Waterfront's team always handled the other mixed-use developments by itself, and with little involvement from the board or the mayor's office, but these projects were smaller.[211] The media reported that the federal government was involved and pressured the corporation to strike a deal with Sidewalk Labs.[212]

The way in which Sidewalk Labs was selected to develop the waterfront was thus strongly influenced by Waterfront Toronto's mission (to enhance the economic, social, and cultural value of the area and encourage the involvement of the private sector, for which Sidewalk Labs seemed perfect), by a legal structure and way of doing business that separated it from the supervision of the mayor's office and regular accountability mechanisms, and by the interest certain actors seemed to have in partnering with Sidewalk Labs.[213]

B. Sidewalk Toronto and the Rise of Local Concern

It did not take long for local media, scholars, and activists to express concerns about the ubiquitous networked infrastructure of Sidewalk Toronto. Local activists raised concerns about its potentially undesirable effects on the urban poor and about the project's closeness to Google.[214] Indeed, local activists were worried that Sidewalk Labs would mimic some of the data collection and processing practices, such

208. Goodman & Powles, *supra* note 14, at 459.

209. Haggart, *supra* note 204.

210. Officer of the Auditor General of Ontario Report, *supra* note 195, at 689.

211. *See id.* at 650.

212. *Id*. at 649.

213. Memorandum of Understanding between the City of Toronto, City of Toronto Economic Development Corporation and Toronto Waterfront Revitalization Corporation (Jan. 31, 2006) (on file with the Toronto City Clerk), https://www.toronto.ca/legdocs/2006/agendas/council/cc060131/pof1rpt/cl027.pdf [https://perma.cc/5QLN-KSY5].

214. Katie Toth, *A Google-Related Plan Brings Futuristic Vision, Privacy Concerns to Toronto*, NPR (Nov. 20, 2017, 3:00 PM), https://www.npr.org/sections/alltechconsidered/2017/11/20/565352403/a-google-related-plan-brings-futuristic-vision-privacy-concerns-to-toronto?t=1608916850798 [https://perma.cc/36GV-8D7R].

as behavioral targeting, associated with the giant technology company and often referred to as "surveillance capitalism."[215]

From the beginning, Sidewalk Labs clarified that it would not sell the data it collected.[216] However, as an article in *The Atlantic* described the concerns, "the sale of resident data might be of less concern than its use. Residents and visitors to the Sidewalk site would provide a valuable benefit to Sidewalk, allowing their daily lives to help optimize technology for Sidewalk's broader commercial venture."[217]

Additionally, Sidewalk Labs and Waterfront Toronto were slow in revealing details about their plan for data protection measures.[218] It took nearly nine months for the corporations to release details to the public about the legal agreement between them on the development of the project.[219] Even then, they did not release the totality of the agreements but only a four-page document titled "Framework Agreement" highlighting the project's main elements.[220] The document's brevity only added to the public's uncertainty and unrest.[221]

1. Lack of Information and the Slow Introduction of the Urban Data Trust

The Framework Agreement between Waterfront Toronto and Sidewalk Labs detailed that the next steps were aimed at creating the "[r]oadmap for the design and development of Quayside," a document they would title Master Innovation and Development Plan (MIDP).[222] The MIDP was released a year later in mid-2019.[223] Still, this incremental release of information continued to raise the public's

215. *See* Andrew Clement, *Sidewalk Labs' Toronto Waterfront Tech Hub Must Respect Privacy, Democracy,* TORONTO STAR (Jan. 12, 2018), https://www.thestar.com/opinion/contributors/2018/01/12/sidewalk-labs-toronto-waterfront-tech-hub-must-respect-privacy-democracy.html [https://perma.cc/Y62J-TNJD]; *see also* Toth, *supra* note 214.

216. Sauter, *supra* note 166.

217. *Id.*

218. *Id.*

219. *Id.*

220. *Id.*

221. *See* Wylie, *supra* note 60.

222. *Plan Development Agreement, July 31, 2018, Waterfront Toronto and Sidewalk Labs Frequently Asked Questions*, WATERFRONTORONTO (July 31, 2018), https://www.waterfrontoronto.ca/sites/default/files/connect/waterfront/a596f4cd-1b33-4e5e-bde9-f82727d8068c/plan-development-agreement-faq—updated-.pdf [https://perma.cc/SL3F-F2RK].

223. Laura Bliss, *Meet the Jane Jacobs of the Smart Cities Age*, BLOOMBERG (Dec. 21, 2018, 9:25 AM), https://www.bloomberg.com/news/articles/2018-12-21/toronto-privacy-advocate-bianca-wylie-v-sidewalk-labs [https://perma.cc/GR2D-LJFJ].

concerns and created mistrust as it remained unclear what Sidewalk Labs would do with the information collected.[224]

To be sure, Sidewalk Labs attempted to create trust around its data governance strategy. At the project's inception, Sidewalk Labs gathered an impressive group of experts to sit on its advisory board, such as Dr. Ann Cavoukian, the former Information and Privacy Commissioner for the Canadian Province of Ontario and one of the key people behind the concept of privacy by design.[225] Yet, it was only in late 2018 that Sidewalk Labs presented an initial proposal on privacy and data governance to Waterfront Toronto's Digital Strategy Advisory Panel.[226] The framework contemplated that "privacy by design would be embedded into all of our projects, from the beginning" and that Sidewalk Labs would design projects and products without collecting personal information or, if personal information was required, it would de-identify data as close to the source as possible.[227] From a privacy perspective, the plan was sound even if it only consisted of few details (privacy by design was then a more abstract concept than it is today). Still, this soundness was not achieved without any struggle. By the time the proposal on privacy and data governance was published, Dr. Cavoukian had resigned from serving as an advisor because of early

224. *See id.*

225. News Staff, *Ontario's Former Privacy Commissioner Resigns from Sidewalk* Labs, CITYNEWS (Oct. 21, 2018, 12:05 PM), https://vancouver.citynews.ca/2018/10/21/ontarios-former-privacy-commissioner-resigns-from-sidewalk-labs/ [https://perma.cc/3KEJ-LGYB]. Privacy by Design is a framework that seeks "to embed privacy by default" into information managing practices, from physical design to business practices and networked infrastructures. Ann Cavoukian, Scott Taylor & Martin E. Abrams, *Privacy by Design: Essential for Organizational Accountability and Strong Business Practices*, IDENTITY IN THE INFO. SOC'Y, 405, 410 (2009). This can be done, for example, by building databases that already contain internal cybersecurity measures, placing limits on how much data is collected, or using technologies like encryption, when possible, to keep data safe and limit who can access it at the most granular level. Ari Ezra Waldman, *Privacy, Notice and Design*, 21 STAN. TECH. L. REV. 129, 159 (2018); *see also* Cavoukian et al., *supra*, at 410; *Innovation and Funding Partner Framework Agreement Summary of Key Terms for Public Disclosure*, WATERFRONTTORONTO (Nov. 1, 2017), https://www.waterfrontoronto.ca/sites/default/files/documents/innovation-and-funding-partner-framework-agreement-summary—november-1—2017-.pdf [https://perma.cc/CB4D-GXFG].

226. The Canadian Press, *Sidewalk Labs Unveils Draft Data and Privacy Data and Privacy Plans for High-Tech Toronto Project*, CITYNEWS (Oct. 15, 2018, 4:40 PM), https://toronto.citynews.ca/2018/10/15/sidewalk-labs-unveils-draft-data-and-privacy-plans-for-high-tech-toronto-project/ [https://perma.cc/W4C8-FLTH].

227. *Digital Governance Proposals for DSAP Consultation*, SIDEWALK LABS 1, 8 (Oct. 2018), https://www.waterfrontoronto.ca/sites/default/files/documents/18-10-16-swt-draft-proposals-regarding-data-use-and-governance-tuesday-730pm.pdf [https://perma.cc/2K4U-3GJK].

disagreements on the inclusion of privacy by design and the deletion of personal data close to the source.[228]

The October 2018 proposal also established that no one, including Sidewalk Labs, would own the "urban data" collected in Quayside.[229] Rather, the data would be controlled by an independent data trust.[230] As proposed by Sidewalk Labs, the trust would be governed by a charter mandating that the data collected would be used "in a way that is beneficial to the community, protects privacy, and spurs innovation and investment."[231] The proposal also called for freely and publicly available de-identified data; that is, data that cannot be traced back to individuals.[232] All entities proposing to collect or use urban data, including Sidewalk Labs, would have to file a Responsible Data Impact Assessment with the Data Trust.[233] Lastly, the charter explained that Sidewalk Labs would use open standards for any digital infrastructure and services it provides so that companies not affiliated with Sidewalk or Google could also offer services based on the project's digital infrastructure.[234]

These proposals were, in large part, according to the latest literature on privacy and data governance at the time.[235] Andrew Clement, an expert on surveillance at the University of Toronto, argued early on that Sidewalk Toronto could potentially set an exemplary standard for digital governance.[236] However, he also warned that the privacy regulatory regime was falling behind and could not respond to Sidewalk Toronto's ubiquitous data collection alongside Internet giants.[237]

The adoption of the data trust was particularly interesting from a data governance perspective. Over the past three years, privacy scholars on both sides of the Atlantic have considered the possibility of creating intermediaries that can administer the risks of ubiquitous data collection and manage the power asymmetries that exist between

228. Sean O'Shea, *Ann Cavoukian, Former Ontario Privacy Commissioner, Resigns from Sidewalk Labs*, GLOB. NEWS (Oct. 21, 2018, 2:41 PM), https://globalnews.ca/news/4579265/ann-cavoukian-resigns-sidewalk-labs/ [https://perma.cc/K2ZN-4EJ4].

229. SIDEWALKS LABS, *supra* note 227, at 9.

230. *Id.* at 10.

231. *Id.* at 13.

232. *Id.* at 38.

233. *Id.* at 10.

234. Alyssa Harvey Dawson, *An Update on Data Governance for Sidewalk Toronto*, MEDIUM (Oct. 15, 2018), https://medium.com/sidewalk-talk/an-update-on-data-governance-for-sidewalk-toronto-d810245f10f7 [https://perma.cc/W4C3-B556].

235. SIDEWALKS LABS, *supra* note 227, at 5; Cavoukian et al., *supra* note 225, at 409–10.

236. *See* Clement, *supra* note 215.

237. *See id.*

individuals and data-collecting entities, from governments to corporations.[238] The idea is that these intermediary entities can facilitate data access and processing while also mediating and tending to the interests of data subjects established under a legal mandate, like in a trust.[239] Nonetheless, data trust and intermediaries remain somewhat experimental.[240] The most successful examples that exist of successful data intermediation experiments are in medicine, science, and the platform economy.[241] Presently, and to the best of authors' knowledge, no intermediary approach has been successfully tried in a ubiquitous data collection environment like a city.

Similarly up to date was Sidewalk Toronto's endorsement of privacy by design.[242] Privacy by design is a framework that seeks "to embed privacy by default" into information managing practices, from physical design to business practices and networked infrastructures.[243] This can be done, for example, by building databases that already contain internal cybersecurity measures, placing limits on how much data is collected, or using technologies like encryption, when possible, to keep data safe and limit who can access it at the most granular level.[244] Privacy by design principles are central to data engineering.[245]

---

238. *See* Sylvie Delacroix & Neil Lawrence, *Bottom-Up Data Trusts: Disturbing the 'One Size Fits All' Approach to Data Governance*, 9 INT'L DATA PRIV. L., 236, 236 (2018); Sean Martin McDonald, *Reclaiming Data Trusts,* CENTRE FOR INT'L GOVERNANCE INNOVATION (Mar. 5, 2019), https://www.cigionline.org/articles/reclaiming-data-trusts/ [https://perma.cc/N3LV-ECNQ]; Jack Balkin, *The Fiduciary Model of Privacy*, 134 HARV. L. REV. FOR. 11, 14–15 (2020); Alex Pentland, T. Hardjono, J. Penn, C. Colclough, B. Ducharme & L. Mandel*, Data Cooperatives: Digital Empowerment of Citizens and Workers,* MIT CONNECTION SCI. (2019), https://ide.mit.edu/sites/default/files/publications/Data-Cooperatives-final.pdf [https://perma.cc/4FHS-YYKR].

