



# Digital LIVES

in the

# Global City

Contesting Infrastructures

EDITED BY

Deborah Cowen,  
Alexis Mitchell,  
Emily Paradis,  
and Brett Story



UBC Press • Vancouver • Toronto

© UBC Press 2020

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, without prior written permission of the publisher.

### Library and Archives Canada Cataloguing in Publication

Title: Digital lives in the global city : contesting infrastructures / edited by Deborah Cowen, Alexis Mitchell, Emily Paradis, and Brett Story.

Names: Cowen, Deborah, editor. | Mitchell, Alexis, 1983- editor. | Paradis, Emily, 1968- editor. | Story, Brett, editor.

Description: Includes bibliographical references and index.

#### Identifiers:

Canadiana (print) 2020025815X |  
Canadiana (ebook) 20200260480 |  
ISBN 9780774862387 (softcover) |  
ISBN 9780774862394 (PDF) |  
ISBN 9780774862400 (EPUB) |  
ISBN 9780774862417 (Kindle)

#### Subjects:

LCSH: Cities and towns—Technological innovations. | LCSH: Technology—Social aspects. | LCSH: Sociology, Urban. | LCSH: City and town life. | LCSH: Smart cities. | LCSH: Online social networks—Social aspects. | LCSH: Information society.

Classification: LCC HT153 .D54 2020 |  
DDC 307.76—dc23

### Canada

UBC Press gratefully acknowledges the financial support for our publishing program of the Government of Canada (through the Canada Book Fund), the Canada Council for the Arts, and the British Columbia Arts Council.

This book has been published with the help of a grant from the Canadian Federation for the Humanities and Social Sciences, through the Awards to Scholarly Publications Program, using funds provided by the Social Sciences and Humanities Research Council of Canada. We also acknowledge support from Furthermore, a program of the J.M. Kaplan Fund.



Set in Gilam and Sabon by Artegraphica Design Co.

Copy editor: Lesley Erickson

Proofreader: Caitlin Gordon-Walker

Indexer: Judy Dunlop

Cover designer: Martyn Schmolli

Illustrations on pages 18–19, 114–15, and 206–7: Lize Mogel

UBC Press

The University of British Columbia

2029 West Mall

Vancouver, BC V6T 1Z2

[www.ubcpres.ca](http://www.ubcpres.ca)

This book, and the collaborative research out of which it emerges, is anchored in the work of activists organizing for urban justice around the world. The collection took nine years to bring into being and materializes in 2020 to a world on fire, with longstanding urban struggles for Black lives, migrant rights, and racial, economic, environmental, and infrastructural justice reaching a boiling point. In the context of the global pandemic, political life and digital life are ever more and inextricably entangled. This collection archives this extraordinary moment and reminds us that activists, artists, and scholars were taking up these issues long before they were “laid bare” by COVID-19. We dedicate this work to the movements and communities organizing for change – those whose labour has gotten us to this definitive moment, and those who are working to take global urban life into a more just future.



## ● Contents

- ix Foreword: The Towers in the World, the World in the Towers | *Katerina Cizek, director of the NFB's Highrise project*
- xv Foreword: When Localities Go Global | *Saskia Sassen, Robert S. Lynd Professor of Sociology at Columbia University*
- 3 Introduction | *Deborah Cowen, Alexis Mitchell, Emily Paradis, Brett Story*

### TORONTO

- 21 Digital Debt in a Precarious City | *Emily Paradis, Heather Frise*
- 46 Toronto's Unsecure(d) Urban Debtscape | *Alan Walks*
- 57 Automating Social Inequality | *Krystle Maki*
- 65 ACORN's Campaign for Affordable Access | *Judy Duncan, ACORN*
- 73 Transmutations | *Nehal El-Hadi*

### SECURITY AND SURVEILLANCE

- 85 Digital Borders and Urban Worlds | *Stephen Graham*
- 89 Audre Lorde's File and June Jordan's Skyrise | *Simone Browne*
- 94 Policing the Future(s) | *R. Josh Scannell*
- 102 Policing Borders through Sound | *Anja Kanngieser*
- 108 Big Data Meet Location Monitoring | *James Kilgore*
- 112 Digital Apartheid | *Visualizing Impact*

## MUMBAI

- 117 Mumbai Rising, Buildings Falling | *Emily Paradis, Brett Story, Deborah Cowen*
- 145 On “Market-Friendly” Planning in Mumbai | *Hussain Indorewala, Shweta Wagh*
- 153 Kashaf Siddique on Being Precariously Home in the Suburbs | *Deborah Cowen, Kashaf Siddique*
- 160 Dispatch from Mumbai | *Deborah Cowen, Paramita Nath*
- 167 #WhyLoiter | *Shilpa Phadke, Sameera Khan*

## SHIFTING AND SCRIPTING URBAN LIVES

- 175 High-Altitude Protests and Necropolitical Digits | *Ju Hui Judy Han*
- 179 Terabytes of Love | *Indu Vashist*
- 186 The Most Hated Woman in Israel | *Shaka McGlotten*
- 194 DIY WI-FI | *Heather Frise*
- 200 Network Dislocations | *Nicole Starosielski*

## SINGAPORE

- 209 The Labour of Global City Building | *Alexis Mitchell, Deborah Cowen*
- 233 Skyline of Dreams | *Grace Baey*
- 238 Sunny Island Set in the Sea | *Charmaine Chua*
- 248 Singapore as “Best Home” | *Natalie Oswin*
- 260 Not another Cinderella Story | *Symon James-Wilson*
- 271 Acknowledgments
- 273 Contributors
- 277 Index



## ● Introduction

Deborah Cowen, Alexis Mitchell, Emily Paradis, Brett Story

**OUR TEAM OF RESEARCHERS** and filmmakers stands between two tall buildings. These buildings, once a model of the modernist “towers in the park” style, now inhabit a poorly lit space criss-crossed with fences and crumbling sidewalks.

The surrounding neighbourhood also shows signs of disinvestment: retail space is sparse, public transit is inadequate, and decent employment opportunities are almost nonexistent.

Inside the towers, infrastructure fails: elevators malfunction, heating systems struggle, walls grow mould.

But these towers are also home to hundreds of remarkable residents from all corners of the earth. They pay steep rents to private property owners. The vast majority were born outside of the country. More than half have migrated to Toronto within the last decade. Collectively, they speak dozens of languages. Here, survival can depend on digital infrastructures, on the ability to use them to stay connected to the world and, when necessary, to resist the growing inequalities of power and wealth these technologies enable.

Welcome to life in the global suburb.

In 2008, residents of two buildings in the suburban neighbourhood of Rexdale, Toronto, became partners in the National Film Board of Canada’s *Highbribe* project, a series of interactive web documentaries that charted how the global explosion of high-rise living was changing the urban experience. Over the next seven years, working in collaboration, teams of residents, documentary filmmakers, and scholars, including ourselves, explored the realities and possibilities of life in these towers

through photography, design, video, and the creation of interactive online environments. This book is a unique outgrowth of that project, particularly the final online documentary, *Universe Within: Digital Lives in the Global Highrise*.

While working on *Highrise*, we learned that the two buildings had much in common with high-rise housing throughout Toronto's inner suburbs. In contrast to the increasingly white, professional downtown core, the suburbs have become diasporic zones where poverty goes hand in hand with newcomer or racialized status. Decades of inner-city gentrification and rising housing prices have pushed communities of colour to inner-suburban areas such as Rexdale. The suburbanization of lower-income, racialized, and otherwise marginalized communities is a phenomenon shared by many cities in North America and around the world. In a sense, it is the flip side of gentrification, and it is deeply bound up with financialization (the growth and dominance of financial institutions and markets) and the globalization of urban real estate markets.

