# Toronto



Sidewalk Labs is a venture that was founded in 2015 by Alphabet, Google's parent company. It was the winning bidder in Toronto's search for an organization to lead its smart city project. However, in spring 2020, the firm announced that it would no longer be developing a project to transform Toronto's waterfront.

Two factors led us to select Toronto, though these were somewhat tangential to the positioning of our work. One is related to the scale of Toronto's smart city project. Originally, it was to be no more than an econeighborhood. However, with the agreement of Toronto's local government, Sidewalk Labs made the project's geographical scope fifteen times larger, increasing it from twelve acres to 190 acres. Second, Sidewalk Labs is a former Californian startup and a native of Silicon Valley, a part of the world that has become emblematic in the development of artificial intelligence, smart devices, and online knowledge sharing. Via its subsidiary, Google thus promised large-scale experimentation, a transparent project, and the prospect of turning some of Toronto into a real-life laboratory. Comparing entire smart cities with an urban project managed by Google was a task that needed to be undertaken with a certain level of methodological caution.

Our analysis of Toronto's documents and publications revealed two areas in which the city scores poorly relative to the other cities in our study: Basic Sanitation and Medical Services.

Two obstacles quickly hindered the Sidewalk Labs project. First, the health emergency brought about by the COVID-19 pandemic created unprecedented economic uncertainty, and the Toronto real-estate market could not continue to offer the financial sustainability that private investors had come to expect from it. Second, many people raised concerns and expressed critical views about what they saw as handing over the keys to the city to a private company.

Before and after the Sidewalk project was shut down, working on the different documents was not delicate but attractive thanks to the access to a massive amount of information. The release by Sidewalks of a 1,500-page proposal in June 2019 provided free access to Sidewalk Labs's vision and the core attributes of the Quayside project. The Google subsidiary had started to work with urban planners, engineers, and experts to develop innovative solutions. Consulting their project let us see their vision of a city that would be sustainable and affordable and make the most of innovations in technology and urban design.

The Sidewalk Labs project mixed buildings, autonomous vehicles, and cutting-edge wood-frame towers, all equipped with IoT systems. Over two and a half years, Sidewalk Labs invested time, people, and resources in Toronto. The plan was for the city to become a real-world laboratory. Unfortunately, the plan will not be implemented. Nevertheless, it represents the strategic entry of a large player in a new industry. What remains to be seen is whether it will be Google's first and last such attempt, or whether the experience and knowledge that the firm accumulated will motivate it to try again.
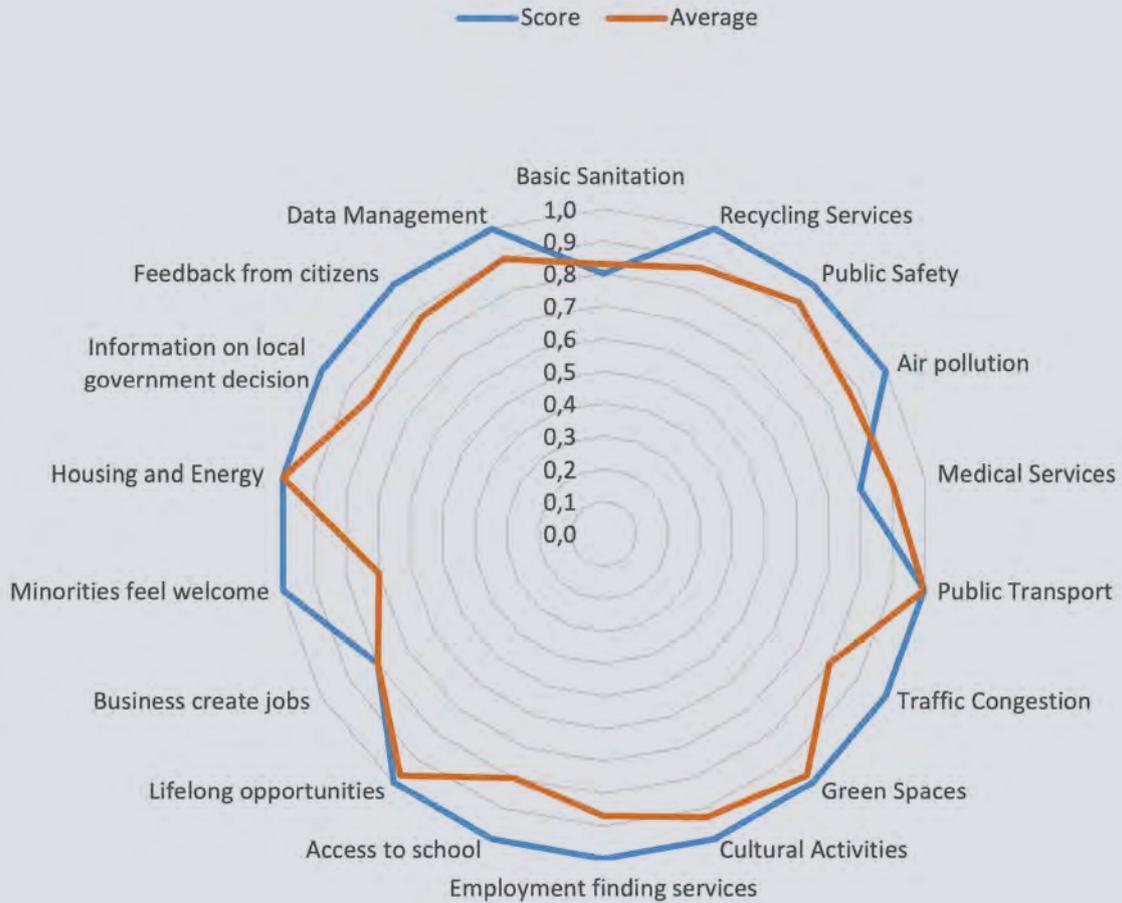
# Toronto