239. *See* Delacroix & Lawrence, *supra* note 238; McDonald, *supra* note 238; Balkin, *supra* note 238; Pentland et al., *supra* note 238.

240. *See, e.g.*, DATA COLLABORATIVES EXPLORER, https://datacollaboratives.org/explorer.html?#trusted-intermediary [https://perma.cc/M74N-VD39] (last visited Feb. 12, 2025).

241. *See* Christopher Morten, Gabriel Nicholas & Salomé Viljoen, *Researcher Access to Social Media Data: Lessons from Clinical Trial Data Sharing*, 39 BERKELEY TECH. L.J. 109, 117 (2024); Beatriz Botero Arcila, *Is That Even Legal? A Guide for Builders Experimenting with Data Governance in the United States*, MOZILLA FOUND., DATA FUTURES LAB (Feb. 15, 2023) [hereinafter Botero Arcila, *Is That Even Legal?*], https://foundation.mozilla.org/en/research/library/is-that-even-legal/usa/ [https://perma.cc/Y4EY-5RZT].

242. *Innovation and Funding Partner Framework Agreement Summary of Key Terms for Public Disclosure*, WATERFRONTORONTO (Nov. 1, 2017), https://www.waterfrontoronto.ca/sites/default/files/documents/innovation-and-funding-partner-framework-agreement-summary—november-1—2017-.pdf [https://perma.cc/85ER-APXT].

243. Cavoukian, *supra* note 225, at 410; Ernestine Dickhaut, Andreas Janson, Matthias Söllner & Jan Marco Leimeister, *Lawfulness by Design – Development and Evaluation of Lawful Design Patterns to Consider Legal Requirements*, 33 EUR. J. INFO. SYS. 441, 443 (2024).

244. *See* Cavoukian, *supra* note 225, at 409–10; *see also* Waldman, *supra* note 225, at 159.

245. *See* Cavoukian, *supra* note 225*,* at 409; *see also* Waldman*, supra* note 225, at 169.

However, the approach has been criticized for being too abstract and the general principles that characterize it—such as proactive and not reactive design, privacy as a default setting, end-to-end security, and respect for user privacy—are very broad.[246] As law professor Ari Waldman explains, these broad principles "provide little additional guidance beyond the general notion that privacy by design is about considering privacy issues early in the design process and setting defaults accordingly."[247]

Thus, while the data strategy was sound, it was abstract and experimental.

2. #BlockSidewalk Is Born

Waterfront Toronto invited locals to public consultations while Sidewalk Labs set up an office and exhibition to showcase their activities, attracting about 11,000 visitors in person by mid-2019.[248] Bianca Wiley, an open government advocate and one of the sharpest critics of the project, described that during that first year, Waterfront Toronto tried "to negotiate terms and conditions it felt were defensible for all the communities and residents it had to answer to . . . . [T]hroughout the public process, Waterfront Toronto took public input from all sides and negotiated for public value with Sidewalk Labs."[249]

These efforts, characterized by some as a better approach to smart city development, were deemed unmeaningful by local activists.[250] In particular, local advocates and activists were concerned by Sidewalk Labs's inexperience building development projects and the

246. Sarah Spiekermann, *The Challenges of Privacy by Design*, 55 COMMC'N ACM 1, 2 (July 2012), https://www.researchgate.net/publication/254004794_The_Challenges_of_Privacy_by_Design [https://perma.cc/FA8F-75VT].

247. Ari Ezra Waldman, *Privacy's Law of Design*, 9 UC IRVINE L. REV. 1239, 1254 (2018).

248. Kate Nelischer, *Consulting in the Smart City: Lessons from Sidewalk Toronto*, INST. ON MUN. FIN. & GOVERNANCE 1, 24 (July 19, 2019), https://imfg.org/uploads/512/nelischer_consultation_sidewalk_toronto_july2019.pdf [https://perma.cc/PZ6V-5DSR].

249. Wiley, *Google's Attempt to Privatize Government Fails*, *supra* note 14.

250. Natalie Wong, *What Alphabet Got Right in Toronto That Amazon Didn't in Queens*, BLOOMBERG (Nov. 1 2019, 4:00 AM), https://www.bloomberg.com/news/articles/2019-11-01/what-alphabet-got-right-in-toronto-that-amazon-didn-t-in-queens [https://perma.cc/J65G-KP9Z]; Wylie, *supra* note 14.

lack of information about the project.[251] Thus, in February 2019 the #BlockSidewalk movement was launched to stop Sidewalk Toronto.[252]

As if attempting to answer some of those questions, the MIDP was finally published in June 2019.[253] The 1,500-page document detailed that the full size of the project would be a 77-hectare "IDEA district," of which the Quayside was only the first phase.[254] Other phases included building Google's new headquarters and a "below-market housing program" that would include 20 percent affordable housing, 20 percent middle-income housing, and wide adoption of solar energy.[255] Regarding the data-governance structure, Sidewalk Labs went ahead with the data trust, officially referred to as the Urban Data Trust, to oversee the review and approval of all digital innovations proposing to use or collect urban data in the project.[256] The trust would be an independent, government-sanctioned steward and would supposedly build upon existing Canadian privacy laws.[257]

As with the data governance proposal, early commentators on the urban part of the project described the early releases more as "keeping up with contemporary principles of good urban planning."[258]

---

251. Haggart, *supra* note 204.

252. Laura Bliss, *Critics Vows to Block Sidewalk Lab' Controversial Smart City in Toronto*, BLOOMBERG (Feb. 25, 2019, 1:58 PM), https://www.bloomberg.com/news/articles/2019-02-25/post-hq2-toronto-residents-try-to-block-sidewalk-labs [https://perma.cc/J68S-N263]. According to the press release,

> "(…) the campaign comes in response to mounting public anger over the overwhelming lack of transparency and accountability with the project. At this point, 16 months into the process, the Toronto residents still have far more unaddressed questions than answers, even after having participated in all public roundtables and having persistently tried to get answers and clarity on what should be very basic facts about the project."

Concerned Torontonians Launch #BlockSidewalk Campaign, #BLOCKSIDEWALK MEDIA RELEASES (Feb. 25, 2019), https://www.blocksidewalk.ca/media (last visited January 20, 2021) (website no longer available),

253. *Toronto Tomorrow: A New Approach for Inclusive Growth*, SIDEWALK LABS, https://storage.googleapis.com/sidewalk-labs-com-assets/MIDP_Volume1_302991c0ab/MIDP_Volume1_302991c0ab.pdf [https://perma.cc/C57Z-ESGB] (last visited Feb. 12, 2025).

254. *Id.* at 19, 423.

255. Nick Summers, *Sidewalk Labs Finally Publishes its Smart City Master Plan*, ENGADGET (June 24, 2019), https://www.engadget.com/2019-06-24-sidewalk-labs-quayside-toronto-master-plan.html [https://perma.cc/TXP6-9FK7].

256. *Digital Governance Proposals for DSAP Consultation*, SIDEWALK LABS 1, 15 (Oct. 2018), https://www.waterfrontoronto.ca/sites/default/files/documents/18-10-16-swt-draft-proposals-regarding-data-use-and-governance-tuesday-730pm.pdf [https://perma.cc/2K4U-3GJK].

257. *Id.* at 13.

258. Laura Bliss, *Sidewalk Labs' Neighborhood of the Future in Toronto Is Getting Closer*, BLOOMBERG (Nov. 31, 2018, 3:53 PM), https://www.bloomberg.com/news/articles/2018-11-30/inside-sidewalk-labs-new-plan-for-toronto-s-smart-city [https://perma.cc/T6NF-PKLX].

The plan included affordable housing, streets designed for pedestrians only and environmentally friendly new materials that cut the cost of construction.[259] All these features, however, would be linked to a digital infrastructure collecting vast amounts of data underscoring the data governance challenges.[260]

Local activists were skeptical and considered the plan too abstract and difficult to understand.[261] Some argued that the time to participate in the consultation after the plan's release was too short and warned that if the project was implemented it would "become some of the most heavily surveilled real estate on the planet."[262] Others described the plan as "overly optimistic" and "reckless" because it lacked any risk mitigation measures or second-best alternatives despite its basis in "never-before-tried (either at all or at scale) technologies."[263] According to some activists like Blake Haggart, Sidewalk Labs' data commitments were abstract and concerning because they were unclear on exactly what "urban data" meant.[264] As Haggart explains, "the commitment not to sell personal data or to use it for advertising" was undercut by the claim to do so only "if given explicit consent."[265] As a CBC News article put it, the big question was "who owns the data?"[266] Some locals—including Waterfront board members—said the city needed to develop its policy "as opposed to having Sidewalk Labs, a Google affiliate, design it for us."[267]

In her account of Sidewalk Toronto, Wiley also emphasizes that the negotiations between Waterfront Toronto and Sidewalk Labs behind closed doors only stoked the flames.[268] Waterfront Toronto was not subject to freedom of information legislation, and although it had its own freedom of information policy, this was little to no help.[269]

---

259. *Id.*

260. *Id.*

261. Sauter, *supra* note 166.

262. *Id.*

263. BLAYNE HAGGART, LIVEBLOG REVIEW OF SIDEWALK LABS' MASTER INNOVATION AND DEVELOPMENT PLAN 14 (2019), https://blaynehaggart.com/wp-content/uploads/2019/08/haggart-review-of-the-master-innovation-and-development-plan-and-related-documents.pdf [https://perma.cc/C22P-ABD3].

264. *Id.* at 17.

265. *Id.* at 17.

266. *Who Owns the Data?: Questions Emerge at Sidewalk Labs Consultations About 1500-page Proposal*, CBC NEWS (July 18, 2019, 3:00 AM), https://www.cbc.ca/news/canada/toronto/who-owns-the-data-questionsemerge-at-sidewalk-labs-consultations-about-1-500-page-proposal-1.5215990 [https://perma.cc/NME4-ULJL].

267. *Id.*

268. Wylie, *Google's Attempt to Privatize Government Fails*, *supra* note 14.

269. *Id.*

Waterfront Toronto's governance structure—a board of directors—allowed the whole process to formally evade public oversight and democratic accountability.[270]

As for the City of Toronto, its involvement in the project was managed in part by the City Planning Division, and mostly consisted of providing preliminary comments on planning proposals.[271] It was only after Waterfront Toronto's board's final decision to partner with Sidewalk Labs that the City moved to review and evaluate the proposal to determine whether it aligns with existing city policy and regulations—which never happened.[272] Another key criticism emerging from the project was that Sidewalk Labs would have quasi-regulatory powers in the area—to operate on the digital infrastructure Sidewalk Labs would be setting standards that residents and businesses would have to adopt.[273] Simultaneously, Waterfront Toronto seemed incapable of dealing with the substantive issues of technological governments, such as the data governance questions, that Sidewalk Toronto created.[274] Vendors like Sidewalk Labs were "getting governments to procure business models, and thus act as both regulator and regulated," and "it is undemocratic to have vendors set public policy."[275]

3. The Final Blow: The CCLA Lawsuit and COVID-19

In April 2019, the Canadian Civil Liberties Association (CCLA) filed a lawsuit against all three levels of government involved in Waterfront Toronto requesting it to "reset the project" until "all three levels of government, after adequate public consultation, have established digital data governance policies for the appropriate collection, ownership, use, and residency of personal information and other data obtained from public places in any embedded sensor-laden, data harvesting Smart City contemplated for Quayside."[276]

In its lawsuit, the CCLA argued that the constitutional problem was "outsourcing the public interest to a private company without any

---

270. *Id.*

271. *Quayside*, CITY OF TORONTO, https://www.toronto.ca/city-government/planning-development/waterfront/initiatives/current-projects/quayside/ [https://perma.cc/Z7NE-2XMS] (last visited Feb. 16, 2025).