This project was born in a very particular time and space; 2011 was a year of extraordinary political revolt around the world. Mainstream and social media featured a steady stream of accounts, images, and analyses of protest movements erupting across the globe. In the *Guardian*, for instance, John Harris reflected on this conjuncture of popular uprisings, and the Occupy movement in particular, and identified a series of other place-specific revolts or "convulsive events" in "Tunisia, Egypt, Libya, Bahrain, Syria, and Yemen. Mass protests against economic breakdown and austerity in Greece, Italy, and Spain. Marches and protest camps in Chile and Israel."<sup>1</sup> Revolts marked 2011 as exceptional not only because of their quantity but also because of their particular qualities. Writing in the *Financial Times* on August 29, in an article titled "The Year of Global Indignation," Gideon Rachman emphasized common provocations: "Many of the revolts of 2011 pit an internationally connected elite against ordinary citizens who feel excluded from the benefits of economic growth, and angered by corruption."

These claims about the deepening nature of global economic divides are well supported by research. In advance of the 2015 World Economic Forum, Oxfam launched a major report on global inequality that highlighted that the world's eighty-five richest people are now as wealthy as the poorest half of the global population. Directly echoing the Occupy movement, Oxfam elaborated that "the combined wealth of the richest

1 percent will overtake that of the 99 percent next year unless the current tide of rising inequality is checked.”

Although deepening economic inequality was a pervasive theme across many of these revolts, their specific contexts also mattered: some groups were resisting authoritarian states, others were protesting colonial occupation, and still others were critiquing the dramatic polarization of wealth and the privatization of public spaces, services, and infrastructures that define contemporary urban life in so many contexts. These protests were not the same, but they were connected: they were all responses to different incarnations of globalized capitalism, imperialism, and authoritarianism. They were all connected through what geographers might call geopolitical economic violence.

The 2011 revolts were also connected literally and materially through digital technologies. In his article, Rachman commented on the “mysterious” nature of a “global mood” that the revolts were both reflecting and creating. It is true that the complex and multiple sources of any mood will remain a mystery. But we recognized that the creation of a global mood on this vast scale depended on real links and associations – in other words, on infrastructures: the material and social systems that make daily and human life possible or, as Brian Larkin famously wrote, the “matter that enable the movement of other matter.”<sup>2</sup> As infrastructures have multiplied, expanded, and intensified over time, they have become critical to modern life, and by “critical” we mean as necessary as air or water.<sup>3</sup> It is almost impossible to imagine life today without the infrastructures that connect us. When infrastructure works, it often goes unnoticed and is devalored because, as Bruce Robbins has argued, it both belongs to the public domain and “smells” of the public. When it fails, it becomes visible, and we become aware of our dependence on it and on just how interlinked we have become.<sup>4</sup>

But even as infrastructure and technologies connect us, they also divide us because access to them is deeply uneven, creating hierarchies of digital citizenship based on class, race, education, gender, age, and location.<sup>5</sup> North Americans have the highest rate of access while Africans have the lowest, yet there is dramatic unevenness within regions and cities.<sup>6</sup> For instance, in American cities, telecommunications companies often engage in “electronic redlining,” actively limiting the infrastructure available to “minority neighbourhoods.”<sup>7</sup> Uneven access to infrastructure creates what Doreen Massey in her classic 1991 essay “A Global Sense of

Place” referred to as “power geometries,” stark divisions between rich and poor regions and between social classes.<sup>8</sup> Digital technologies have helped shift economic and political power to the private sphere at the expense of the state, women, workers, and citizens in general, making private market ownership and operation of infrastructures a defining feature of the government of digital citizenship, particularly in the global south.<sup>9</sup>

The revolts of 2011 demonstrated that digital technologies, as both a tool for protest and a source of division, were deeply woven into contemporary political and urban life. Commentators pointed to the instant power of “BBM,” or Blackberry Messenger, to draw people together in the streets during the London riots, and they highlighted Twitter’s and Facebook’s role in sustaining the transnational networks that underpinned the Arab Spring in the cities of Egypt, Tunisia, and beyond.<sup>10</sup> In these cases and others, the power of the digital to alter the landscape of political acts and identities was brought into focus. So-called internet activism was lauded for its capacity to transcend the traditional limits of state sovereignty and space: activism could now take place in public or private spaces, from the centre of Tahrir Square or from a living room halfway around the world.

Digital technologies were fostering connections not only within particular geographic contexts and movements but also between them. Social media in particular seemed to be allowing groups to connect across different social and spatial locations and, in doing so, to transform the relationship between people, places, and politics. Indeed, the movements of 2011 were connected in at least one more profound way – through geographies that were overwhelmingly urban and simultaneously transnational. Acts of revolt were defined by an explicitly urban geography and lexicon – that of Cairo, Tunis, Oakland, London, Hong Kong, or Athens. Urban sites of symbolic, political, and economic importance – sites such as squares, bridges, roads, and parks – were stages for many of the most dramatic standoffs between protesters and police. And coalitions across movements highlighted the transnational nature of this urban geography – for instance, through Twitter and Facebook, acts of solidarity could circulate between New York and Cairo or between Oakland and Gaza. The protests made it clear that digital infrastructures are not simply located within urban centres – they literally constitute contemporary urban life. The physical infrastructures of the

city offer the spaces and material structures of digital connectivity, and digital technologies, in turn, provide the infrastructures of circulation and communication for the city. When people take control of digital technologies in these spaces, they, too, become infrastructure in Larkin's sense of "matter that enables the movement of other matter."<sup>11</sup>

Today, cities are magnets for migrants, spaces of contestation, targets of state and nonstate terror, objects of securitization, built forms for speculation and surplus capital, and media for the mass accumulation and mass dispossession of wealth. Likewise, urbanization has become such a definitive feature of modern life that disciples of the so-called urban revolution believe that it now drives global accumulation, stealing the lead from industrialization. Scholars are now engaged in lively debate about planetary urbanization, a thesis that suggests that cities are not simply home to most of the planet's human population but, more importantly, set the tone and pace for global social, political, and economic life.<sup>12</sup> Consider that you don't even need to live in a city to feel the effects of planetary urbanization. Nor do you need to live with apps and devices to feel the effects of digital life. The digital and urban revolutions mean that events that happen in one part of the world are profoundly and instantly connected to other places.



To understand how these trends were playing out in the lives of suburban residents in Toronto, in 2011 we began working with fifteen residents of the two high-rise buildings. Over six weeks and using fourteen different languages, resident-researchers went door to door and, with their neighbours' consent, undertook a substantial survey of their digital lives. We then repeated the survey in 2014. We learned that although the residents' lives were financially precarious, almost all households had internet access in their homes: in 2011, the rate was 80 percent, and by 2014 it had increased to over 90 percent.

High-speed internet is notoriously expensive in Canada, yet residents were making it a priority in their household budgets. A substantial portion, as many as 25 percent, were sacrificing food to afford it. Debt was also clearly becoming a key means through which members of these communities were providing this critical but privatized infrastructure for their families and loved ones. We visited a young refugee who had no furniture or decorations in her apartment except for a computer, the

desk upon which it sat, and a small bed in the corner. All of her resources went towards her digital expenses first. In fact, residents likened the internet to water or air. We learned that residents used the internet for profoundly “extended” intimacies – to virtually sleep with their loved ones, meet their grandchildren for the first time, or spend a day with family members back home.

What we discovered flew in the face of much of the standard research on digital divides, which posits that low income and low access are inevitably paired. The residents’ stories demonstrated that their local and transnational lives were profoundly supported by digital technologies. People’s lives and loved ones are now stretched across the globe and materially underpinned by email and Skype and by electronic money transfers and digital news media. On the global scale, diaspora demands the digital.<sup>13</sup> Likewise, at the local level, in the city – where connecting with members of your community, getting to a job, or running errands can be deeply challenging and time-consuming, in no small part due to a lack of public space and poor transit options – digital technologies and connectivity are essential.