Chart type designed to plot 18 factors translated into values over multiple quantitative variables.
Blue line is about the city and Orange line is the average value for the six selected cities. It should be used with care.

# Executive summary

In 2017, Sidewalk Labs, a subsidiary of Alphabet, Google's holding company, won a tender put out by the City of Toronto to transform Toronto's waterfront into one of the world's first smart cities. However, in spring 2020 the firm abruptly abandoned the project before it had gone beyond the planning and consultation stage (*The Guardian*, 7 May 2020; https://www.theguardian.com/technology/2020/may/07/google-sidewalk-labs-toronto-smart-city-abandoned). Many actors have discussed if the Sidewalk project in Toronto had the nature and ingredients to become a full smart city project.

In a statement released in May 2020, Sidewalk Labs's CEO Dan Doctoroff said that sustained concerns stemming from the COVID-19 pandemic meant that the project was no longer feasible. He wrote, "As unprecedented economic uncertainty has set in around the world and in the Toronto real estate market, it has become too difficult to make the 12-acre project financially viable without sacrificing core parts of the plan we had developed" (*The Guardian*, May 7, 2020).

Sidewalk Labs was selected to develop a vision for Quayside in October 2017, following a competitive request for proposals (RfP). Sidewalk Labs released its 1,500-page proposal in June 2019.[1] In a sign of its commitment to the project, Sidewalk Labs had established an office in the city, as well as a team staffed by urban planners and public relations experts.

The end of the Quayside project came suddenly. It marked a stunning downfall for the vision championed by the Canadian prime minister, Justin Trudeau, and Eric Schmidt, CEO of Google, of a community built "from the Internet up." They had envisioned a city that was a "fundamentally more sustainable and affordable community resulting from innovations in technology and urban design," Doctoroff wrote in a blog post (*The Guardian*, May 7, 2020).

In a first proposal disclosed in 2017, Sidewalk Labs touted autonomous vehicles, as well as cutting-edge wood-frame towers to make housing more affordable (*The Guardian*, May 7, 2020). Initially, the project attracted observers and analysts because it involved a subsidiary of Google's parent company, Alphabet.[2] Sidewalk Labs sought to take over a twelve-acre

area of the waterfront and transform it into a high-tech neighborhood. This hype window was completed with public Wi-Fi, heated and illuminated sidewalks, and so-called "raincoats" for buildings, that term having been coined by the Toronto-based architecture studio Partisans.[3] The project then underwent two changes. First, Sidewalk Labs widened its ambitions from an initial twelve acres of waterfront to a 190-acre area that became known as the IDEA District, and then it had to scale back the new plan. Finally, it gave up.



Source: Sidewalk Labs

Over two and a half years, Sidewalk Labs's personnel was very committed to making the Quayside project happen, with the Google subsidiary investing energy, time, people, and resources in the Toronto waterfront.

As the project ran into delays and questions over taxation, a growing chorus of influential voices in the high-tech community expressed concern over the proposed smart city. "No matter what Google is offering, the value to Toronto cannot possibly approach the value your city is giving up," the venture capitalist Roger McNamee wrote in a letter to Toronto City Council (*The Guardian*, May 7, 2020).

Many voices expressed opposition to such a project. It was described by Roger McNamee as "a dystopian vision that had no place in a democratic society" in his letter to Toronto City Council. In 2017, Jim Balsillie, the cofounder of BlackBerry

---

(1) https://www.sidewalklabs.com/

(2) https://torontolife.com/city/18-big-thinkers-take-a-critical-look-at-the-sidewalk-labs-plan/ (accessed on 9 June 2021).

(3) https://www.sidewalklabs.com/insights/from-building-raincoats-to-condo-manifestos-partisans-is-on-a-mission (accessed on 9 June 2021).

maker Research in Motion, called the project "a colonizing experiment in surveillance capitalism attempting to bulldoze important urban, civic and political issues" (*The Guardian*, May 7, 2020). On its side, Sidewalk Labs denied that any data collected would be shared with third parties, instead advocating for a "data trust" to protect sensitive information.