272. *Id.*

273. HAGGART, *supra* note 263, at 17; *see also* Officer of the Auditor General of Ontario Report, *supra* note 195, at 652.

274. Wylie, *Google's Attempt to Privatize Government Fails*, *supra* note 14.

275. *Id.*

276. Michael Bryant, *Open Letter from CCLA: Calling for a Reset on Waterfront Toronto*, ASS'N CANADIENNE DES LIBERTES CIVILES (Mar. 5, 2019), https://ccla.org/privacy/surveillance-technology/open-letter-ccla-calling-reset-waterfront-toronto/ [https://perma.cc/9JPL-SQ3N].

democratic or legal authority," as only "elected legislators have the constitutional authority to enact civil liberties protections in law."[277] The CCLA highlighted that the Waterfront Toronto Corporate Act did not give Waterfront the authority to make privacy law since no level of government had delegated this power to it.[278] The CCLA argued that the mass personal data capture regime planned for Quayside would violate Canadian privacy laws primarily because it would be impossible to obtain meaningful and informed consent from individuals for data captured in public spaces.[279] Likewise, it would be impossible to ensure that the data collected would be de-identified.[280]

Simultaneously, Ontario's privacy commissioner Brian Beamish sent a letter to Waterfront Toronto's board chair and the city, commenting on the data governance proposal.[281] Besides citing the concerns already addressed by other scholars, Beamish noted that "[t]he City must have a clearer role in the project and a voice in identifying what is in the public interest. Cities are at the core of smart city innovations such as transit optimization or enhancement of public spaces, and they have experience in the delivery of municipal services."[282] He also noted that the provincial government needed to modernize its laws to ensure that more ethical, transparent, and accountable data practices could stand at the forefront of smart city projects.[283] Other critics pointed out that the term "urban data" was unrecognized in Canadian law.[284] Beamish further observed that digital governance was something cities were only starting to grapple with and allowing a private company to set the terms of governance created

277. *Id.*

278. Application Court File at 11, Corp. of the Can. Civil Liberties Ass'n and Lester Brown v. Waterfront Toronto Revitalization Corp., City of Toronto, Her Majesty in Right of Ontario, No. 211/19 (Ont. Superior Ct. of Just. Divisional Ct. 2019) [hereinafter CCLA Application Court File].

279. *Id.*

279. *Id.* at 9.

280. *Id.*

281. Letter from Brian Beamish, Info. and Priv. Comm'r, to Stephen Diamond, Chairman of Bd. of Directors of Waterfront Toronto 1 (on file at https://www.ipc.on.ca/wp-content/uploads/2019/09/2019-09-24-ltr-stephen-diamond-waterfront_toronto-residewalk-proposal.pdf [https://perma.cc/5E3X-Q4MR]) [hereinafter Beamish, Letter from the Privacy Commissioner of Ontario].

282. *Id.*

283. *Id.*

284. Natasha Tusikov,*"Urban Data" & "Civic Data Trusts" in the Smart City*, CENTRE FOR FREE EXPRESSION (Aug. 6, 2019), https://cfe.ryerson.ca/blog/2019/08/%E2%80%9Curban-data%E2%80%9D-%E2%80%9Ccivic-data-trusts%E2%80%9D-smart-city [https://perma.cc/R6JG-M3Z7].

serious risks for Torontonians.[285] Yet, despite the outrage in academia and civil society members, in May 2019 a poll showed that about 55 percent of Torontonians supported the project, 17 percent opposed the project, and 29 percent had no opinion.[286]

With the data governance strategy out, Waterfront Toronto and Sidewalk Toronto were indeed attempting to address a critical issue: there were no satisfactory rules about the governance of data collected in public spaces and urban infrastructure.[287] Waterfront Toronto drafted its own Digital Principles consisting of general principles regarding the protection of personal privacy, civil liberties, and provision of shared benefits for projects that sought to improve quality of life in waterfront neighborhoods.[288] The Digital Principles emphasized that any projects or proposals made for the waterfront would need to comply with all applicable legislative and regulatory requirements, including the Canadian Charter of Rights and Freedoms, the Personal Information Protection and Electronic Documents Act, and the Canadian Privacy Act.[289] The City of Toronto also started working on a Digital Infrastructure Plan that would become a framework applicable to "smart city" projects in general and "instills trust from the residents [the City of Toronto] serve."[290] The Digital Infrastructure Plan, in any case, would not be ready until late 2021.[291]

Amid the public outrage, by October 2019 Sidewalk Labs agreed to realign and limit the size of the development to the Quayside.[292] The company also dropped its plan for the Urban Data Trust and committed to adhere to existing laws and store all public data collected in Quayside

---

285. *See* Beamish, Letter from the Privacy Commissioner of Ontario, *supra* note 281, at 9–10.

286. Sarah Wray, *Poll Suggests 55% Support Sidewalk Labs' Toronto Project as Grassroots Group Mobilises to Block It*, SMARTCITIESWORLD (Feb. 28, 2019), https://www.smartcitiesworld.net/news/poll-suggests-55-support-sidewalk-labs-toronto-project-as-grassroots-group-mobilises-to-block-it-3902 [https://perma.cc/NYZ5-64TQ].

287. *See infra* Section III.A.

288. *Draft Digital Principles*, WATERFRONT TORONTO 1, 1 (2019), https://www.waterfrontoronto.ca/sites/default/files/documents/final-draft-digital-principles.pdf [https://perma.cc/Q33N-YLG2].

289. *Id.*

290. Donovan Vincent, *New Toronto Rules for Data Collection Won't Be in Place Before Final Vote on Sidewalk Labs' Smart City Project*, THE STAR (Jan. 16, 2020), https://www.thestar.com/news/gta/new-toronto-rules-for-data-collection-won-t-be-in-place-before-final-vote-on/article_f0cd6f51-5cb0-5747-aec4-80afe3b279a8.html [https://perma.cc/ZPV9-PLR7].

291. *Id.*

292. *Waterfront Toronto Board Votes to Keep Sidewalk Labs' Quayside Project Alive*, CBC News (Oct. 31, 2019), https://www.cbc.ca/news/canada/toronto/sidewalk-labs-waterfront-toronto-quayside-vote-1.5342294 [https://perma.cc/QL2B-7F4P].

in Canada.[293] It was unclear how complying with existing privacy law would be possible, but this was never defined.[294] In May 2020, a few months after the beginning of the COVID-19 pandemic and still amid strong opposition to the project, Sidewalk Labs canceled the project, citing unprecedented economic uncertainty.[295] The CCLA and #BlockSidewalk called the project's cancellation "a victory for privacy and democracy."[296] Toronto's Mayor, John Tory, expressed disappointment at the company's decision and stated that he remained confident there were partners eager to undertake this kind of high-tech city development project.[297]

C. Legal and Policy Questions Raised from the Story of Sidewalk Toronto

Waterfront Toronto's mandate was to plan economic-growth-driven development projects in partnerships with large corporations, inspired by market-based local government law and the wisdom of urban economics.[298] This, in 2017, looked pretty much like Sidewalk Labs's proposal.[299]

At the same time, many of the risks that Sidewalk Toronto raised and the distrust it created among Torontonians were associated with the lack of a legal framework enabling a reliable execution of a digitally enabled development project. This occurred in three main ways:

First, the legal framework of data governance did not seem to support the kind of data collection that would take place in Sidewalk Toronto, and Sidewalk Toronto had to propose new, and experimental, alternatives.[300]

Second, democratic accountability for the project was absent in all meaningful senses. Waterfront Toronto was making important decisions for Torontonians without being a democratically elected body—or without having been formally delegated the power to do so.[301]

---

293. *Id.*

294. *See infra* Part III.

295. Adam Carter & John Rieti, *Sidewalk Labs Cancels Plan to Build High-Tech Neighborhood in Toronto Amid COVID-19*, CBC NEWS (May 7, 2020) https://www.cbc.ca/news/canada/toronto/sidewalk-labs-cancels-project-1.5559370 [https://perma.cc/6YLP-F2DP].

296. *Id.*

297. Cecco, *supra* note 22.

298. *See supra* Part II.

299. *See supra* Part III.A.2.

300. *See supra* Part III.B.

301. *See supra* Part III.A.

Public corporations and special-purpose vehicles can effectively develop and administer certain object-specific urban projects.[302] Examples include managing water sanitation systems or maintaining a network of parks. However, in the Sidewalk Toronto context, this structure instead amplified the pre-existing distrust stemming from the data governance and surveillance questions around building a smart city.[303] Waterfront Toronto's structure also allowed it to push for Sidewalk Toronto with little space for democratic control like transparency in the bid process or required responses to freedom of information requests.[304]

Lastly, the role of the city government was ambiguous. Formally, the City of Toronto would have had to approve most plans by Sidewalk Toronto at the end of the process.[305] Sidewalk Toronto was also bound by the city's zoning laws.[306] However, the legal structure behind the project centered on Sidewalk Labs and Waterfront Toronto, the entities that were most visibly responsible to the public eye.[307] Thus, even if the city government was somewhat involved, it was not publicly responsible for the outcome, which in turn allowed the mayor to not 'take the heat' from the opposition but still support the project. This seems to be a different kind of way in which structure allowed the local government to make different choices: by allowing it to not take direct responsibility for its actions and support for a project that would have important effects in the city, at least during the planning stages.[308] The other democratic institutions involved (the province and the federal government) pushed strategically for the project at some points but also managed to escape accountability altogether because they were far removed—it was a *city* development project, after all.[309]

The next Part dives deep into these three issues to show that the key thing that stymied Sidewalk Toronto and made it unworkable—besides sloppy execution—was that there was no legal structure to support it.

IV. HOW LAW STYMIED SIDEWALK TORONTO

The story of Sidewalk Toronto suggests that there were two main bodies of law governing the smart city project that were unfit to

302. *See supra* Part II.A.
303. See supra Part II.A.
304. *See supra* Part III.A.
305. *See supra* Part III.B.3.
306. *See supra* Part III.A.1.
307. *See infra* Part IV.B.
308. *See infra* Part IV.B.
309. *See supra* Part III.A.1.

guarantee the safe development of the project and ensure there was a democratic body accountable for the project, which heightened the surveillance and privacy risks. The first main bodies of law are privacy and data protection law. The second, and less studied, are local government law and the administrative law governing these projects.

What follows explores the two main data governance questions that were identified in the previous part: First, did the data collection and use practices proposed by Sidewalk Toronto comply with the applicable privacy law?[310] Second, had Waterfront Toronto the power to issue a new privacy quasi-regulation?

A. Privacy and Data Protection Laws Are Unfit to Address the Risks of Smart City Projects

The fast adoption of digital technologies in cities poses a variety of data protection and privacy risks. The technologies can enhance corporate and government surveillance, and like opaque AI-powered tools that are difficult to audit, they can entrench patterns of discrimination and inequality while being opaque and hard to audit if not properly governed.[311]

At the same time, privacy law is often unfit for smart city projects for two reasons. First, privacy law and data protection law rely on concepts like public and private spaces or individual consent, which do not adequately address the ubiquitous data collection characterizing mass data collection in public spaces.[312] Second, data protection law relies on the concept of personal data, which does not respond to the fact that some of the nonpersonal data collected in smart cities can be used in undesirable ways, and thus still leaves many potential risks unaddressed.[313]

310. Clement, *supra* note 215.

311. *See* Veliz, *supra* note 48, at 70–71; Birnhack & Elkin-Koren, *supra* note 48; Friedman & Citron, *supra* note 48; Burrel, *supra* note 54; Goodman & Powles, *supra* note 14; Lilian Edwards, *Privacy, Security and Data Protection in Smart Cities: A Critical EU Law Perspective*, 2 EUR. DATA PROT. L. REV. 1, 1 (2016).