If the explosion of revolts in 2011 pushed us to think more carefully about the implications of urban and digital transformations for modern life and citizenship, this less sensational finding caused us to see that focusing on spectacular events can overshadow sustained investigation of the more subtle and quotidian ways that the digital is reshaping urban life.<sup>14</sup> In all the speculation, analysis, and celebration that followed the events of 2011, many important questions remained unanswered. At the level of everyday life, is being political now also a question of being digital?<sup>15</sup> More crucially, even though we can’t see it, how is networked urbanism sculpting our political landscapes?

Our observations of digital life in the two suburban high-rises in Toronto prompted us to expand our focus. We initiated research and documentary work to explore (1) how digital technologies are remaking urban space and urban life in other places and (2) how people are making use of those same technologies to organize alternative futures. This collection draws on the extensive fieldwork and multiple research partnerships we entered into in Toronto and two other important global cities – Mumbai and Singapore – but it also mobilizes more targeted documentary work completed in a dozen other cities.

Viewing digital technologies and urban environments as infrastructures that can both connect and contain us, we set out to answer broad questions about political life today. How are transformations in digital technologies and urban space remaking citizenship and political life? How does thinking about the digital and the urban as critical and intersecting infrastructures facilitate creative thought about agency, identity, and subjectivity in this moment and about uneven global circulations of power and capital? Indeed, because access to infrastructure is organized along the lines of class, race, gender, education, age, and location, some people and groups have no direct access to the infrastructures of connection, and yet they are still governed by them, an inequality that influences the stories we tell, how we tell those stories, and who is able to tell them in the first place. These are the classic problems of positionality and reflexivity that feminist scholars have long grappled with, and we return to these questions after first outlining our investment in this work.

To ensure that we would foreground the most pressing stories, we adopted Richa Nagar and Susan Geiger's approach to fieldwork and asked: How can we "produce knowledges across multiple divides without reinscribing the interests of the privileged?"<sup>16</sup> Like Nagar and Geiger, we strove to situate knowledges and solidarities *in place*. As they argue, where we live determines how we think about the world, whom we ally with and feel committed to, and how we participate in movements for social change. Our fieldwork sought to cultivate situated solidarities, not only between the research team and local communities but also among local actors.

In Toronto, Singapore, and Mumbai, we collaborated with local scholars, activists, artists, journalists, and grassroots organizations to plan and execute the research and documentary work. We wanted to avoid an extractive model of research and instead spark conversations, networks, and products (such as this book) that would advance local projects of resistance and endure beyond the project. Over Skype and by email, we worked with partners in Mumbai and Singapore for months before our fieldwork began, planning a research and documentary process that would have intrinsic benefits for everyone involved. With their input, we selected research strategies that met local needs, from traditional interviews and focus groups to arts-based methods such as Photovoice. Once our team was on the ground in each city, we worked closely with partners

to respond to emergent stories and actions, modifying plans as necessary and making research materials and processes available for use by local actors.

In Mumbai, for example, we based our inquiries in three different places. One was an affluent building in South Mumbai that came to our attention via its residents' sophisticated and well-resourced social-media campaign. The other two were working-class neighbourhoods in Mira Road, a distant commuter suburb whose residents had considerably less access to the tools, languages, and infrastructures of advocacy. At the project's closing forum, we brought together residents from all three sites, along with local scholars and nongovernmental organizations, to share information about their local struggles and to consider collective responses. The connections made that day reverberated in ways we could not have predicted. More than two years later, one of the planning scholars we had worked with was invited to present a social-impact statement on a proposed rezoning in Mira Road. Her intervention drew on the experience of residents at one of the sites.

This volume features the work of celebrated scholars, but we also include a range of voices, including those of the research participants. The diversity of the contributors reflects, we believe, our commitment to understanding both global transformations and the experiences of those on the ground, including, centrally, the perspectives of people who are actively navigating, and often shaping these transformations. Text is one key element of the book, but much like the experience of modern, digitized urban life, it is not the only narrative medium. We also mobilize some of the best elements of the online experience. Images are not only plentiful and a product of our partnership with the National Film Board of Canada but also a means through which connections are drawn, arguments are elaborated, and stories are told. Maps and other forms of data visualization such as infographics are also interspersed through the essays, which are visually appealing and of varied lengths.

We start in Toronto, in the Rexdale high-rises where our project began. In "Digital Debt in a Precarious City," scholar Emily Paradis and filmmaker Heather Frise map the digital divide onto the city. They show that, on the one hand, residents are grappling with the digital as a critical infrastructure of everyday life, a medium for sustaining intimate ties, and a tool for the reinvention of transnational citizenship. On the other hand, digital technologies are also a mechanism for the extraction of

wealth from – and the transfer of risk and debt onto – low-income households and neighbourhoods. The pieces that follow zoom in. Geographer Alan Walks surveys the city’s debtscape, mapping the uneven social and spatial distribution of debt and its link to financialization. Sociologist Krystle Maki investigates the digitally enabled surveillance of Ontario welfare recipients, showing how workfare regimes are applying new technologies to the age-old functions of gendered and racialized moral regulation of the urban poor. Organizer Judy Duncan takes us inside ACORN Canada’s campaign for affordable internet access led by low- and moderate-income community members. Finally, in “Transmutations,” scholar and writer Nehal El-Hadi offers a textual assemblage – a collage of voices and ideas – through which she pieces together a theory of the production of presence and reveals how women of colour activists in Toronto are using online activities to claim their right to the city.

Rather than proceeding straight to Mumbai, we take a detour to explore the twinned themes of security and surveillance and what they reveal about digital technology and urban transformations. In “Digital Medieval,” geographer Stephen Graham takes a global view of military tactics, positing that new digital surveillance and tracking technologies are producing fortified, urban enclaves and camp-like enclosures in and between cities around the world. Author and educator Simone Browne and securitization scholar Joshua Scannell narrow the lens. Browne explores the connections between the invention of closed-circuit television equipment and the ubiquitous surveillance of African American urban neighbourhoods. Scannell examines the rise of megadata technologies and their use by US police forces, in particular the development of an NYPD initiative called the Domain Awareness System and its integration into so-called predictive policing programs. In “Policing Border through Sound,” activist scholar Anja Kanngieser widens the focus once again to investigate the sonic governance of space. Writer and activist James Kilgore’s piece on the rise of electronic monitoring by correctional authorities reinforces Scannell’s criticisms of digital technologies as new tools of racialized urban social control. Finally, Visualizing Palestine, a graphic research collective, offers a set of infographics that showcase the digital apartheid that characterizes and organizes the lives of Palestinians in the Occupied Territories.

We then travel to Mumbai to explore the financial and digital infrastructures that are organizing dispossession and resistance in the outer

geographies of this globalizing city. In “Mumbai Rising, Buildings Following,” scholars Emily Paradis, Brett Story, and Deborah Cowen employ three case studies to examine the intersection of finance capital, digital media, and protest as they play out in the lives, and buildings, of diverse Mumbai residents. Our understanding of the complexities of global real estate capital, digital infrastructure, and urban planning is deepened by architects Hussain Indorewala and Shweta Wagh’s piece on Mumbai’s recent development plans and the market-friendly planning regime they secure. To better understand a community’s battle for their homes in the contested suburb of Mira Road, geographer Deborah Cowen interviews Kashaf Siddique, millennial Mumbai activist and resident. Filmmakers Paramita Nath and Deborah Cowen report from the frontlines of a heated standoff between community members and the local state when, following an expansive social media campaign, residents barricaded themselves inside their Mumbai highrise compound to protect their building from demolition. Finally, sociologist Shilpa Phadke and independent journalist Sameera Khan’s contribution connects this section back to the city and digital technologies.

