



Rendering of an interior pedestrian walkway at Quayside, a smart city development planned along the Toronto waterfront.
Credit: Picture Plane for Heatherwick Studio for Sidewalk Labs.

Privacy, Equity, and the Future of the Smart City

AS A RULE, 12-acre development projects don't tend to receive national or international attention. But that hasn't been the case for Quayside, a parcel off Lake Ontario in Toronto. Two years ago, Waterfront Toronto—the government entity overseeing the redevelopment and reconfiguration of a larger swath of real estate along the Don River that includes Quayside—brought in Sidewalk Labs as a private partner. A subsidiary of Google's parent company, Alphabet, Sidewalk pledged to invest \$50 million in the endeavor. The company seemed an ideal choice to help make Quayside a kind of prototype "smart city" neighborhood, and it produced ambitious plans.

It also produced no small amount of controversy, and at times it has appeared that the entire partnership might implode. That threat seemed to have passed at press time, at least temporarily. All the friction has had an unexpected result: Quayside could prove to be a much more valuable prototype for smart city planning than originally imagined.

That's not because of what has been built (which is, to date, nothing), but rather because

of the way its bumpy ride has clarified the core smart city issues that need to be resolved before building can happen—not just in Toronto, but in any urban area. While it's hard to find an example of a smart city project that's quite as comprehensive as Quayside aims to be, there are many playing out on a more limited scale, from Kansas City's "smart city corridor" centered on a two-mile streetcar line to the LinkNYC program (also from Sidewalk Labs), which is replacing pay phones in New York City with slim, Wi-Fi-enabled kiosks.

The biggest issue needing resolution may be privacy. That might seem intuitive, and Sidewalk Labs itself professed to be aware of, and sensitive to, privacy concerns in its initial proposal. That proposal included plenty of the sort of tech-forward ideas you'd expect from a Google-connected entity, from heated bike lanes to autonomous delivery robots. Many of the proposed elements relied upon sophisticated sensors to collect data and guide efficiency in everything from trash collection to traffic to lighting.



At left, an aerial view of the Quayside neighborhood in Toronto, which developers hope to transform into a technology-enabled smart neighborhood. At right, the Quayside site plan. Credits (left to right): DroneBoy for Sidewalk Labs, Sidewalk Labs.

While Sidewalk’s proposal addressed privacy, the company was apparently caught off guard when it was criticized for leaving too much discretion to private-sector tech vendors. Among those unimpressed: former Ontario privacy commissioner Ann Cavoukian, a prominent privacy advocate Sidewalk had added to its advisory board but who promptly resigned.

Cavoukian, now the executive director of the privacy-focused Global Privacy & Security by Design Centre consultancy, explains that she recognizes the potential value of data collection for shaping a neighborhood or a city. But she believes, in essence, that in the context of the smart city, securing privacy is a planning-level decision better left to the public sector. “The technology, the sensors, will always be on,” she says. “There’s no opportunity for people to consent or revoke consent. They have no choice.”

She specifically advocates what she terms a “privacy by design” strategy, which “scrubs” data at the point of collection. For instance, cameras or sensors gathering traffic data might also pick up license plate numbers. If Cavoukian and other privacy advocates have their way, that level of personal data would simply not be collected. “You still have the value rendered from the [aggregate] data,” she says. “But you don’t have the privacy risks because you’ve

de-identified the data.” The essence of the privacy by design idea is that it privileges the public interest over private use of data; Cavoukian has pointed to the European Union’s General Data Protection Regulation—which strictly protects individual privacy and has forced even the biggest tech players to adjust since its implementation in 2018—as a model.

Sidewalk Labs proposed gathering wide swaths of data in a kind of “trust,” with private vendors encouraged to anonymize data. To critics like Cavoukian, this delayed privacy decisions until too late in the process: post-planning, post-implementation, less a baseline than an afterthought. One poll found that 60 percent of Toronto residents who were aware of the plan didn’t trust Sidewalk’s data collection. The two sides are still working out details, but have agreed for now that sensor-gathered data will be treated as a public asset, not a private one. (Sidewalk Labs did not respond to an interview request.)

The Toronto proposal has been controversial for other reasons. Notably, it sought oversight of much more than the original 12-acre parcel, dangling the possibility of locating a new Google Canadian headquarters along the city’s waterfront as part of a scheme that would give Sidewalk latitude over 190 acres of potentially

lucrative properties. This proposal was turned back, but spurred a useful debate about smart cities and equity.

Jennifer Clark, a professor and head of the City and Regional Planning Section at the Knowlton School of Architecture in the College of Engineering at the Ohio State University, has studied smart city efforts around the world. She is the author of *Uneven Innovation: The Work of Smart Cities*, forthcoming from Columbia University Press in February 2020. As Clark explains, technology businesses and government or planning entities come to these collaborations with distinct perspectives. Enterprises like Sidewalk Labs that are devoted to new city technologies, she says, “come from a particular orientation of thinking about who the ‘user’ is. They’re very much thinking through a consumer model, with users and consumers as essentially the same thing. That’s not how planners think about it in cities. Users are citizens.”

Similarly, companies designing technology meant to make a city “smart” are seeking a revenue model that will not just fund a given project, but can ultimately prove profitable—which guides the nature of their prototyping products and services that might eventually be applied elsewhere. Clark points out that a seldom-discussed element of the smart city phenomenon is its “uneven implementation.” Quayside and the wider waterfront redevelopment it is part of are expected to result in high-value properties, used and frequented by a demographic attractive to businesses.

“There’s an assumption that if you do these urban development districts, you’re experimenting on the model, you get the model right, and then you do broad deployment, so that there’s equity,” Clark says. But frequently, in practice, “there is no path to that.” Whatever innovations emerge tend to recur in demographically similar contexts.

What often underlies this dynamic is a kind of power mismatch. The private side of a development partnership is often richly funded, in a position to offer financial incentives, and

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thus to essentially dictate terms; the public side may have fewer resources, and less sophistication about assessing or fully deploying cutting-edge technology. But in this case, Clark notes, the Quayside story (which she addresses in her book) may be a bit different.

“Toronto has a history of community organizing and community development,” she notes. “And the community organizations there have a sophisticated understanding of the data collection practices that were proposed.” Thus the privacy pushback, and how it gets resolved, might prove to be the real lasting payoff, especially if it’s resolved in a way others can emulate.

A replicable model, one that offers guidelines for both technology and the rules that technology must play by, is essentially the outcome that Cavoukian wants. She is now working with Waterfront Toronto, and explicitly hopes that Quayside—with either Sidewalk Labs or new partners at the helm—can become a rejoinder to the surveillance-oriented versions of the smart city that are taking shape in tech-advanced urban areas from Shanghai to Dubai.

“We want to be the first to show how you could do this and put that out as a model,” she says. “We want a smart city of privacy.” □

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