312. *See infra* Part IV.A.1.

313. *See id.*

1. Privacy and Data Protection Laws Rely on Public and Private Distinctions That Are Too Individual Focused

Privacy and data protection in smart cities are interesting puzzles. Though data protection and privacy are often used interchangeably, they are different.[314]

Privacy refers to the space that people should have free of government interference, such as our bodies or homes.[315] In the United States, the Constitution does not include a specific right to privacy.[316] However, there is a rich constitutional tradition that has interpreted the Fourth Amendment and the Bill of Rights with privacy concerns in mind, centered on reasonable expectations people have from government access to the self and information about oneself—especially when it has not been disclosed before—and, sometimes, as a space of decisional autonomy.[317] In Canada, the Canadian Charter of Rights and Freedoms specifically provides in Article 7: "the right to life, liberty and the security of the person and the right to not be deprived thereof except in accordance with the principles of fundamental justice."[318] The

314. Sometimes data protection is referred to as data privacy in the US context. *See* Forbes Tech. Council, *Data Privacy vs. Data Protection: Understanding the Distinction in Defending Your Data*, FORBES (Dec. 19, 2018, 7:00 AM), https://www.forbes.com/councils/forbestechcouncil/2018/12/19/data-privacy-vs-data-protection-understanding-the-distinction-in-defending-your-data/ [https://perma.cc/R6WV-4G62].

315. *What is Privacy?*, PRIV. INT'L (Oct. 23, 2017) https://privacyinternational.org/explainer/56/what-privacy#:~:text=Privacy%20helps%20us%20establish%20boundaries,the%20power%20of%20the%20state [https://perma.cc/PR4G-Q5QA].

316. Judith Haydel, *Privacy*, FREE SPEECH CTR. (Jan. 5, 2025) https://firstamendment.mtsu.edu/article/privacy/#:~:text=Defining%20it%20in%20a%20legal,1920)%2C%20Justice%20Louis%20D [https://perma.cc/K8UV-6ECE].

317. *See, e.g.*, David Adler, *Origins of the Right to Privacy*, WYO. HUMANS (Sept. 25, 2021), https://thinkwy.org/columns/griswold-v-connecticut-and-the-right-to-privacy/ [https://perma.cc/QES7-W36R] (explaining Griswold v. Connecticut and the historical backing of constitutional privacy protections through ideologies dating from the 17th century); *see* María P. Angel & Ryan Calo, *Distinguishing Privacy Law: A Critique of Privacy as Social Taxonomy*, 124 COLUM. L. REV. 507, 517 (2024) (referring to Union Pac. Ry. Co. v. Botsford, 141 U.S. 250 (1891); Griswold v. Conn., 381 U.S. 479 (1965); Eisenstadt v. Baird, 405 U.S. 438 (1972); Roe v. Wade, 410 U.S. 113 (1973); and Planned Parenthood v. Casey, 505 U.S. 833 (1992)). The article demonstrates that in the past, the US Supreme Court recognized a right to privacy as the basis for protecting the freedom of individuals to use contraception, look at pornography at home, and terminate an undesired pregnancy, among others. *See id*. *But cf*. Dobbs v. Jackson Women's Health Org., 597 U.S. 215, 334–35 (2022) (Thomas, J., concurring) (showing that the Supreme Court has retreated from this previous line of precedent).

318. Canadian Charter of Rights and Freedoms, s.7, Part I of the Constitution Act, 1982, *being* Schedule B to the Canada Act, 1982, c 11 (U.K.).

Supreme Court of Canada has connected the values of liberty and security of the person to privacy.[319]

So defined, privacy principles and rights generally fail to address many of the concerns raised by ubiquitous technologies, especially in cities.[320] Cities and city spaces are associated with public spaces, where expectations and protection of privacy are lower or nonexistent.[321] Current doctrine, for example, establishes that people "have no reasonable expectation of privacy in public" or in information that is voluntarily shared with third parties.[322] Data collected in cities by censors like license plate readers or CCTV cameras, however, are likely not covered by Fourth Amendment protections because the information or data is "knowingly exposed."[323] Although criticized by privacy and surveillance scholars in the United States for enabling the creation of a vast architecture of surveillance, these doctrines and the cases that created them remain good law.[324]

The Supreme Court of Canada has explained that the expectations of privacy in public or semi-public spaces depend on context.[325] In the seminal criminal law case *R. v. Jarvis*, which involved nonconsensual filming of students by a teacher in a schoolyard, the Supreme Court of Canada found that privacy could not hinge only on whether the space was public or private.[326] Rather, the characterization of space was just one factor among many. These factors may "include a person's location, the form of the alleged invasion of privacy, the nature of the observation or recording, the activity in which a person is engaged when observed or recorded and the part of a person's body that is the

319. *See* R v. Connor, [1995] 4 S.C.R. 411 (Can.); *see also* Teresa Scassa, Jennifer A. Chandler & Elizabeth F. Judge, *Privacy by the Wayside: The New Information Superhighway, Data Privacy, and the Deployment of Intelligent Transportation Systems*, 74 SASK. L. REV. 117, 133 (2011).

320. *See* Edwards, *supra* note 8, at 38.

321. *Id.*; Charter of Fundamental Rights of the European Union, 2012 O.J. (C326/391), art. 7.

322. *See* Katz v. United States, 389 U.S. 347, 361 (1967) (Harlan, J., concurring).

323. *See* Friedman & Citron, *supra* note 48; Katz, 389 U.S. at 351; Roger Huebner & Jerry Zarley, *Legal Q & A Automated Law Enforcement Systems, Part II: Electronic Surveillance of the Public Ways, Fourth Amendment Considerations*, IML (July 2007), https://iml.org/file.cfm?key=342#:~:text=Q%3A%20Would%20the%20use%20of,the%20Fourth%20Amendment's%20reasonableness%20test [https://perma.cc/63L6-NBZC?type=standard].

324. *See id.*; NEIL RICHARDS, WHY PRIVACY MATTERS (Oxford Acad., online ed., 2021); *see also* Andrew Fergusson, *Structural Sensor Surveillance*, 106 IOWA L. REV. 47, 96 (2020) (explaining how the Fourth Amendment could be reinterpreted to address some of these surveillance challenges).

325. R v. Jarvis, [2019] 1 S.C.R. 488 (Can.).

326. *Id.*

focus of the recording."[327] This reasoning, however, has yet to be applied or extended to city contexts.[328]

In Canada, as in many places around the world, the question of data collection by a public or private actor is not only a question of privacy but one of data protection.[329] Data protection laws around the world are related but different from privacy rights and principles.[330] Whereas privacy is about protecting individuals from unreasonable intrusions to the self and individual autonomy, data protection is centered on protecting information about individuals; it governs how and when it can be collected and used.[331]

Data protection laws around the world are often traced back to an influential report written for the US Department of Education and Welfare in the 1970s. This report examined the impact of computerized information on privacy and developed recommendations about data processing known as the Fair Information Practice Principles (FIPP), while providing safeguards for personal privacy in the computerized context.[332] Specifically, data protection laws do not make the private and public distinction inherent in privacy law.[333] Rather, data protection law revolves around whether personal data must be processed according to certain criteria, one of which is whether the data processor has a legal basis to do so.[334] Legal bases often include individual consent, the legitimate interest of the data processor, or public interest purposes as defined by law.[335] Other key principles are purpose limitation (which requires data processors to seek a legal basis for each reason type of processing data they do) and data minimization (which requires data processors to limit the data they collect and process to what they need).[336] The idea of data protection law is thus

327. *Id.*

328. *See* Christopher Slobogin, *Public Privacy: Camera Surveillance of Public Places and Right to Anonymity*, 72 MISS. L.J. 213, 236 (2002).

329. *Data Protection*, EUR. DATA PROT. SUPERVISOR, https://www.edps.europa.eu/data-protection/data-protection_en [https://perma.cc/6S7C-4C2U] (last visited Mar. 10, 2025).

330. *Id.*

331. *Id.*

332. Cheryl Saniuk-Heinig, *50 Years and Still Kicking: An Examination of FIPPs in Modern Regulation*, IAPP (May 25, 2021), https://iapp.org/news/a/50-years-and-still-kicking-an-examination-of-fipps-in-modern-regulation [https://perma.cc/U5JU-Y66W]; *see also* U.S. DEPT. OF HEALTH, EDU., AND WELFARE, DHEW (OS) 73–94, RECORDS COMPUTERS AND THE RIGHTS OF CITIZENS: REPORT OF THE HEW ADVISORY COMMITTEE ON AUTOMATED PERSONAL DATA SYSTEMS 28 (1973).

333. Edwards, *supra* note 8, at 43.

334. *Id.*

335. *See* General Data Protection Regulation, O.J. (L. 119), art. 6 [hereinafter GDPR].

336. *See id.* at art. 5.

not to forbid data collection, but to enable it while ensuring appropriate guarantees for data subjects.[337]

Many countries around the world, such as Canada, the United States, and countries throughout the European Union codified these principles in different statutes including sometimes in horizontal data protection laws.[338] In the United States, there is no horizontal federal data protection law; yet, the FIPP inspired regulations like the Privacy Act, a federal law that governs the collection, use, and dissemination of personal information maintained by federal agencies.[339] For commercial actors, the main regime in the United States is notice and choice, a self-regulatory approach under which companies adopt self-binding privacy policies to which their users agree.[340]

Data protection and privacy scholars agree that the notice and choice, or regimes that excessively rely on consent, are insufficient to protect the privacy interests of individuals.[341] Under such regimes, companies often include in their privacy policies data processing practices that can pose a severe risk—such as indiscriminately selling data to third parties and sharing it with law enforcement without the need for a warrant.[342] While consent can be effective for "a small number of important decisions where we can vividly understand the risks and benefits of what we are agreeing to," it becomes problematic when applied to frequent, complex digital interactions.[343] Additionally, when data subjects are forced to choose between consenting or losing access to essential services or spaces (like internet use, job-related tools, a shopping mall, or a park), user consent is not truly voluntary.[344] In some contexts, some individuals, like children, are legally incapable of providing valid consent.[345] Thus, in smart cities, data protection regimes that are too focused on user control and consent are unfit to address the challenges associated with mass data collection. This is especially true when it comes to interconnected devices deployed in

337. *See* Lock and Code, *Why Data Protection and Privacy Are Not the Same, and Why That Matters*, SPOTIFY, at 26:20 (Apr. 10, 2022), https://open.spotify.com/episode/72MAFJzVBeJL8Y5t11I9in?si=a7d50981a32347c1 [https://perma.cc/2R8D-2T2K].

338. Saniuk-Heinig, *supra* note 332.

339. *Id.*; *see also* Privacy Act of 1974, Pub. L. No. 93-579, 88 Stat. 1896 (1974).

340. The data governance landscape in the US also includes a variety of sectorial data protection laws, that create specific data protection obligations for certain types of institutions – such as healthcare or financial institutions. *See* Botero Arcila, *Is That Even Legal?*, *supra* note 241, at 8.

341. Richards, *supra* note 324, at 92.

342. *Id.* at 93.

343. *Id.* at 54, 97.

344. *Id.* at 55, 95.