Before proceeding to Singapore, we stop to reflect on the many ways that technology is scripting and shifting how people are experiencing the urban environment, how it is changing not only our material worlds but also our emotional and experiential worlds. The section opens with “High-Altitude Protests and Necropolitical Digits,” in which geographer Ju Hui Judy Han maps activism and protests in Korea, and the section ends with communications scholar Nicole Starosielski’s “Network Dislocations,” which, by tracking the movement of submarine cables towards and away from urban hubs, makes visible the often invisible technologies that structure our daily lives. In between, artist Indu Vashist shows us how taxi apps are shaping everyday movements and politics in India; media studies scholar Shaka McGlotten delves into the complexities at the intersections of queer performance and digital life in “The Most Hated Woman in Israel,” a reference to YouTube performance artist Natali Cohen Vaxberg; and artist and researcher Heather Frise explores the use of alternative internet networks to overcome the problems of network affordability and corporate and government control.

Finally, we arrive at Singapore, a city known for its billion-dollar high-rises, shopping malls, and technological advancements. Scholars Deborah Cowen and Alexis Mitchell dig past the veneer of a city-state

built on progressive housing mandates to look at the often forgotten and exploited foreign labourers who work to build and staff the city's high-rises and whose experiences speak to the complex ways technological advancements are both structuring and hindering their everyday lives. In "Skyline of Dreams," photographer Grace Baey relates the heavy costs and physical burdens of the job, including injuries, negligible support, and being forced into precarious positions. Political scientist Charmaine Chua's "Sunny Island Set in the Sea" shifts the focus to the base material of the cityscape – sand. By examining its geopolitical prominence in both the construction and technological sectors, Chua homes in on the exploitation, global inequality, and environmental destruction associated with this ubiquitous material. Geographer Natalie Oswin switches the focus from material narratives of the city to the social and political, writing about the city's grand narratives and checking them against the realities of foreign domestic labour, sexual health practices, and heteronormative city regulations. Lastly, geographer Symon James-Wilson showcases the creative ways foreign labourers are relying on digital technologies to undo or rescript dominant narratives. Each piece in the section opens a new window and perspective on a city that prides itself on its stories. Each is a creative intervention to renarrate the everyday experience of living and working in Singapore.



At first glance, the issues and conflicts we document in these pages appear to be quite diverse. Digital debt in Toronto. Struggles over unsafe and illegal buildings in Mumbai. The conditions of migrant work in Singapore. They appear to be disparate, yet they are symptoms, or diagnostic events, of globalized digital life. The digital has clearly emerged as a critical infrastructure in the modern era. Indeed, digital technologies are opening up myriad mundane ways for people to temporarily fix a whole range of pervasive (perhaps systemic) contemporary problems, including the dislocations and separations caused by the urban revolution, the movement of people around the world, and the deeply classed and segregated nature of urban space. In this context, digital technologies are having profound yet contradictory impacts. On the one hand, they are creating new challenges and deep injustice. On the other, they are allowing new forms of human creativity and connectivity to flourish.

Without a doubt, vastly different histories and future trajectories are defining cities around the world. Some cities are shrinking while others are experiencing dramatic rates of growth. Some are experiencing massive deindustrialization while others are seeing extraordinary industrial expansion. In some regions of the world, informal settlement is the dominant style of urbanization; elsewhere, centralized planning remains the norm.<sup>17</sup> Nevertheless, despite extraordinary variation in the physical, social, economic, political, and cultural shape of cities, it is clear that urban growth and change are transnational in scale, and it is now difficult, if not impossible, to imagine contemporary urban life without the digital. Cities have become networked environments. Almost all cities in the global north or south contain the physical traces of digital connectivity. Their built form is increasingly designed to accommodate the infrastructures and cultures of digital life. Wi-Fi zones, cable boxes, charging stations, and surveillance systems are all fragments of these forms. In a polarized city such as Mumbai, billboards advertising mobile phones cover the flyovers that stitch together the urban fabric. In “slum” settlements of the city’s urban core, satellite dishes carpet the rooftops of informal housing while high-rises fill the horizon on the urban fringe. In Singapore, migrant construction workers, who labour under atrocious conditions, use their mobile phones to send a dollar at a time home to their families in Bangladesh, when they can send anything at all. In Toronto, private digital networks have become critical infrastructure and drive up debt in already stressed diasporic suburban communities.

Yet, as this collection shows, the impact of digital technologies and infrastructures are profoundly uneven. Digital divides reflect social divisions happening in other realms, and digital technologies can amplify them or even create new forms of disparity. Digital urban life is being forged through contradictory forces and feelings. To put it simply, digital technologies divide and connect, harm and help, often at the same time. The digital cannot be simply embraced or entirely shunned.

The contradictory experience and effects of digital technologies surrounded us in our research. In Singapore, for instance, we met domestic workers from Indonesia who were aggressively monitored by their employers through information and communications technologies such as closed-circuit television and cellphones. With few other employment options that allow them to earn a living and sustain families back home, many of these women said they had little choice in the matter. But many

also expressed deep attachment to these same digital devices. They highlighted how they could occasionally call their daughters and sisters on the same device used to monitor their movements, a contradiction that provoked conflicting feelings of attachment, desire, and alienation. The gendered intimacy of domestic labour relations and the blurred boundaries of public and private that domestic workers navigate, are not only extending to ICT, but being reconstituted by it. Thus, the contradictory nature of connectivity is not simply about some people having better access than others but about the intimate “internal” divides that technologies and infrastructures orchestrate. Embedded in technology is design, and design makes some things more possible than others. But design can be overwhelmed. People can repurpose. So we launch into this journey, resisting utopian and dystopian impulses while nevertheless holding a firm critical eye on the workings of digital sub/urban life.

## NOTES

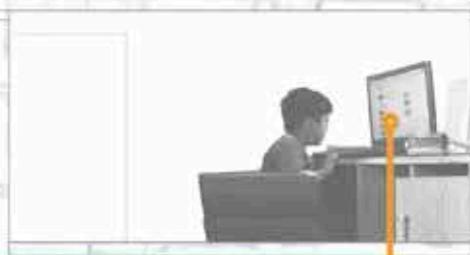
- 1 John Harris, “Global Protests: Is 2011 a Year That Will Change the World?,” *The Guardian*, November 15, 2011.
- 2 Brian Larkin, “The Politics and Poetics of Infrastructure,” *Annual Review of Anthropology* 42 (2013): 329.
- 3 Anne Spice, “Fighting Invasive Infrastructures: Indigenous Relations against Pipelines,” *Environment and Society: Advances in Research* 9, 1 (2018): 40–45.
- 4 Susan Leigh Starr, “The Ethnography of Infrastructure,” *American Behavioral Scientist* 43, 3 (1999): 377–91; and Bruce Robbins, “The Smell of Infrastructure: Notes toward an Archive,” *Boundary* 234, 1 (2007): 25–33.
- 5 See Omar Salamanca, “Road 443: Cementing Dispossession, Normalizing Segregation and Disrupting Everyday Life in Palestine,” in *Infrastructural Lives: Urban Infrastructure in Context*, ed. Stephen Graham and Colin McFarlane, 114–36 (New York: Routledge, 2015); Majed Akhter, “Infrastructure Nation: State Space, Hegemony, and Hydraulic Regionalism in Pakistan,” *Antipode* 47, 4 (2015): 849–70; Vyjayanthi Rao, “Infra-City: Speculations on Flux and History in Infrastructure-Making,” in *Infrastructural Lives: Urban Infrastructure in Context*, ed. Stephen Graham and Colin McFarlane, 39–58 (New York: Routledge, 2015). On the uneven distribution of infrastructures and technologies, see Tracy Kennedy, Barry Wellman, and Kristine Klement, “Gendering the Digital Divide,” *IT and Society* 1, 5 (2003): 149–72; Hiroshi Ono and Madeline Zavodny, “Gender and the Internet,” *Social Science Quarterly* 84, 1 (2003): 111–21; Jan A.G.M. Van Dijk, *The Network Society: Social Aspects of New Media* (London/New

