

## (Dis)Connecting the Digital City

Among smart city enthusiasts, digital inclusion — the idea that nobody in the city should be deprived of digital technologies — is an oft-repeated social objective. “Our commitment to inclusion will be a hallmark of our work,” [Google’s Sidewalk Labs declared](#), for example, in its announcement of a smart city test-bed in Toronto. General Electric, another company in the budding smart city market, [confessed to being concerned](#) with whether its test lab in Union Point would be “more inclusive or energy efficient.” Cisco, which has traditionally focused on the engineering capabilities of smartness, repeatedly [refers](#) to the importance of creating “an atmosphere of social inclusion” in the city. Many local governments similarly [claim to invest in digital inclusion and equity](#) as they compete with one another to become the smartest place.

Despite such lofty commitments, the smart city is still a work-in-progress and its record in fostering social inclusion and diversity has been dismal so far. In places like San Jose and Seattle, high-tech growth has resulted in displacement and shrinking affordable housing. Sidewalks Labs [reportedly demanded](#) a proportion of Toronto property taxes and increased land value instead of funneling those resources into solving existing problems. Columbus, Ohio, which won a \$50 million grant in 2016 to implement smart technologies that connect low-income residents to medical care, [has yet to come up](#) with a concrete plan, let alone execute it. LinkNYC, the Wi-Fi kiosks in New York City that replaced phone booths and offered to bridge the city’s digital divides, not only [fell short of its promised 7,500 kiosks](#), but the installed kiosks are densely located in the well-off parts of Manhattan and Brooklyn rather than neighborhoods that are in more urgent need of better internet access. On top of all that, there is a significant lack of [transparency](#), [public engagement](#), [accountability](#), and oversight in this ongoing merging of public and private infrastructures.

If technological interventions are as apt to deepen divides as redress them, why do proponents insist on the smart city’s promise of lessening urban inequalities? Rather than trying to ascertain whether these concerns for digital

inclusion are a rhetorical flourish or a genuine attempt at a do-over in delivering equity, my work takes smart city enthusiasts' recognition of inequality as an object of research. I examine how actors at the core of the smart city — public officials, tech companies, and local entrepreneurs — attempt to rectify perennial urban divides via smart technologies, and how those who are the target of such interventions respond. For the last five years, I have been studying Kansas City's digital transition toward becoming "[the most connected city](#)" in the world, a journey that started off with becoming the first place to receive [Google Fiber back in 2011](#) and continued with a smart city pilot that was launched in 2015 in collaboration with [Cisco](#), [Sprint](#), [Think Big](#), and [Smart City Media](#). Between 2015 and 2018, I lived in Kansas City, Missouri, to observe how this pilot was designed, implemented, and evaluated. I also interviewed 110 people about their experiences of living in a place whose future seemingly relied on digital infrastructures.

Using smart technologies to make Kansas City a more equitable place was more of a collective effort than a few tech companies' pursuit of good publicity. Since the first day I arrived in the city, I found a widely accepted social concern to foster digital equity. After [Google Fiber spotlighted the racial-spatial divide of Kansas City](#), many civic leaders focused on expanding access, and a [Digital Inclusion Coalition](#) was established in 2014. Members of the coalition came from neighborhood-based nonprofit organizations, public officials, libraries, and public schools. Along with [Google](#), Kansas City's [Kauffman Foundation](#), and the [Kansas City Public Library](#) were early supporters of nonprofits in digital inclusion, such as [Connecting for Good](#), [W.E.B. Dubois Learning Center](#), and [aSteam Village](#). In addition to these initiatives, in the summer of 2016, the White House and the U.S. Department of Housing and Urban Development (HUD) announced the "[ConnectHome](#)" initiative to expand broadband access for low-income families. Kansas City, again, became one of the pilot cities with Google Fiber as its corporate partner. The City of Kansas City, Missouri, adopted a [Digital Equity Strategic Plan](#) in March 2017 to demonstrate civic commitment to the issue.

Yet most digital inclusion programs in Kansas City struggled to achieve their goals. A [2019 study](#) found that while there was an increase in home broadband adoption since 2013, Kansas City, MO, and Kansas City, KS, still lag behind the national average when it comes to low-income households.<sup>1</sup> Public officials and community organizers still have a hard time demonstrating the effectiveness of their grassroots interventions, which is crucial to sustain funding and public attention to the cause. Even the [ConnectHome](#) initiative, which offered Google Fiber's free, gigabit-speed internet service to public housing residents, did not report on any successful results after it was installed and was quietly folded by the end of the Obama administration.

It is tempting to write off the inclusive rhetoric of the smart city as mere corporate hype. But if connectivity is not just a necessity, but also the defining civic virtue of the so-called smart city, how should we explain this persistent failure even when there are resources and people dedicated to digital inclusion in the making of the smart city?