345. *Id.* at 55, 97.

public and semi-public spaces because individuals cannot reasonably consent—any dissent would result in loss of access to important civic spaces.[346]

In jurisdictions where data protection rules exist, such as California, the European Union, or Canada, the challenges are slightly different. Scholars have raised concerns regarding the suitability of data protection law to mitigate the risks raised by Big Data and sensor-collected data, as smart city technologies do.[347] In respect to the General Data Protection Regulation (GDPR), for example, the main critique is that the GDPR's scope is both too broad and too narrow.[348] On the one hand, where smart tools are used in public spaces, the legal grounds most likely to be used under the GDPR are the public interest, law enforcement, or the legitimate interest of the processor.[349] However, many of these legal bases are very broad.[350] What exactly counts as "the legitimate interest of the data processor" or "the public interest" is indeterminate and may not always prevent informational harms or risks associated with data processing practices.[351]

On the other hand, others argue that the GDPR is incompatible with the digital environment and the availability of data enabled by interconnected devices and Big Data.[352] Principles like purpose limitation and data minimization seem to be at odds with the benefits of Big Data. Increasingly, when more information becomes available, a large amount of nonpersonal data can become potentially personal data because re-identifying information or tracing seemingly nonpersonal data back to individuals becomes relatively easy.[353] This extends the

346. *See Policy Brief: IoT Privacy for Policymakers*, INTERNET SOC'Y (Sept. 19, 2019), https://www.internetsociety.org/policybriefs/iot-privacy-for-policymakers/#:~:text=IoT%20makes%20it%20harder%20to,out%20of%20passive%20data%20collection [https://perma.cc/M6HR-B3RH].

347. Big data refers generally to the ability to collect and gain insights, often powered by algorithms, from very large amounts of data. *See* Andrew Haire & Viktor Mayer-Schönberger, *Big Data - Opportunity or Threat?* 7–9 (ITU, Working Paper, 2014).

348. *See* Edwards, *supra* note 8, at 46, 57–58; Sandra Wachter, *The GDPR and the Internet of Things: A Three-Step Transparency Model*, 10 LAW, INNOVATION & TECH. 266, 275 (2018).

349. *See* Edwards, *supra* note 8, at 46.

350. *See* Przemyslaw Palka, *What if It's *Not* the Enforcement? Reflections Post #EDPSConf2022*, PRZEMYSLAW. TECHNOLOGY (June 20, 2022), https://przemyslaw.technology/2022/06/20/what-if-its-not-the-enforcement-reflections-post-edpsconf2022/ [https://perma.cc/8YLA-ZGM6].

351. *See id.*

352. *See* Edwards, *supra* note 8, at 57–58; Sandra Wachter, *supra* note 348, at 270–71.

353. *See* Nadezhda Purtova, *The Law of Everything. Broad Concept of Personal Data and Future of EU Data Protection Law*, 10 LAW, INNOVATION & TECH. 40, 56 (2018); Beatriz Botero Arcia, *Future-Proofing Transparency: Re-Thinking Public Record Governance for the Age of Big Data*, MICH. STATE L. REV. (forthcoming 2023) (manuscript at 37).

scope the GDPR's application.[354] Though much of this may be addressed with data management protocols to avoid re-identification, those protocols may increase compliance costs and legal uncertainty.[355]

Lastly, some have argued that data protection law increasingly does not cover new data processing technologies that enable processors to use data analytics to make decisions that impact individuals without using personal data.[356] This is the case, for example, of techniques like confidentiality computing, a cryptographic technique that allows data to remain encrypted even when being processed.[357] If such data is used, however, to decide whether someone will be exposed to a particular type of content or have access to a particular service, data protection law does not cover that impact, as no "personal data" was used while processing.[358] Synthetic data is another technique that uses artificially manufactured data sets statistically equal to real data sets, but which do not include personal data.[359] Synthetic data also represents a challenge for data protection law and scholarship. Over approximately the last ten years, privacy scholars and policymakers have been using (and stretching) data protection law to address some of the risks associated with algorithmic decision-making.[360] When synthetic data is used, however, data protection law does not apply, and those new risks associated with algorithmic decision-making are less covered.[361]

These challenges are all manifest and acute in the smart city context. First, the broad legal grounds for data collection in public spaces (like "public interest" or "legitimate interest") may not

354. *See* Purtova, *supra* note 353, at 56; Botero Arcila, *supra* note 353, at 22.

355. *See, e.g.*, Purtova, *supra* note 353, at 56; Daniel Solove, *Data is What Data Does: Regulating Based on Harm and Risk Instead of Sensitive Data*, 118 NW. U.L. REV. 1081, 1131 (2024); Wachter, *supra* note 352, at 271; Tal Z. Zarsky, *Incompatible: The GDPR in the Age of Big Data*, 47 SETON HALL L. REV. 995, 1006 (2017).

356. Purtova & Newell, *supra* note 26, at 20–21; *see also* Michael Veale, *Privacy is Not the Problem With the Apple-Google Contact-Tracing Toolkit*, THE GUARDIAN: OPINION (June 1, 2020), https://www.theguardian.com/commentisfree/2020/jul/01/apple-google-contact-tracing-app-tech-giant-digital-rights?via=indexdotco [https://perma.cc/BBR4-KEV6].

357. Mark Scapicchio & Matt Kosinski, *What is Confidential Computing?,* IBM: THINK (June 4, 2024), https://www.ibm.com/think/topics/confidential-computing#:~:text=Confidential%20computing%20is%20a%20cloud,protected%20CPU%20enclave%20during%20processing [https://perma.cc/2F3U-ZXT3].

358. Purtova & Newell, *supra* note 26; *see also* Veale, *supra* note 356.

359. Cameron Hashemi-Pour, Kinza Yasar & Nicole Laskowski, *What is Synthetic Data? Examples, Use Cases and Benefits*, TECHTARGET (Dec. 2024), https://www.techtarget.com/searchcio/definition/synthetic-data#:~:text=Synthetic%20data%20is%20information%20that's,machine%20learning%20(ML)%20models [https://perma.cc/63NG-2KHW].

360. *See* Maria Paula Anguel, *Privacy's Algorithmic Turn*, 30 B.U.J. SCI. & TECH. L. (forthcoming 2023) (manuscript at 12).

361. *See id.*

adequately prevent informational harms from pervasive sensor networks and surveillance systems.[362] Second, smart cities generate massive amounts of interconnected data that can easily lead to re-identification of individuals even from seemingly nonpersonal data, challenging core principles like data minimization.[363] Third, emerging technologies like confidential computing and synthetic data allow smart city systems to make impactful decisions about services and resource allocation without technically processing "personal data," potentially circumventing data protection regulations entirely.[364]

These difficulties have led scholars like Nadya Purtova and Bryce Newell to argue that in this new context, data protection law is underinclusive because several of the new data practices are not covered by present data protection law but impact the values the law seeks to protect—privacy, dignity, fairness.[365] Purtova and Newell argue that addressing these challenges requires not only updating data protection and privacy frameworks but most importantly, other fields of law like antidiscrimination law, labor and employment law, and, as argued in this Article, local government law.[366]

From the corporate perspective, these difficulties also represent a compliance challenge for operators and the adoption of these tools, when they offer real opportunities to improve service delivery and policymaking. As professor Sandra Wachter explains, operators of smart tools or data processing systems thus face a double challenge: "While operating systems [are] designed to work seamlessly and in the background, they must nonetheless keep users informed and in control of their data according to poorly defined data protection standards."[367] Wachter adds that, in the case of the GDPR, there is no guidance concerning how to strike the right balance between the interests of data subjects and processors.[368] Relatedly, a study by Alina Wernick and coauthors, found that smart city developers perceive the GDPR as an important legal risk.[369] Smart city developers find (1) the risk is more heightened for technologies that have direct interfaces with individuals—such as the ones that collect data in public spaces—than those that deal with infrastructure management,[370] (2) that there is

362. *See* Purtova & Newell, *supra* note 26, at 28.
363. *See* Purtova, *supra* note 353.
364. *See* Purtova & Newell, *supra* note 26, at 3.
365. *Id.* at 3.
366. *Id.* at 26–27.
367. Wachter, *supra* note 348, at 270.
368. *Id.* at 271.
369. Wernick et al., *supra* note 58, at 16.
370. *Id.*

trade-off between compliance that minimizes risks of re-identification and the usability of the data,[371] (3) and that compliance with data protection law is a novelty deriving from the possibility of re-identifying information.[372]

These issues around the challenge of applying data protection law to smart city technologies, are also present in Canadian data protection law and were, importantly, part of the conversation around Sidewalk Toronto.[373]

2. Canadian Privacy and Data Protection Law

Canada's privacy framework is a complex regime comprised of federal, provincial, and territorial regulations; some statutory, some based on the common law, and some civil law protections.[374] Canada's Privacy Act governs the collection of personal information by federal government institutions,[375] while the Personal Information Protection and Electronic Documents Act (PIPEDA) applies to the collection of information by private parties for commercial activities.[376] Additionally, each province has legislation that governs the collection and use of personal data by their respective government.[377]

In Ontario, the applicable rules are the Freedom of Information and Protection of Privacy Act and the Municipal Freedom of Information and Protection of Privacy Act (MFIPPA), which apply to provincial and municipal institutions and establish how they can collect, use, and disclose personal information.[378] These statutes follow the structure of most worldwide data protection laws and, like the GDPR, require that entities collecting and processing personal data have a legal basis to do so.[379] PIPEDA, for example, requires individual

371. *Id.*

372. *Id.*

373. *See* Teressa Scassa, *Digital Goverance and Sidewalk Toronto: Some Thoughts on the Latest Proposal*, (Oct. 21, 2018, 11:37 AM), https://www.teresascassa.ca/index.php?option=com_k2&view=item&id=290:digital-goverance-and-sidewalk-toronto-some-thoughts-on-the-latest-proposal&Itemid=80 [https://perma.cc/Y2W2-B2QU].

374. *See* Teressa Scassa, Jennifer A. Chandler & Elizabeth F. Judge, *Privacy by the Wayside: The New Information Superhighway, Data Privacy, and Intelligent Transportation Systems*, 74 SASK. L. REV. 87, 96 (2011); *Summary of Privacy Laws in Canada*, OFF. OF THE PRIV. COMM'R OF CAN., https://www.priv.gc.ca/en/privacy-topics/privacy-laws-in-canada/02_05_d_15/ [https://perma.cc/MJG3-EJ6Z] (last visited Feb 16, 2025).

375. Privacy Act, R.S.C. 1985, c. P-21 (Can.).

376. Personal Information Protection and Electronic Documents Act, S.C. 2000, c. 5 (Can.).

377. *See Summary of Privacy Laws in Canada*, *supra* note 374.

378. *See* Municipal Freedom of Information and Protection of Privacy Act, R.S.O. 1990, c. M.56 (Can.). art. 2(a); Beamish, Letter from the Privacy Commissioner of Ontario, *supra* note 281.

379. *See also Data Protection*, *supra* note 329.

consent before personal data collection unless an exception applies. These exceptions include: collections that are "clearly in the interest of the individual and consent cannot be obtained in a timely way," collections that are "publicly available and [are] specified by the regulations," or the collection, use, or disclosure of personal information "only for purposes that a reasonable person would consider are appropriate in the circumstances."[380] Under the MFIPPA, municipalities may only collect personal information if it is expressly authorized by a statute, for law enforcement, or necessary to conduct a lawfully authorized activity.[381]

For Sidewalk Toronto, the complex nature of the Canadian privacy landscape and smart city partnerships made it hard to determine the applicable privacy laws.[382] In a letter to the Chairman of the Board of Waterfront Toronto in September 2019, Ontario's Information Commissioner explained that "[d]epending on the circumstances of the public-private partnership, it is possible that the collection, use or disclosure of personal information would be governed by MFIPPA, PIPEDA, or both."[383]

It seemed unlikely, however, that Sidewalk Labs could legally collect personal data. If Sidewalk Toronto was considered a commercial venture, PIPEDA's requirements for consent are strict and make it unlikely that smart city projects fall under any its exceptions without government authorization.[384] Alternatively, if the partnership was considered a contract with the municipality to carry out municipal activities, MIFPPA would not allow personal data collection based on consent.[385] In all cases, Sidewalk Labs would need to obtain official permission from the governmental authorities with jurisdiction over the public areas where the data collection was planned.[386]

---

380. PIPEDA, S.C. 2000, c. 5 (Can.), §§ 5(3), 6.1, 7(1)–(3).

381. MFIPPA, R.S.O. 1990, c. M.56 (Can.), § 29(1).

382. Beamish, Letter from the Privacy Commissioner of Ontario, *supra* note 281, at 3.

383. *Id.*

384. *See also id.*; David Young Law, *Sidewalk Labs – Public or Private Data?*, DAVIDYOUNGLAW.CA (2019), https://davidyounglaw.ca/compliance-bulletins/sidewalk-labs-public-or-private-data/ [https://perma.cc/98YC-8FWS].