- Delhi: Thousand Oaks/Sage, 1999); Jan A.G.M. Van Dijk and Kenneth Hacker, "The Digital Divide as a Complex and Dynamic Social Phenomenon," *Information Society: An International Journal* 9, 4 (2003): 315–26; and Mark Warschauer, "Reconceptualizing the Digital Divide," *First Monday* 7, 7 (2002): <https://firstmonday.org/article/view/967/888>.
- 6 International Telecommunication Union, *Measuring the Information Society 2012* (Geneva: International Telecommunication Union, 2012), [http://www.itu.int/en/ITU-D/Statistics/Documents/publications/mis2012/MIS2012\\_without\\_Annex\\_4.pdf](http://www.itu.int/en/ITU-D/Statistics/Documents/publications/mis2012/MIS2012_without_Annex_4.pdf); and Internet World Stats, "Internet World Stats: Usage and Population Statistics," <http://www.Internetworldstats.com/stats1.htm>.
  - 7 Chad M. Khal, "Electronic Redlining: Racism on the Information Superhighway?," *Katharine Sharp Review* 4 (Winter 1997): 3–9.
  - 8 Doreen Massey, "A Global Sense of Place," *Marxism Today* 38 (1991): 24–29.
  - 9 Barbara Crow, "Digital Restructuring: Gender, Class and Citizenship in the Information Society in Canada," *Citizenship Studies* 4, 2 (2000): 207–30; and Engin Isin and Evelyn Ruppert, *Being Digital Citizens* (Lanham, MD: Rowman and Littlefield, 2015).
  - 10 Prithi Yelaja, "U.K. Riots Reveal Social Media Double Standard," *CBC News*, March 28, 2012; Nezer AlSayyad and Muna Guvenc, "Virtual Uprisings: On the Interaction of New Social Media, Traditional Media Coverage and Urban Space during the 'Arab Spring,'" *Urban Studies* 52, 11 (2015) 2018–34; and Philip N. Howard, Aiden Duffy, Deen Freelon, M.M. Hussain, Will Mari, and Marwa Maziad, "Opening Closed Regimes: What Was the Role of Social Media during the Arab Spring?," 2011, SSRN, [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2595096](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2595096).
  - 11 Martin Coward, "Network-Centric Violence, Critical Infrastructure and the Urbanization of Security," *Security Dialogue* 40, 4–5 (2009): 399–418; Colin McFarlane and Jonathan Rutherford, "Political Infrastructures: Governing and Experiencing the Fabric of the City," *International Journal of Urban and Regional Research* 32, 2 (2008): 363–74; Simone AbdouMaliq, "People as Infrastructure: Intersecting Fragments in Johannesburg," *Public Culture* 16, 3 (2004): 407–29; and Julia Elyachar, "Next Practices: Knowledge, Infrastructure, and Public Goods at the Bottom of the Pyramid," *Public Culture* 24, 1 (2014): 109–29.
  - 12 Henri Lefebvre, *The Urban Revolution* (Minneapolis: University of Minnesota Press, 2003); Neil Brenner and Christian Schmid, "Planetary Urbanization," in *Urban Constellations*, ed. Matthew Gandy, 10–13 (Berlin: Jovis, 2012); Michelle Buckley and Kendra Strauss, "With, Against and Beyond Lefebvre: Planetary Urbanization and Epistemic Plurality," *Environment and Planning D: Society and Space* 34, 4 (2016): 617–36; R.N. Reddy, "The Urban under Erasure: Towards a Postcolonial Critique of Planetary Urbanization," *Environment and Planning D: Society and Space* 36, 3 (2018):

- 529–39; and Ananya Roy, Eric Sheppard, Vinay Gidwani, Michael Goldman, Helga Leitner, and Anant Maringanti, “Urban Revolutions in the Age of Global Urbanism,” *Urban Studies* 52, 11 (2015): 1947–61.
- 13 Nadia Caidi, Danielle Allard, and Lisa Quirke, “The Information Practices of Immigrants,” *Annual Review of Information Science and Technology* 44, 1 (2010): 491–531; and Koen Leurs and Sandra Ponzanesi, “Communicative Spaces of Their Own: Migrant Girls Performing Selves Using Instant Messaging Software,” *Feminist Review* 99, 1 (2011): 55–78.
  - 14 Maria Bakardjieva, *Internet Society: The Internet in Everyday Life* (London: Sage, 2005).
  - 15 Engin Isin, *Being Political: Genealogies of Citizenship* (Minneapolis: University of Minnesota Press, 2001).
  - 16 Richa Nagar and Susan Geiger, “Reflexivity, Positionality and Identity in Feminist Fieldwork Revisited,” in *Politics and Practice in Economic Geography*, ed. Adam Tickell, Eric Sheppard, Jamie Peck, and Trevor Barnes (London: Sage, 2007), 267–78.
  - 17 Ananya Roy, “Why India Cannot Plan Its Cities: Informality, Insurgence and the Idiom of Urbanization,” *Planning Theory* 8, 1 (2009): 76–87.



**TORONTO**



**TORONTO**



## ● Digital Debt in a Precarious City

Emily Paradis, Heather Frise

IN THE LIVING ROOM of a ground-floor, mid-century apartment in Toronto, four women are talking about data.

“The kids are addicted to it,” one says.

“True, but you need it to catch up with friends and family who live far away,” says another.

The third admits she feels empty and restless in bed without her phone – she needs music, Tumblr, and Facebook to soothe her to sleep.

The fourth recounts that when she misplaced her phone in Grade 7, her parents refused to replace it. Now in Grade 12, she doesn’t miss it – she connects with friends via Snapchat on her iPod.

You need data, they all agree, and you want it. But it will cost you.

“Pay as you go is terrible because you keep using it without knowing how much you’re paying,” one explains. “We had a ‘complimentary’ Rogers plan for one month, but the second month we got a bill for \$125!”<sup>1</sup>

In a community where most households are living on about \$2,500 a month, and with rent consuming almost half that amount, her companions understand the impact of an unexpected bill for \$125.

The woman who said the kids are addicted commiserates. “When Rogers gave us the bundle, that’s what messed me up. My daughter controlled her usage, but something made her gigabytes go up. They cut it off, and I am still paying for it for the life of the contract, even though she’s not using it. They shouldn’t be allowed to do that! I’m always balancing my money properly. I never thought I would be in this position.”<sup>2</sup>

Stress is etched around her eyes. “I’ve been trying to get them to lower the bundle for a long time. I just want to cut off everything and just keep the land line. They’re calling me twenty-four seven. I don’t even want to look at the bill anymore. I just want to be at peace.”

## TOWERS IN A DIVIDED CITY

These women are talking about what we call “digital debt” – the financial and emotional cost of privatized digital technology for low-income consumers. Digital debt is emblematic of, and enables, a broader trend: the extraction of wealth from, and transfer of risk onto, low-income, racialized, and immigrant households and neighbourhoods in the inner suburbs of the neoliberal city.

Their conversation is taking place in a high-rise building on Kipling Avenue in Rexdale, a neighbourhood in the northwest corner of Toronto, Canada. The apartment is rented by a local agency. The kitchen cupboards are stocked with paper plates and plastic cutlery for community barbecues. The bedrooms hold donated office desks. Bulletin boards by the front door display leaflets for tenants’ association meetings and neighbourhood services. Down the hall, off the building’s main lobby, a large meeting room sits locked, the tape on the back of a fading community map slowly peeling off one of its tired beige walls. At one end of the room, computers donated by a local employment-skills organization stand unused in dusty carrels.

In the storeys above, and in the neighbouring building, 454 households share similar apartments: spacious but worn-out homes. Almost 1,200 such buildings can be found across Toronto, concentrated in the postwar inner suburbs. Built in the 1960s and ’70s to house middle-income couples and young families working their way up to homeownership, these buildings were the product of federal programs that provided robust financing and incentives to private rental development and ample funding for construction of social housing.<sup>3</sup> The resulting “towers in the park” neighbourhoods are also products of provincial, regional, and municipal planning policies that shaped the development of the inner suburbs as mixed-income neighbourhoods with a range of housing forms and tenures, from rent-geared-to-income units in public-housing projects, to private rental apartments, to detached houses for rental or ownership.<sup>4</sup>



▲ **A typical mid-century apartment tower in Toronto.** Photograph by Jaime Hogge. Courtesy of the National Film Board of Canada.