My research offers three answers to this question. The first one is perhaps the most obvious: As several [scholars](#) have [strongly argued so far](#), there are no technological fixes for upending the longstanding consequences of racial divides and enduring poverty in cities – even when, in some cases, public officials, techies, and nonprofit organizations have the best intentions. In my interviews as well as in public announcements, many of my interlocutors even acknowledged that technology could not be a standalone solution. Yet most of their efforts in digital inclusion were dedicated to tech-centric activities, such as upgrading internet access, providing affordable devices, or organizing digital skills trainings. All of those were, undoubtedly, helpful for residents in one way or another. But they also shifted the attention away from the root causes of longstanding issues, such as disparities in educational success, poor

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<sup>1</sup> According to the study, broadband adoption by families whose annual incomes are below \$20k is 57.5% in KCMO and 50.4% in KCKC while the national average is 59.3%.

<https://www.shlb.org/news/shlb/2019/12/Digital-Divide-Closing-But-Still-Challenging-in-Kansas-City/>

transportation, and the lack of trust between public officials and low-income, minoritized populations. As one member of the [Kansas City Digital Inclusion Coalition](#) suggested, digital inclusion became such an overwhelming concern when “Google Fiber had to remediate the problem that they created with their initial installation.” And with that, she recalled “came a pot of money.” Suddenly, “digital inclusion became a thing that we were going to have to combat.”<sup>2</sup> Another member observed that the monthly meetings of the coalition made “[members] feel good about empathy without making them uncomfortable [about divides] at all or creating spaces where they could be confronted.”<sup>3</sup>

Second, this collective fixation on connectivity not only discounted the varying degrees of tech-savviness that already existed across neighborhoods, but also ignored the complexity of what it is like for people to juggle several needs and wants within a limited budget. Many of my interlocutors in the coalition, for example, suggested that digital inequalities persisted in Kansas City because of an “adoption problem,” by which they referred to a lack of interest among low-income residents in smart technologies or connectivity. That is a grave misunderstanding. Many studies have repeatedly demonstrated that most [low-income residents agree](#) on the positive benefits of the internet and have to rely on [mobile forms of connectivity](#) rather than home access. And most of the time they simply [cannot afford](#) to have home access, let alone [keep up with the maintenance of devices](#).

When connectivity moves beyond home access, digital inclusion in the smart city faces another conundrum, which brings me to my third point. The newest wave of publicly available connectivity is increasingly enveloped within surveillance technologies. Digital kiosks available on sidewalks are equipped with cameras and sensor technologies that collect and retain a large swath of information. Public Wi-Fi on streets or in transportation is subsidized by gathering data on passersby and offering tailored advertising. When Google, for

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<sup>2</sup> Interview with anonymous, December 7, 2016.

<sup>3</sup> Interview with Bill Mullins, December 6, 2016.

example, offers free internet access in [schools](#) or in [public housing](#), along with low-cost device and free software, the options are limited to Chromebooks and Google products, and it is never clear what kind of data are collected by the company. Publicly available connectivity, which is considered to be a key element of digital equity, is “[privacy-poor, surveillance-rich](#),” as Seeta Gangadharan succinctly puts. Thus, these new technologies are usually met with [reluctance](#), especially in historically marginalized neighborhoods, due to longstanding distrust in public institutions and experience with surveillance. [A recent survey](#) with public housing residents in a U.S. city, for example, found that privacy concerns were a major barrier to connectivity; a stark contrast to the national pattern which identifies privacy as one of the least-mentioned reasons why some Americans stay offline. Public officials and tech companies, however, tend to dismiss low-income residents’ reservations as a failure to appreciate these state-of-the-art urban technologies.

For many urban residents, it has become highly difficult to opt out or even reasonably manage what we lose or gain by merely remaining connected. Digital kiosks or smart streetlights ostensibly promise better connectivity for residents, but they also indiscriminately aggregate and analyze various sources of public and private data without any clear explanation of how it will be used or accessed. Cities should reckon with the consequences of this complex merging of connectivity and surveillance instead of uncritically supporting these new infrastructures. A shared belief that connectivity is a public virtue blinds public officials and advocates to the privacy and surveillance concerns of underserved neighborhoods who become the targets of digital inclusion.

Prioritizing wiring the city as thoroughly as possible and skipping over difficult, yet essential, public conversations about surveillance, power, and collective rights to privacy runs the risk of further exacerbating existing divides. Rather than blanket assumptions, we need to identify the [racialized, gendered, and classed experiences of connectivity](#) in the city and recognize different groups’ right to self-determination regarding digital infrastructures.

Burcu Baykurt is an assistant professor of urban futures and communication at the University of Massachusetts Amherst. Baykurt is the 2019 recipient of the *Charles Benton Early Career Scholar Award presented by the Research Conference on Communications, Information and Internet Policy (TPRC)*. The award recognizes significant achievement by an early-career scholar in the areas of digital inclusion and/or broadband adoption, as evidenced by an empirically-based research paper, a policy proposal with justification, or an original essay.