385. *See also* Beamish, Letter from the Privacy Commissioner of Ontario, *supra* note 281, at 3.

386. As explained and problematized by David Young Law: "Without delving into the details of the relationships among the three governments involved (federal, provincial, municipal) and Waterfront Toronto, the vehicle through which the governments are interacting with Sidewalk Labs, it is clear that Quayside will involve at least municipal jurisdiction (e.g. over streets, etc.) as well as land ownership by one or more public sector entities. Consequently, it is reasonable to assume that authority to collect data within Quayside's public spaces must be granted (or at least not prohibited) by some or all of the public sector entities involved. Does this mean that the data

The question of which legal framework ought to apply to Canadian projects like Sidewalk Toronto was never answered by a legislative or judicial body. However, at the time of Sidewalk Toronto, there seemed to be a consensus that, to safely enable such a project, legal reform of the data protection regime was necessary to support the type of data governance framework that Sidewalk Labs and Waterfront Toronto proposed.[387] The Ontario Information and Privacy Commissioner, in his letter to Waterfront Toronto, highlighted that PIPEDA was inadequate to regulate a project like Sidewalk Toronto and that "[t]he provincial government must modernize our laws to ensure that privacy-protective, transparent, accountable and ethical data practices are at the forefront of all smart city projects."[388] Specifically, the Commissioner mentioned that such amendments should include "additional protections for individual and group privacy."[389]

3. The Urban Data Trust Was Incompatible with Canadian Data Protection Law

Sidewalk Labs proposed that much of the data would be stewarded by an Urban Data Trust (the Trust)—a data steward that oversees both public and private sector organizations collecting and using urban data in the project area.[390] The Trust would have the authority to approve or reject any proposed collection or use of urban data.[391] Its purpose was to act as an intermediary responsible for creating safeguards concerning the collection and use of data collected in the physical spaces of the city, where it is difficult to obtain meaningful consent.[392] This was—and remains today—related to some of the most interesting and promising data governance proposals

would be subject to public sector privacy laws as well as any application of PIPEDA?" *See* Law, *supra* note 384.

387. *See* Beamish, Letter from the Privacy Commissioner of Ontario, *supra* note 281, at 8.

388. *Id.*

389. The question of group privacy is, among others, one of the things the Urban Data Trust was perhaps trying to address. *Id.*

390. Sidewalk Labs defined urban data as the "city's physical environment, including the public realm, publicly accessible spaces, and even some private buildings." *See "Urban Data" & "Civic Data Trusts" in the Smart City*, CENTRE FOR FREE EXPRESSION, https://cfe.torontomu.ca/blog/2019/08/urban-data-civic-data-trusts-smart-city [https://perma.cc/6W9C-MYWV] (last visited Feb 16, 2025).

391. Beamish, Letter from the Privacy Commissioner of Ontario, *supra* note 281, at 4.

392. *See id.*

addressing the challenge of balancing the risks and promises of Big Data.[393]

The Trust would have been an interesting way to insert some guardrails in the processing and use of the data collected in Sidewalk Toronto while also enabling it. It could have also covered issues that are not covered by data protection law but may still pose risks to fundamental rights, such as group data and nonpersonal inferences.[394] Indeed, as discussed above, scholars recognize that the individual-centered focus of data protection law and the focus on personal data fails to address the impact on groups and collectives, from neighborhoods to communities.[395] For example, aggregated data reveals planned locations for protests or the areas where undocumented migrants may spend time.[396] These risks are accentuated by data processing technologies that have the ability to extract meaningful insights from nonpersonal data, but that can still guide decisions that affect individuals and communities.[397] Thus, the Trust could have adopted rules for processing publicly collected data regardless of its characterization. The rules governing the Trust's data could have focused on preventing the potential risks and harms of certain data processing practices, regardless of the type of data at issue.

Nevertheless, the actual proposal for the Trust was unfit to achieve these goals and was legally nonviable for two reasons: the proposal was ambiguous and incompatible with Canadian data protection law.

Zeynep Tufeczi, a technology scholar, wrote an affidavit supporting the CCLA lawsuit in which she argued that the proposal was ambiguous and insufficient to guarantee the privacy and data protection rights of people.[398] The proposal was insufficient because individuals would simply be faced with notices of data collection impossible to opt out of.[399] The Trust's proposal promised to "not share or link personal data with [third] parties—including other Alphabet companies (i.e. Google) without consent," suggesting that there would

393. *See supra* Part III.B.1.

394. *See* Sylvie Delacroix & Neil Lawrence, *Bottom-Up Data Trusts: Disturbing the 'One Size Fits All' Approach to Data Governance*, 9 INT'L DATA PRIV. L. 236–52 (2019).

395. *See* Margot E. Kaminski & Gianclaudio Malgieri, *Impacted Stakeholder Participation in AI and Data Governance*, YALE J. L. & TECH. (forthcoming 2024–25).

396. *See* Veale, *supra* note 356.

397. *See* Botero Arcila, *supra* note 353.

398. Tufekci Affidavit, Corp. of the Can. Civil Liberties Ass'n and Lester Brown v. Waterfront Toronto Revitalization Corp., City of Toronto, Her Majesty in Right of Ontario, No. 211/19 (Ont. Superior Ct. of Just. Divisional Ct. July 1, 2007).

399. *Id.* at 13.

be scenarios where Sidewalk Labs would seek consent to use the data or share it with third parties.[400] As previously discussed, consent is an insufficient form of protection because individuals often give away information in return for convenient services and that shared data can reveal much more than one imagines.[401] Thus, the Trust's consent-based proposal still concerned many.[402] Lastly, Tufeczi noticed that the methods suggested by Sidewalk Labs to de-identify the data were not sufficient to diminish risks of re-identification,[403] and that de-identified data can also be used to understand, nudge, and even influence people.[404] Meanwhile, Cavoukian—the scholar who had resigned from Sidewalk Labs' advisory board—noted the Trust's de-identification proposal was problematic because it seemed to be merely a suggestion.[405] Sidewalk Labs replied that the Trust would determine what the de-identification policy would be.[406]

The main challenge of the Trust, however, was the legal one. It was simply incompatible with Canadian data protection law. This was best explained by a letter from the Ontario Information and Privacy Commissioner, Brian Beamish, to the board of Waterfront Toronto.[407] Beamish listed three central problems with the Trust's incompatibility.

First, Canadian data protection law has no legal category for urban data and Sidewalk Labs's proposed category excluded important and sensitive data, such as "information that individuals 'provide through direct interaction with commercial or government-operated services, such as apps, websites, and product or service delivery."[408] Beamish stressed that, though companies and corporations are always free and encouraged to improve their data governance practices and extend protections to other forms of data, they cannot create new forms of governance for data that include personal data and contradict data protection law.[409]

---

400. *Id.*

401. *Id.*

402. *See id.*

403. *Id.* at 7.

404. *See id.* at 17.

405. Isabelle Kirkwood, *Ann Cavoukian Still Has Problems with Sidewalk Labs' Approach to Data with Quayside*, BETAKIT (June 26, 2019), https://betakit.com/ann-cavoukian-still-has-problems-with-sidewalk-labs-approach-to-data-with-quayside/ [https://perma.cc/99KT-G3EQ].

406. *Id.*

407. *See* Beamish, Letter from the Privacy Commissioner of Ontario, *supra* note 281, at 6–7.

408. *See id.* at 4, 7.

409. *See id.* at 6–7.

Second, the Trust could not exclude nor contradict Canadian personal data protection law.[410] Thus, even if as a matter of policy, the Trust proposal contained interesting ideas, the processing of the data at issue would still face the challenges highlighted in Part III. That is, under PIPEDA companies collecting personal data in Sidewalk Toronto needed to obtain meaningful consent, and, if analyzed under MFIPPA, there needed to be somewhere an explicit authorization by statute to collect data in public spaces.[411]

Lastly, Beamish highlighted that the authority of the Trust could overlap with the authority of other relevant authorities, such as Ontario's Information Privacy Commissioner.[412] For example, the Trust's approval of a project would lead parties to reasonably assume its legality. Then, later on, perhaps even after the project has begun, the Ontario's Information Privacy Commissioner could later find that the project violated MFIPPA. [413]

Thus, the Commissioner suggested that, even if there were some things to praise about the Trust, effectively creating such a structure would require an overhaul of personal data law.[414]

4. Did Waterfront Toronto Exceed Its Authority to Authorize Sidewalk to Collect Information and to Enact an Additional Privacy Policy?

The data governance framework proposed by Sidewalk Labs was incompatible with Canadian privacy law—even if it was compatible with some of the latest research and proposals on data protection improvements.[415] This was at the core of the CCLA's lawsuit. Specifically, the CCLA sought:

> a declaration . . . that the decisions made by Waterfront Toronto . . . to approve and enter into the Framework Agreement on October 16, 2017 and the Plan Development Agreement as of July 31, 2018 ("PDA"), both with Sidewalk Labs LLC ("Sidewalk Labs"), were ultra vires its objects and powers under the Waterfront Toronto Revitalization Corporation Act . . . and invalid.[416]

---

410. *See id.*

411. *See supra* section IV.A.1.

412. *See* Beamish, Letter from the Privacy Commissioner of Ontario, *supra* note 281, at 6.

413. *Id.*

414. *Id.* at 8.

415. *See supra* section II.B.1.

416. Notice of Application, Corp. of the Can. Civil Liberties Ass'n and Lester Brown v. Waterfront Toronto Revitalization Corp., City of Toronto, Her Majesty in Right of Ontario, 1 (Ont. Superior Ct. of Just. Divisional Ct. Apr. 2019) [hereinafter CCLA v. Waterfront Toronto], https://ccla.org/wp-content/uploads/2021/06/Notice-of-Application-CCLA-and-Lester-Brown-Waterfront-Toronto.pdf [https://perma.cc/NHE9-XY9L].

Central to the CCLA's argument was that the Waterfront Toronto Corporate Act did not authorize Waterfront Toronto to make data governance policy.[417] Thus, the lawsuit presented the question of whether Waterfront Toronto exceeded its authority by entering a partnership allowing a third party to control collected data and create a data protection framework.[418] The question was never decided by a court; the case was dropped after the project's cancellation.[419]

Even if no court ever confirmed whether Waterfront Toronto had in fact exceeded its authority, the question should, and can, still be answered.

First, the answer requires establishing Waterfront Toronto's general authority. The Waterfront Toronto Corporate Act establishes that Waterfront Toronto "has the capacity, rights, powers, and privileges of a natural person for carrying out its objects, except as limited by this Act."[420] The main object of Waterfront Toronto is "to ensure that the revitalization of the designated waterfront area creates new economic growth, new jobs, diverse and dynamic new commercial, residential and recreational communities, new cultural institutions and new parks and green spaces for the public."[421]

The limitations in the Waterfront Toronto Corporate Act establish that Waterfront Toronto's assets must be used to develop the waterfront area.[422] They also establish that Waterfront Toronto cannot act as an agent of Canada, Ontario, or the City of Toronto.[423]

The CCLA argued that, even if the area designated for Sidewalk Labs's development is owned by Waterfront Toronto and the City of Toronto, and even if it was going to be used according to Waterfront Toronto's main objective, in certain cases, Waterfront Toronto was required to obtain governmental authority.[424] Specifically, the CCLA argued that the power to make policy regarding the governance of the data collected in the waterfront area was not part of Waterfront's

417. *See id.* at 4.