▼ **The Rexdale building complex.** Photograph by Jaime Hogge. Courtesy of the National Film Board of Canada.



In the intervening decades, these neighbourhoods – and the city as a whole – underwent changes that mirrored neoliberal cities across North America and Europe.<sup>5</sup> Gentrification has brought upper-income professionals back into the detached old houses of the inner city, while new-build condominiums occupy the downtown’s disused industrial sites and rail corridors, housing highly educated workers close to their jobs in the increasingly polarized knowledge economy. The aging rental towers of the inner suburbs, poorly maintained and no longer desirable, have filtered down.<sup>6</sup> They are now the landing place for households at the bottom of the labour and housing markets: racialized precarious workers, new immigrants and refugees, lone-parent families, low-income seniors, and people with disabilities. These deteriorating buildings and disinvested neighbourhoods are ill-equipped to meet the needs of their residents. Public transit is inadequate in these autodependent zones; services and amenities are scarce; the service-sector and manufacturing jobs on which most residents rely are located a great distance away; and the buildings’ elevators, heating systems, common areas, waste-disposal infrastructures, and unit interiors are reaching the end of their lifespans.<sup>7</sup>



**Elevators and other major systems in these towers are reaching the end of their lifespans.**

Photograph by Jaime Hogge. Courtesy of the National Film Board of Canada.

Toronto's sociospatial transformations have produced a new urban landscape of deep inequality and segregation. While 66 percent of the city's neighbourhoods were middle income in 1970, only 29 percent were middle income in 2005.<sup>8</sup> Wealth and growth have consolidated in the city core and along the subway lines, where the average annual income is \$88,400 and where 82 percent of residents are white (far above the city's average of 57 percent). Of the low-income neighbourhoods that make up 53 percent of Toronto's census tracts, most are in the inner suburbs, where incomes have steadily declined, averaging \$26,900, and where 66 percent of residents identify as racialized.<sup>9</sup> When gender and other intersecting factors such as age are included in the picture, new sociospatial polarities come into view. There are forty-seven census tracts in which the average income for women aged twenty-five to sixty-four is less than half the city's average. In another census tract, the income of working-age men exceeds Toronto's average by a factor of thirteen.<sup>10</sup>

### LANDSCAPES OF DEBT, LANDSCAPES OF RISK

As urban geographer Alan Walks shows in his research and contribution to this book, this divided urban landscape is also a debtscape. Debt, Walks notes, is a key feature of the neoliberal city: it is both an enabler of the financialization driving urban economic growth and development and a fact of everyday life for most city dwellers.<sup>11</sup> Between 1984 and 2009, during the same period in which economic inequality widened dramatically in Canada's cities, levels of household debt doubled.<sup>12</sup> Even the global financial crisis of 2008 and its aftermath failed to slow the growth in debt as a proportion of disposable income in Canada. The bulk of household debt in Toronto is mortgage debt, which has been driven by feverish speculation in Toronto's urban land market. But unsecured consumer debt – from credit cards, student loans, car purchases, and other kinds of registered loans – has also increased to what many commentators consider dangerous proportions: in 2009, the average Toronto household owed forty-seven cents in nonmortgage, non-credit card debt for every dollar in after-tax income.<sup>13</sup>

Like income and wealth, debt is unevenly distributed across the population. The majority of indebted households have annual incomes below \$50,000. Younger adults and lone-parent households have the highest debt-to-income ratios. Low-income households, women, and racialized



**Condominiums, as seen from an apartment window.** Photograph by Jaime Hogge.  
Courtesy of the National Film Board of Canada.

groups carry the highest interest rates and the greatest revolving monthly debt.<sup>14</sup> Warnings about Canadians' debt-fuelled lifestyles can often contain moralistic overtones. Research offers a more nuanced understanding of the role of credit in the neoliberal economy, particularly for low-income groups. A 2011 survey found that 57 percent of indebted Canadians cited daily expenses as the primary reason for their use of credit.<sup>15</sup> In their research on indebted households in Vancouver, Scott Graham, Emily Hawes, and David Ley found that "lower-income borrowers, single-parent families, young borrowers, and recent immigrants tend to accumulate debt in relation to structural disadvantages (e.g., underemployment, low wages and high cost of living), strong marketing of credit products, and interruptions to income."<sup>16</sup>

Debt is also unevenly distributed across space. Mortgage debt and overall rates of debt are highest in the gentrified city-core neighbourhoods, where prices for detached houses and new condominiums continue to spiral upward. But debt as a proportion of income is highest in the suburbs and inner suburbs, and unsecured consumer debt is highest in low-income neighbourhoods.<sup>17</sup>

Walks suggests that debt, with its regressive social and spatial distribution, is an important mechanism for the transfer of wealth between

populations and neighbourhoods: from young people to older adults and from impoverished inner suburbs to the wealthy enclaves of the city core. It is also, he underlines, a mechanism for the transfer of risk: “It is those immigrant-reception neighbourhoods concentrating multi-family households and visible minorities that have higher levels of indebtedness, suggesting that racialized immigrants are disproportionately bearing the risks of global city evolution under financialization.”<sup>18</sup>

Indeed, risk itself is a feature of the neoliberal city: urban economic growth relies on speculation and leverage. This risk is displaced onto groups and places at the margins of the city through policy and market mechanisms that interlock to produce precarity for individuals, households, and neighbourhoods. Federal immigration policy, for example, has changed course from fostering population growth through the permanent settlement of families to providing temporary migrant workers – mainly from the global south – to labour-market sectors, including agriculture, construction, and services.<sup>19</sup>

Meanwhile, those settling permanently in Canada face lengthening periods of precarious status during which they lack the full social entitlements of permanent residency, leading to deep and long-lasting income disparities between Canadian-born workers and those born elsewhere.<sup>20</sup> In the polarized labour market of the knowledge and service economies, an increasing proportion of workers have precarious jobs, and women and racialized groups are concentrated in the lowest-paying sectors.<sup>21</sup> Elimination of rent control, termination of state social-housing programs, and speculation-driven housing development have produced a polarized housing system in which an increasing proportion of renters belong to the lowest income segments of the population.<sup>22</sup> Gentrification, displacement, and discrimination force low-income immigrant and racialized families into the deteriorating rental stock of the inner suburbs, where units are unaffordable, overcrowded, and in disrepair; tenancies are precarious; and rates of hidden homelessness are high.<sup>23</sup>

Rather than providing a measure of financial security in tough times, social programs such as welfare and disability benefits instead maintain recipients in a state of perpetual insecurity, channelling them into the most marginal sectors of the labour market.<sup>24</sup> As Krystle Maki’s research and contribution to this book show, technological changes in the delivery of these programs have facilitated the disentanglement of recipients through surveillance protocols that quantify their risk of contravening

eligibility criteria.<sup>25</sup> Social infrastructures, too, are increasingly unreliable: funding for social programs comes and goes; amenities and services are hard to reach; the bus is never there when you need it. Risk and precarity at every level, then, characterize daily life at the social and spatial margins of the city.

It is well-established that the digital is central to these social and spatial changes. Digital technologies are not only key commodities of urban consumer culture and the driving technologies of the knowledge and service industries – they also directly, materially enable the financialization and speculation fuelling the neoliberal city's economic growth.<sup>26</sup> Digital technologies are also increasingly critical to the urban social movements that are emerging to contest the global ascendancy of capital and its racialized and gendered mechanisms of coercion and surveillance – even as they extend the reach of that surveillance and facilitate the cultivation of neoliberal subjectivities.<sup>27</sup> What has received less attention, though, is the direct role of digital technologies in the extraction of wealth from, and the transfer of risk onto, individuals, households, and neighbourhoods on the social and spatial margins of cities like Toronto.