Sidewalk Labs had invested 1.3 billion dollars in the Quayside project. The project had intended to spur millions or billions more in private sector investment. Sidewalk Labs's final decision to quit Toronto came ahead of a May 2020 deadline that Waterfront Toronto, the partnership between Canada's federal government, the Ontario provincial government, and the City of Toronto that is entrusted with overseeing development of Toronto's waterfront, had set to decide whether it would move forward with the Google subsidiary's vision. Sidewalk Labs claimed that it was too difficult to make the twelve-acre project financially viable. Consequently, a key question arising from this story is: Are business models such as this one sustainable? A question specific to Toronto might also be asked: Will the abandonment of the project harm Toronto's status as one of the world's great cities for innovation?

Will this abrupt departure represent a "tremendous new opportunity," as Toronto's mayor, John Tory, said it would? In a statement released on the morning after the Google decision, he said, "I will be pushing Waterfront Toronto— along with our provincial and federal partners—to make sure the new Quayside that emerges will create new jobs and economic development opportunities, a carbon-neutral neighborhood with more housing including affordable housing units and better transportation and sustainability features." Waterfront Toronto said in a subsequent statement that it is confident that Quayside remains "an excellent opportunity to explore innovative solutions for affordable housing, improved mobility, climate change, and several other pressing urban challenges."[4]

The abandonment of Sidewalk Labs's Quayside smart city project also raises question marks about citizen involvement, the inclusiveness of such projects, and residents' social perceptions. It also provokes a couple of concerns about the economic sustainability of such large projects due to the economic uncertainty that can ultimately arise from an event such as a pandemic or other big external shocks (climate change, hurricanes, earthquakes, or economic recession).

To summarize our report, we identify eight main relevant dimensions that will help readers to understand the Toronto smart city plan:

1. **Measuring the impact of mobility-related costs:** According to Sidewalk's report (available on the firm's website) on the smart city plan for Toronto, across the Greater Toronto Area (GTA), traffic congestion costs more than eleven billion Canadian dollars a year in lost productivity. In fact, Sidewalk estimated that at the household level, car owners who live in Toronto's downtown spend, on average, over ten thousand Canadian dollars a year on car ownership.

2. **Mobility innovation with a people-centric approach:** To ensure the safety of bikers and pedestrians, particularly in the context of Toronto's demanding winter conditions, Sidewalk Labs planned to install heating devices under some sidewalks and bike lanes.

3. **Mobility innovation:** The dynamic curbs proposed by Sidewalk Labs use physical infrastructure such as lighted paving or signs to designate spaces for passenger pickups and drop-offs along streets, including at times when such space is restricted to vehicles because of sidewalk expansions or events such as pop-up street fairs.

4. **An innovative approach to green spaces:** Sidewalk Labs saw the potential to plant approximately fifty-nine trees per hectare in part of Toronto's IDEA District, a concentration that represents a twenty percent increase over Toronto's current tree density of forty-nine trees per hectare. This measure could have generated positive externalities to the environment because a green landscape absorbs and sequesters carbon particles, helps to mitigate urban heat, and considerably reduces the risk of flooding.

5. **Generative design:** Sidewalk Labs's generative design tool identified the potential to increase Toronto's open space "by 12 percent while increasing daylight access by 8 percent and density by 498,800 square feet" (Sidewalk Labs, 2019b: 141). One project planned by Sidewalk Labs to achieve this objective was a flexible space called Parliament Plaza.

6. **Open spaces and adaptable classrooms:** Adaptable classroom spaces of the kind proposed by Sidewalk

(4) https://toronto.ctvnews.ca/google-affiliate-sidewalk-labs-abandons-toronto-waterfront-project-1.4928968; *The Guardian*, May 7, 2020 (accessed on 8 May 2020 and 9 June 2021).

Labs could benefit teachers and students by enhancing the quality of classes. Indeed, classrooms with modular furniture and movable walls could allow teachers to test new learning models (for example, the flipped classroom, where students consume lectures outside the classroom and participate in one-on-one and group work within the school).

7. **Job creation:** Within the ninety-three thousand jobs that the Sidewalk Labs smart city project hoped to create in Toronto, forty-four thousand were permanent, full-time positions that generally fell into three broad categories: industrial jobs, population-based services, and knowledge-based industries (Sidewalk Labs, 2017).

8. **Passive house design:** A "passive house building design consists of using substantial wall insulation, airtight exteriors, and high-quality windows to maintain a consistent interior temperature."[5] This type of low-energy housing was an essential aspect of Sidewalk Labs's project plans.

We have organized our analysis of the main decisions and projects pertaining to Toronto's Quayside through following the principal topics and themes summarized above.

(5) https://quaysideto.ca/wp-content/uploads/2019/ (accessed on 8 May 2020).