418. *See id.*

419. *See* Brenda McPhail, *Statement On The Reset Of The Quayside Project*, CCLA (Mar. 7, 2020), https://ccla.org/privacy/surveillance-technology/smart-cities/statement-on-the-reset-of-the-quayside-project/ [https://perma.cc/QW5G-HXN6].

420. Toronto Waterfront Revitalization Corporation Act, *supra* note 181, art 4.1.

421. *Id.* at 3.2.

422. *Id.*

423. Toronto Waterfront Revitalization Corporation Act, *supra* note 181, arts. 3.1, 4 .2.

424. *See* CCLA Application Court File, *supra* note 278, at 5.

authority nor had the government bestowed Waterfront Toronto with such power.[425]

Alternatively, the CCLA argued that "if Waterfront Toronto had the discretion to make policy for a smart city (which is denied), Waterfront Toronto exercised that discretion for an improper purpose by outsourcing that authority to Sidewalk Labs."[426] Critical to the claim was an element of the RFP where Waterfront Toronto explicitly outsources some of the development of the policy around the smart city to Sidewalk Labs.[427] Indeed, one of the clauses of the RFP stated that

> the Partner will work closely with Waterfront Toronto to . . . Create the required governance constructs to stimulate the growth of an urban innovation cluster, including legal frameworks (e.g. Intellectual Property, privacy, data sharing), financial considerations (including investment opportunities and revenue sharing expectations), deployment testbeds and project monitoring (KPI's, reporting requirements and tools to capture data). [428]

In response, Waterfront Toronto argued that the privacy harms at issue were speculative and that all the plans required city approval and satisfaction of all federal and provincial regulations.[429]

Flynn and Valverde explain that there was no express authorization in Waterfront Toronto's mandate "to create a smart city or a smart city policy, or to develop digital and data policies."[430] A strict interpretation of its limited powers—as is common in local government, though not necessarily for local corporations—[431]would thus lead to the reasoning that certain elements of the RFP went *ultra vires*. In other words, it may be a stretch to argue that Waterfront Toronto's powers to develop the area and partner with corporations to do so—a power granted to it in the early 2000s, well before the possibility of ubiquitous data collection—[432]includes creating data governance policy, especially if the governance framework contradicts Canadian privacy law.

---

425. Amended Notice of Application at 3, CCLA v. Waterfront Toronto, No. 211/19 (Ont. Super. Ct. of Just. Divisional Ct.) (2019) [hereinafter Amended Notice of Application].

426. *Id*. at 12.

427. *Id.* at 8.

428. Blayne Haggart, *Liveblogging Sidewalk Labs' Master Innovation and Development Plan, Entry 2: Waterfront Toronto's Original Request for Proposals*, BLAYNE HAGGART'S ORANGESPACE (July 17, 2019), https://blaynehaggart.com/2019/07/17/liveblogging-sidewalk-labs-master-innovation-and-development-plan-entry-2-waterfront-torontos-original-request-for-proposals/ [https://perma.cc/3PHF-EDFF].

429. *See* Amended Notice of Application, *supra* note 425, at 9–10.

430. Flynn & Valverde, *supra* note 14, at 281.

431. *See* Erin Tolley & William R. Young, *Municipalities, The Constitution, and the Canadian Federal System*, PUBLICATIONS.GC.CA (Feb. 2001), https://publications.gc.ca/Pilot/LoPBdP/BP/bp276-e.htm [https://perma.cc/X4MC-Y989].

432. *See id.*

Yet, Waterfront Toronto's argument is compelling in some respects. Privacy and data protection claims are usually raised after some form of harm or infraction occurs.[433] Similarly, the lawsuit was brought before the data governance proposals were finalized and were not yet actually infringed upon.[434] As Waterfront alleged, those proposals had to be validated by the City of Toronto and comply with federal law.[435]

It may well be that the CCLA and other local advocates thought waiting until the privacy policy was final would result in the City and other layers of government becoming too invested in the projects. That investment may have resulted in legal reform accommodating Sidewalk Toronto.

In their analysis of Waterfront Toronto's structure, Flynn and Valverde argue that government institutions should handle complex legal and policy issues like the creation and governance of a smart city.[436] They highlight that "[t]he scope of legal and policy concerns in relation to complex issues like waterfront and smart city development require deliberative review. Municipalities are elected bodies and have open forums for debate and deliberation."[437] Similarly, in its review of the data governance proposal, Ontario's Information and Privacy Commissioner highlighted that

> [t]he City must have a clearer role in the project and a voice in identifying what is in the public interest. Cities are at the core of smart city innovations such as transit optimization, or enhancement of public spaces, and they have experience in the delivery of municipal services . . . In our view, municipalities should be leading smart city initiatives involving the collection of data within public spaces, to solve urban challenges and improve the delivery of municipal services.[438]

Despite the City Council's required approval of the project, the city was surprisingly absent from the conversation concerning the project's accountability. [439]

---

433. Municipal Freedom of Information and Protection of Privacy Act, R.S.O. 1990, c. M.56 (Can.).

434. *See* Katharine Schwab, *Sidewalk Labs's Ambitious Smart City Plans Now Face a Legal Battle*, FAST CO. (Apr. 18, 2019), https://www.fastcompany.com/90336151/sidewalk-labss-smart-city-plans-face-legal-challenge [https://perma.cc/CME5-PWAU].

435. *See id.*

436. Flynn & Valverde, *supra* note 14, at 283.

437. *Id.* at 280.

438. Beamish, Letter from the Privacy Commissioner of Ontario, *supra* note 281, at 3.

439. Goodman & Powles, *supra* note 14, at 489.

B. The Legal Architecture of Distrust and the Role of the City

One of the failures of Sidewalk Toronto was the absence of a legal framework that made it trustworthy. There was (and is) no privacy or data protection framework that could have enabled the project. Indeed, the type of mass collection of personal data in public spaces is unsupported by Canadian law unless there is specific statutory permission.[440] Setting aside the project's technical and political economy convenience, one of the main reasons for Sidewalk Toronto's failure was Sidewalk Labs's and Waterfront Toronto's inability to instill trust in Torontonians.[441] A big element fueling the distrust was that this was a very new project involving new technologies and new risks without an accountable governance structure.[442] Yet, it may have been this lack of accountability that made the project conceivable to begin with. The #BlockSidewalk movement tapped into the project's visibility and uncertainty to mobilize and question the legality of the project and to garner political opposition by advancing general surveillance fears.[443] This opposition eventually led the project to feel politically unsustainable.[444]

At the core of the Sidewalk Toronto saga is thus the relationship between law and trust. Law creates trust in society by establishing the rules of the game—from procedure to hard stops and enablers—so parties feel they, and indeed everyone else, can play safely and fairly. There was no such legal structure—at least not one as solid as such an impactful project would have required—that supported Sidewalk Toronto.[445]

On the one hand, Waterfront Toronto's mandate and accountability structure left it effectively alone to plan economic-growth-driven development projects with little accountability to citizens and relevant elected bodies,[446] which became a problem when the project could have direct implications on citizens' fundamental rights. On the other hand, even though the city government was involved, it was not responsible for the outcome, which in turn allowed

---

440. *See supra* Part III.A.1.

441. *See* Bianca Wylie, *Sidewalk Toronto: The Recklessness of Novelty*, MEDIUM (Feb. 9, 2019), https://biancawylie.medium.com/sidewalk-toronto-the-recklessness-of-novelty-6b6f6df7e70f [https://perma.cc/3S9N-K3Y8].

442. *See id.*

443. Lara Zarum, *#BlockSidewalk's War Against Google in Canada*, THE NATION (Apr. 24, 2019), https://www.thenation.com/article/archive/google-toronto-sidewalk-gentrification/ [https://perma.cc/67YQ-LEUD].

444. *See id.*

445. *See id.*

446. *See* Flynn & Valverde, *supra* note 14, at 272–73.

the mayor to avoid "taking the heat" from the opposition while still supporting the project.[447]

This is a different way in which the structure allowed the local government to make different choices: by not taking direct responsibility for its actions and support for a project that would have significant effects in the city, at least during the planning stages. This structure enabled the city government to adopt a "wait and see" attitude, possibly leading all involved parties to be more reckless and daring in the project's planning than they might have been otherwise. Had the project been planned within the city government, planners might have more carefully calculated how the project would be received and ensured that local stakeholders felt heard.[448]

Given contemporary concerns over the rising power of technology companies and their business models that rely on data monetization and surveillance,[449] opposition to the project was unsurprising. At the same time, Waterfront Toronto and Sidewalk Lab's apparent autonomy, and the public's perception of it, made the project seem more dangerous and difficult to trust—even when many of Waterfront Toronto and Sidewalk's plans and steps seemed somewhat well-intended, like its goals to provide affordable housing, sustainable resource management, and even the data trust.[450] Ultimately, the companies' unchecked power, lack of expertise, and the perceived undemocratic and somewhat rigged process of selecting Sidewalk Labs made the project politically unsustainable.[451] This illustrates the broader challenges and potential pitfalls of public-private partnerships in digital urban development, highlighting the necessity of robust legal frameworks and transparent governance to ensure such projects' safety and that they gain and maintain public trust

This is not to underestimate the real privacy dangers that Sidewalk Toronto, the largest smart-city project built by a Google sister company, could have posed.[452] Yet, the framework proposed by Sidewalk Labs was not incompatible with present privacy and data

---

447. *See id.*; *cf.* RONALD A. HEIFETZ & MARTY LINSKY, LEADERSHIP ON THE LINE 142 (2002).

448. It is unclear, however, whether this would have made a difference. The opposition was stark. *See* Karrie Jacobs, *Toronto Wants to Kill the Smart City Forever*, MIT TECH. REV. (June 29, 2022), https://www.technologyreview.com/2022/06/29/1054005/toronto-kill-the-smart-city/ [https://perma.cc/G6VH-HYT5].

449. Cecco, *supra* note 22.

450. *See id.*

451. Bianca Wylie & David Murakami Wood, *Is Sidewalk Labs Doing Enough to Protect Privacy? No*, CIGI (Aug. 28, 2018), https://www.cigionline.org/articles/sidewalk-labs-doing-enough-protect-privacy-no/ [https://perma.cc/9Z8T-55JH].

452. *See supra* Introduction.

protection thinking. Even Sidewalk Labs's willingness to delegate that authority to a third party is presently recognized as good policy.[453] Thus, it is not the abstract nature of a smart city or privacy concerns of data governance alone that caused the project's failure. Rather, the case may simply be that cities around the world lack the legal framework and institutional background to support the trustworthy adoption of digital technologies in cities at large-scale, as in high-tech urban development projects.

V. LOOKING AHEAD: TOWARDS A LEGAL FRAMEWORK THAT SUPPORTS SMART CITIES?

This Article shows how cities' economic and fiscal realities create important incentives for cities to engage in smart city projects, and that their legal frameworks sometimes create additional incentives for them to do so. At the same time, it also shows that the legal frameworks that govern these projects simultaneously fail to support the safe development of the digitally heavy infrastructure projects that may follow. Current privacy and data protection laws are unequipped to appropriately govern and calm public fears over mass data collection in public spaces and city infrastructures.[454] Similarly, the governance structures of smart city projects are not very transparent in how they manage these partnerships with technological companies, often lack the required expertise to mitigate risks, and shield key actors from democratic accountability.[455] The lack of adequate legal frameworks accentuate potential risks and instill public fear and distrust.[456] This is at the cost of the real and important opportunities digital technologies do pose for city governance and local economic development.