## AS ESSENTIAL AS WATER

Our investigation began in 2011, when our team of scholars and documentary filmmakers worked with residents of the REXDALE buildings to conduct a survey on access to and use of information and communication technologies (ICTs) in their apartment complex. The survey was one component of a years-long engagement between the National Film Board's *Highbribe* team, the building's tenants' association, and a local community-development organization. This evolving collaboration also included a Photovoice project, in which residents documented their homes and daily lives, and a charrette, which brought together residents, architects, designers, and animators to reimagine the open space around the buildings. This community-based, participatory approach aimed to mobilize research and documentary in support of community development and resident self-advocacy. The process yielded two award-winning films and catalyzed action and relationships within and outside the building.<sup>28</sup>

For the survey, tenants who were trained in research methods went door to door interviewing their neighbours about their digital lives. The

community-based researchers commented that they still didn't know their neighbours, in spite of two years of organizing by the Action for Neighbourhood Change program and a newly formed tenants' association. Crossing the boundary into one another's homes introduced a new depth to residents' connections.

The survey also generated evidence to support the tenants' association's neighbourhood improvement projects: for example, survey data on the number of children in the building were the basis for a successful funding application to build a new playground on the site. The documentaries, meanwhile, provided a platform for the residents' advocacy: artwork from the project was featured in a poster campaign on the city's transit system; an influential morning radio show held a live broadcast from the building's lobby; one of the films was launched at a public screening in the rotunda of Toronto's City Hall; and leaders from the tenants' association met with the mayor.

Although the literature on the digital divide in low-income, racialized, immigrant, and suburban communities suggests that these groups have low rates of access to the internet and digital technologies, our team's prior experience in this neighbourhood and others like it had alerted us to the paradoxical ubiquity of technology in communities that seem least able to afford it. The survey corroborated these observations: in 2011, 80 percent of respondents had internet access at home; when the survey was repeated in 2014, the rate had risen above 90 percent. At both points in time, rates of access in this low-income community were equal to or greater than the Canadian average. Beneath this simple statistic about home-based access, though, lay different patterns of use, ranging from residents who limit time online to a few minutes a day checking email and news to super-users who spend whole days on Skype with family members around the globe.

We also learned that residents were using a broad range of technologies: tablets, hand-held devices, gaming systems, desktop computers, laptops, land lines, and mobile phones. With limited access to costly hardware, many were making creative use of whatever technology they had available. One young member of our research team, for example, was accessing email and internet through his PlayStation – the only internet-enabled device in his home.

In surveys and focus groups, residents cited a wide range of uses for ICTs: maintaining connections with friends and family members in the



▲ **ICTs, a critical infrastructure for residents.**  
Photograph by Jaime Hogge. Courtesy of the National Film Board of Canada.

▼ **The importance of ICTs to children's education.**  
Photograph by Jaime Hogge. Courtesy of the National Film Board of Canada.



building and across the globe, completing children's school work, obtaining medical and health information, connecting to faith communities, accessing government information, researching employment opportunities, pursuing online courses, shopping, and enjoying culture and entertainment. The use of social-media platforms such as Twitter, WhatsApp, Facebook, Tumblr, and Snapchat was high, and it increased from 2011 to 2014. Many respondents reported that their most important reason for having digital services was to provide their children with the tools they required for school success. Within the household, the economies of ICT use were sometimes stratified by age and gender – for instance, male breadwinners and students would be accorded priority access over female household members – but this was less common than anticipated. Children tended to be the most frequent and most skilled users of ICTs, acting as translators of the online world for their parents.

Whereas conventional ideas of a digital divide tend to imply that low-income and newcomer communities lack technological literacy, we found the opposite. The residents' global connections alerted them to platforms and trends that had yet to hit the North American mainstream. For example, many were using WhatsApp in 2011, long before it was bought by Facebook and popularized in North America. In focus groups and community meetings, residents schooled the research team on new apps and devices, such as Gogo and magicJack, that provided improved access and reduced cost. At the same time, some groups – notably older women – had little facility with the devices in their homes.<sup>29</sup>

Residents repeatedly underlined the absolute necessity of ICTs in their daily lives. Without these technologies, they would lose access to vital connections and indispensable information. As one resident put it, the internet was “like water.”

While these findings belie the myth of a digital divide in home-based access, they underscore an emergent divide in the workplace. In contrast with the ubiquity of connection in the jobs of the “creative economy,” very few residents had access to the internet at work – but this is not to say that ICTs were absent from their waged labour. They were, in fact, omnipresent in structuring and regulating residents' workplaces and workdays. For example, many residents held jobs in the warehouses and distribution centres surrounding the airport in an adjacent suburb. These workplaces are highly digitized and securitized spaces where workers surrender their devices on entry and submit to continuous monitoring

by closed-circuit cameras feeding real-time data to a security hub. Meanwhile, service-sector work in franchise restaurants – also common among residents – is increasingly scheduled by centralized systems that use data on patterns of customer visits to allocate employees to on-call shifts, sometimes across multiple locations. These just-in-time arrangements carve workdays into low-paying segments separated by long commutes. They give workers and site managers little discretion to adapt schedules to meet child-care needs and other obligations.<sup>30</sup>

## INFRASTRUCTURES OF CITIZENSHIP

The Rexdale rental complex, like many others across Toronto, is what Doug Saunders calls an arrival city.<sup>31</sup> It is home to economic immigrants from the Caribbean, Africa, South Asia, and West Asia and to successive clusters of refugees displaced from sites of violence, crisis, and disaster, including Syria, Iraq, Haiti, and Afghanistan. Turnover is high, as many residents move on to other homes and neighbourhoods once they become established. More than 90 percent of survey respondents were born outside Canada, and almost half had been in the country for less than five years. For them, digital technologies were necessary tools in their navigation of transnational lives and in their efforts to hold together intimate ties stretched around the globe.

For these reasons, many explained, obtaining digital services was one of their top priorities on arrival in Canada. Several noted that after finding a home, their next step was to find a phone and internet plan. Some, in fact, obtained their first Canadian phone at the airport. One young woman our team met in 2011 was living in an apartment that was completely empty except for a bed, a table, a chair, and a laptop. A refugee from Iraq, “Angel,” who had arrived in Canada only a short time before, had obtained an internet connection immediately on finding an apartment. Completely alone in Canada, she spent hours each day on Skype, on email with her fiancé and family, and on news sites, where she witnessed catastrophe unfold in her home region. Though she physically resided in a Rexdale apartment, she was living in an in-between virtual space in connection with loved ones still in Syria and Iraq. The internet was her lifeline: she commented that without it, she would die.<sup>32</sup>

Like water, ICTs were not only necessary to residents’ daily lives – they also enabled ongoing growth and transformation. In this diasporic



▲ **"Angel" at her computer.**  
Photograph by Jaime Hogge.  
Courtesy of the National Film  
Board of Canada.

◀ **Ms. Patel meditates daily on  
sacred images of Hindu deities  
from cities around the world.**  
Photograph by Jaime Hogge.  
Courtesy of the National Film  
Board of Canada.

community, we learned, the internet is a critical means of cultural, religious, and political participation, forging new connections within and across national borders and new meanings of citizenship. For example, the Patels, another family we met in 2011, meditated daily on sacred images of Hindu deities posted online from cities around the world, and they proudly shared online photos of their home temple in a nearby suburb, which Ms. Patel had helped to build.<sup>33</sup> Another family, a couple in their eighties who had been in Canada since 1965, used online news and community websites to monitor the political intrigue surrounding the

completion of a new bridge in their rural Jamaican hometown. These and other developments in their country of origin sparked conversation during weekly visits to their neighbourhood seniors' club. Another resident, a refugee claimant from Nigeria still awaiting permanent status in Canada, introduced her children to Nollywood movies on Netflix. After a hard week of work and school, this Sunday after-church ritual was, for her, a time to relax as a family and foster the kids' connection to Nigerian culture and identity. Finally, many residents, when asked about their principal news source, cited websites from their places of origin. Through GhanaWeb, Television Jamaica, Nigeriaworld, and Al Arabiya, residents engaged with events and perspectives that received little notice in mainstream Canadian media.