The bulk of this Article is spent in a detailed analysis of Sidewalk Toronto and how the law failed to make it safe. What follows proposes three main avenues of legal reform to give the urban digital transformation a better institutional framework. An in-depth discussion of these ideas will have to be left for future work.

A. The Fast Adoption of Digital Technologies and Public Spaces

453. *See supra* Part III.A.2.

454. *See supra* Part IV.A.1.

455. Wylie, *Google's Attempt to Privatize Government Fails*, *supra* note 14.

456. *See supra* Part III.B.

Requires Better Baseline Data Governance Rules

Privacy and data protection laws must evolve to protect the privacy interests of firms and individuals in environments of ubiquitous data collection, define personal data, and protect groups from potentially harmful information practices.

Scholars like Daniel Solove, Nadya Purtova, and Bryce Newell have pointed out that these new risks warrant a shift in data governance that focuses less on the kind of data at stake, such as personal data, and more on its uses, and on preventing the risks and harms that may occur when processing data.[457] A risk-based approach, for example, could require that companies take mitigation measures based on a risk-based assessment measuring the gravity and probability of informational harms. This would include, for example, evaluating the likelihood that personal data could be used by third parties in a way that goes against the legitimate interests of the data subject by, for example, affecting their likelihood of getting a job. The company can then take mitigation measures like adopting data sharing restrictions or contractual safeguards with third parties. Risk-based assessments usually require a party to evaluate the probability and gravity of a harm occurring, and then to take mitigation measures.[458]

A harm and use-oriented approach could also lead regulators to simply forbid certain practices. For example, regulators could forbid companies from using personal data collected in city spaces to decide which political advertising or dark patterns to show a particular individual in a public transportation advertisement.[459] If the data practice at issue is one where the harm is important, and the likelihood of harm is high even when mitigation measures are taken, then forbidding the data practice could be a reasonable alternative.[460]

Lastly, data protection and data governance law must evolve to better accommodate data protection strategies that revolve around institutions like a data trust. The risks or the uses that are impermissible in a specific context may be hard to know a priori for a

457. *See* Daniel Solove*, The Myth of Privacy Paradox*, 89 Geo. WASH. L. REV. 1 (2021); *see also* Purtova & Newell, *supra* note 26.

458. For a further discussion of such an approach see also Botero Arcila, *supra* note 353.

459. European Commission Press Release, EU Introduces New Rules on Transparency and Targeting of Political Advertising (Mar. 11, 2024).

460. William Boyd, *Genealogies of Risk: Searching for Safety, 1930S–1970S*, 39 ECOLOGY L. Q. 895, 971 (2012); *see also* OECD, *Responding to Societal Challenges with Data,* OECD DIGIT. ECON. PAPERS (Dec. 14, 2022) (recommending that a risk-based approach would be an important element of a culture of responsible data management, setting the acceptable level of risk based on, for example, the type of information and data at stake, and treating the risk accordingly based on a risk assessment); European Union Artificial Intelligence Act, 2024 O.J. (L. 1689) 1.

legislator, but a data trust with expertise and knowledge of a specific context, like a city project or a particular service, could be empowered to determine that. Thus, data protection law could evolve to foresee delegate in intermediary bodies the power to establish what data uses are permissible and impermissible.

Relatedly, scholars and policymakers in the United States have advanced the idea that privacy and data protection mainly concern trust and should embrace creating and legally supporting relationships of trust via fiduciary duties.[461] For example, the Kids Online Safety Act, a US bill that establishes guidelines meant to protect minors on social media, includes a duty of care that would require social media platforms to design their systems to prevent or mitigate a range of social harms, including the mental health of minors.[462] The bill is not short of critiques,[463] but it serves as a good starting point that data governance may model itself. For example, as proposed in the Kids Online Safety Act, data governance law could impose a duty of care on entities collecting data in public spaces—regardless of their characterization as cities or corporations.[464]

From the city standpoint, improvements in privacy frameworks are achievable despite their limited powers. City governments have often innovated and improved data protection within their departments.[465] Likewise, they can limit data collection practices in city government and to city service providers that are excessively risky.[466] Consider a few examples: (1) cities could use their procurement power to require service providers to collect the data they need and delete it after use; (2) cities could preference the use of anonymized data with data storage and processing oriented toward preventing reidentification in their internal workings and when personal data is not needed; (3) data analytics identifying groups or populations should be bound by

461. *See* Waldman, *supra* note 225, at 108; *see* Neil M. Richards & Woodrow Hartzog, *Taking Trust Seriously in Privacy Law*, 19 STAN. TECH. L. REV. 431, 433 (2016).

462. *See* Maria Paula Angel & Danah Boyd, *Techno-Legal Solutionism: Regulating Children's Online Safety in the United States*, CSLAW '24: PROCEEDINGS SYMP. ON COMPUT. SCI. & L. (2024).

463. *See* Jason Kelley, *Kids Online Safety Act Continues to Threaten Our Rights Online: 2024 in Review*, EFF (Jan. 1, 2025), https://www.eff.org/deeplinks/2024/12/kids-online-safety-act-continues-threaten-our-rights-online-year-review-2024#:~:text=The%20biggest%20problem%20with%20KOSA,age%20verification%20and%20content%20restrictions [https://perma.cc/8SN4-439M].

464. *See id.*

465. *See* Ash Johnson, *Balancing Privacy and Innovation in Smart Cities and Communities*, INFO. TECH. & INNOVATION FOUND. (Mar. 6, 2023), https://itif.org/publications/2023/03/06/balancing-privacy-and-innovation-in-smart-cities-and-communities/ [https://perma.cc/FK78-EKAX].

466. MARCUCCI ET AL., *supra* note 33, at 25–26; Rubinstein, *supra* note 58, at 1966.

additional safeguards, such as requiring justifications explaining the necessity of the identification process, its conductivity to meeting a legitimate goal, and assurance that it does not undermine fundamental rights in a disproportionate ways; and (4) cities should enact internal regulations concerning personal data (or data at risk reidentification) sharing across city departments or with providers and third parties.

B. Smart City Adoption and Development Require Accountable Governance Structures

If data protection and privacy laws were better suited to the challenges facing mass and ubiquitous data collection, many of the risks of smart city technologies and projects would be mitigated. At the same time, the impact of these technologies and projects is vast, and ensuring their safe development and adoption goes beyond data protection risks—they expand to other areas of law involved in urban governance.

Consequently, local government must adapt to address the harms and effects directly related to urban governance and local law. Drawing from the story of Sidewalk Toronto, local government law and local regulation should ensure accountability around the adoption of smart city tools and the development of smart city projects.

In city governments, accountability must "focus on incompetence and asymmetries of power."[467] As noted by Professor Burcu Baykurt, rather than treating smart city tools as exceptional tools, city governments should strengthen their traditional toolkit to guarantee accountability by fostering "bureaucratic responsibility about what these systems are supposed to do and whose interests they serve."[468] This could be as basic as requiring city officials to justify the adoption of a particular digital tool or project and evaluate its performance periodically.[469]

It is beyond the scope of this Article to describe at length the legal structures that should be put in place or reformed. The findings of this Article suggest, however, that procurement and local development structures should be careful in prioritizing too much efficiency for accountability, especially in large-scale and consequential projects. Administrative law scholars have long been preoccupied with creating structures, checks, and balances to ensure that the decisions made by government officials (especially those not democratically elected), are

467. *See* Baykurt, *supra* note 9.

468. *See id.*

469. *See, e.g.*, *Department Of Innovation and Technology Strategy*, CITY OF BOS. (July 14, 2023), https://docs.google.com/document/d/1Voa0_i1q8ZCtQkNPPJiNFqy7vhmTzGPthOFRfr4Ledw/edit?tab=t.0#heading=h.z7sghhp6t9go [https://perma.cc/9B8Y-CJ7A].

legally sound and accountable.[470] Importantly, this may require procedural reforms in city government by, for example, enhancing transparency around the decisions to procure or develop a particular technology, which must be oriented at addressing local goals.[471] Additionally, as international standards on these tools are slowly developed, cities could be required to ensure that their smart city tools adhere to these safety and security best practices. These provisions should apply generally to local development corporations working on smart city development. In other instances, cities should be empowered to create data trusts—once these are regulated at higher levels—and to delegate on them the power to establish what are the permissible and impermissible uses of data collected in public spaces.

VI. CONCLUSION

In hindsight, Sidewalk Toronto's failure was likely for the best. Sidewalk Labs was too abstract and sometimes sloppy in its proposals; Waterfront Toronto lacked transparency and expertise in its dealings with Sidewalk Labs; the City of Toronto avoided taking on the leadership and accountability roles essential to the project's success.[472] Far from implying that all smart city projects are undesirable, however, the story of Sidewalk Toronto offers important lessons for the adoption of smart city technologies and projects.

Sidewalk Toronto's failure highlights the pitfalls of current privacy and data protection laws worldwide. It also highlights which urban development vehicles are unfit to address the particularities and risks specific to digitally enabled projects. There was simply no legal framework in place that could support a high-tech and data-intensive project like Sidewalk Toronto, which entailed several privacy and surveillance risks.[473] Sidewalk Toronto was too large to be an experiment.

Indeed, current data protection law is over- and underinclusive: when it excessively relies on consent, it leaves individuals to make choices about their personal data that are impossible to make meaningfully, especially as we increasingly rely on digital technologies to access all sorts of products and services.[474]

---

470. *See* Jon D. Michaels, *An Enduring, Evolving Separation of Powers*, 115 COLUM. L. REV. 515, 532 (2015).

471. *See* MARCUCCI ET AL., *supra* note 33, at 5 (discussing local initiatives like local ordinances on procurement of surveillance technology).

472. *See* Wylie, *The Recklessness of Novelty*, *supra* note 441.

473. Flynn & Valverde, *supra* note 14, at 281.

474. *See* Johnson, *supra* note 465.

Additionally, the focus on personal data as a regulatory object does not fit well with a digital economy where vast amounts of data are collected and analyzed so that data that would a priori not be personal can sometimes be traced back to individuals, but also aggregate pools of nonpersonal data can be used in ways that affect individuals.[475] In Sidewalk Toronto, however, the plan to address some of these challenges was left for a private actor, without a legal framework of data governance that would support a smart city that could adhere to data protection laws.[476]

Additionally, the risk of Sidewalk Toronto was amplified by its governing structures: the *sui generis* and unaccountable structure of Waterfront Toronto, the specific incentives Waterfront had to strike such a partnership with Sidewalk Labs, and the legacy of early 2000s urban development best practices.[477] Critically, Sidewalk Toronto was marked by the absence of democratic ownership by the primary democratic institution that should have been front and center: the City.[478] But its pitfalls did not end there. Sidewalk Toronto also faced the challenge of creating data governance where no current data protection law was fit to address the risks that pervasive data collection, while also enabling good uses.[479]

Sidewalk Toronto is not just an example. Digital technologies are being adopted in cities everywhere and at rapid speed.[480] Oftentimes, these tools and projects lack visibility,[481] and, despite their potential to enhance city living and services, they present the same risks of Sidewalk Toronto. This Article illustrates that data protection law and the urban development vehicles often backing these structures are unequipped to address the particularities of smart city technologies. It underscores that the successful use and adoption of smart city tech requires legal frameworks that support their safe adoption.

475. *See also* Purtova & Newell, *supra* note 26.
476. *See* Goodman & Powles, *supra* note 14, at 489.
477. *See supra* Part II.
478. *See* Goodman & Powles, *supra* note 14, at 489.
479. *See* Tolley & Young, *supra* note 431.
480. *See* Johnson, *supra* note 465.
481. *See* Cecco, *supra* note 22.