ICTs thus facilitate and make visible residents' global webs of affiliation, unsettling simplistic narratives of immigrants' aspiration to integrate into a monolithic Canadian identity. But as is illustrated by Angel's story, in a world where migration is so often a product of economic dispossession and violent displacement, the digital is also a realm of yearning, nostalgia, and grief through which residents struggle to hold fast to distant loved ones or watch helplessly as disaster consumes their homelands. One respondent, for example, worried that her husband was not settling in Canada, as he spent all his time on news sites from back home.

The geography of the residents' connections also complicate understandings of urban citizenship. When asked to locate their five most frequent online contacts, residents overwhelmingly named contacts half a world away and contacts very close by – in the building or the immediate neighbourhood. Their online connections, and their daily travels, also extended outside of or across Toronto, from suburb to suburb. But not one resident named a main contact in downtown Toronto, and few residents ventured downtown on a regular basis. Some had never, in their time in Canada, made the twenty-four-kilometre trip downtown (an hour by car or two or more hours by transit). Though Toronto prides itself on being a city of neighbourhoods, the residents' physical and virtual connections traced a more fragmented map of the city, one traversed by thick intra-suburban networks and only faint links to the city's self-declared geographic, economic, and social centre.

Accounts of ICT use and access in this inner-suburban neighbourhood, then, call into question and complicate simplistic understandings of the digital divide as an exclusively income-based discrepancy in ma-

terial access to technology. Instead, what their experiences revealed was complex interplay between access and exclusion at multiple scales. At home, rates of access and use signalled the residents' vigorous and creative uptake of digital technologies by any means necessary. At work, ICTs both signified and reproduced a digital (class) divide: on the one side, those who can use ICTs to determine the time and place of their labour; on the other, those whose employers use ICTs to constrain their choices and surveil them. In this diasporic community, ICTs work through and extend spatial and emotional processes of settlement, enabling the development of hybrid identities and transnational citizenships, even as they stretch spirits to the breaking point. The residents' everyday geographies suggest an entanglement of virtual and physical mobilities, in which ICTs afford access to people and places near and far while reinscribing the city's deep social and spatial divides.

### THE HIGH PRICE OF PRIVATE INFRASTRUCTURE

Though it is, without doubt, a critical infrastructure of citizenship, internet provision has little state involvement in Canada. Digital services often rely on publicly funded infrastructures for their transmission but are delivered exclusively through the private market. Although traditional telecommunications, including broadcast television, radio, and telephone, have long been regulated in Canada, private companies that provide digital services have enjoyed a long period during which they faced little state regulation. As a result, costs for digital services in Canada are among the highest in the world.<sup>34</sup>

As the women whose conversation opens this chapter would attest, in this community of low- and moderate-income households, the high cost of digital services is a significant concern. In our 2014 survey, for example, most respondents reported monthly incomes in the range of \$2,000 to \$3,000. The costs of internet and mobile phone access were more than \$100 a month for most and more than \$200 for many.<sup>35</sup> Some households were spending 10 percent of their already low monthly income on digital services. At the same time, many were spending 50 percent or more of their income on rent. The aging infrastructure of their buildings, though, meant that they were paying high prices for service of lower quality. High-speed data transmission was compromised by outdated wiring, and concrete-block walls made wireless access spotty and erratic.

Tenants of Toronto’s major social-housing provider are eligible for reduced internet service rates and subsidized computers.<sup>36</sup> But measures have not been taken to make ICT access affordable for low-income households in privately owned rental buildings, where the majority of low-income people in Toronto live. Their high rent expenses make it even more difficult for them to cover digital-services costs.

Like rent and other utilities, digital access was considered a fixed cost by most of the households we interviewed – something they couldn’t do without. In the context of low wages, precarious employment, and high rent, most residents were sacrificing other items they considered discretionary to afford the high price of digital services. They reported that they must sometimes sacrifice personal items (75 percent), recreational activities (53 percent), and even basic needs such as groceries (41 percent) to afford these services. One single mother, for example, explained that she managed to squeeze internet into her tight monthly budget by discouraging what she referred to as unnecessary eating, such as after-school snacks. She reasoned that her children’s academic success was worth afternoon hunger pangs.

## MECHANISMS OF EXTRACTION AND RISK

This account is a visceral example of how privatized digital infrastructure enables extraction of resources from low-income bodies, households, and neighbourhoods. But our interviews and focus groups revealed more

**The Patel family  
fall asleep  
to chanting.**

Photograph by  
Jaime Hogge.  
Courtesy of the  
National Film  
Board of Canada.



complex dimensions of this dynamic at work, as opaque delivery mechanisms, inscrutable billing structures, regulatory gaps, and high-pressure marketing campaigns converge to draw low-income consumers into digital debt. As the conversation among the four women illustrates, lack of control and knowledge are key themes in the residents' accounts of digital debt. For households that carefully monitor every expense, purchasing digital services is an unpredictable gamble. As one resident explained, "Before I had unlimited data, I had just internet from [provider]. Sometimes, I would ask them, 'What do you think I will pay by the end of the month?' They would say, 'Fifty dollars. With tax, maybe \$60.' But eventually, when I see the bill, it's \$110! ... They have a way of increasing the bill."

One way to increase the bill is overage – additional charges levied when users exceed their allotted minutes or data. Phone minutes are difficult for consumers to calculate, and until recently data usage has been impossible to monitor.<sup>37</sup> Some measures have recently been taken by state regulators to limit the overage that can be charged and to require providers to alert customers once they have gone over their limit.<sup>38</sup> But even once alerts are sent, minutes and data remain available to users – at a premium price – and the onus is on them to shut down their devices or refrain from accessing the internet.

Contracts, too, pose particular difficulties for households with precarious incomes. Because they are locked in for a fixed period, consumers are prevented from taking advantage of better deals. Cancellation comes at a high price, and unpaid cancellation fees affect consumer credit ratings. One respondent who was in her early twenties talked about renting her first apartment with her boyfriend. The cost of digital services plunged them into debt. She reported, "My bill was going higher and higher, up to \$300, so I cut it off, but then I had to pay an additional fee for early cancellation. I wanted to pay it, but at the time, financially, we were going through a lot. I didn't get a stable job until recently. [The provider] was chasing me. The interest was going up. They had a collection agency after me. It was affecting my credit rating, so when I got my tax money, I used it to pay off my debt."

Residents also reported being taken advantage of by offers of low introductory rates that then expired after a brief time, leaving them tied to a contract they couldn't afford. A senior living on a fixed income reported: "They tell you about a new package deal. For the first three months

it's free or at a discount, but then it goes right back up to top price. When you tell them you want to cancel, they say you have a contract for two years and if you want to get out of it you will have to pay.”

Several respondents shared stories of calling their provider in a panic on receiving an unexpectedly high bill and pleading for amnesty. In these instances, the providers rarely forgave an amount owing, even if the overage was unintentional. Instead, residents explained, “help” with these situations usually came with new costs, such as a payment plan or an obligation to renew or extend their contract.

The residents' stories echo accounts of other predatory schemes to siphon capital out of low-income, racialized households and neighbourhoods. The most thoroughly documented is subprime mortgage lending in the United States, which precipitated the global financial crisis and caused hundreds of thousands of households – disproportionately low-income and African American – to lose their homes. The payday lending industry is also known to concentrate its storefronts in proximity to low- and moderate-income neighbourhoods.<sup>39</sup> These schemes not only target the same groups of marginalized consumers, they employ similar tools: introductory teaser rates that increase after a brief period; hidden fees and byzantine formulas that inflate amounts owing; contracts that prevent consumers from extricating themselves; and compounding penalties that induce inescapable cycles of mounting debt.<sup>40</sup>

Excluded from formal markets, consumers at the margins of the divided city must seek work, housing, and services in unregulated, informal, and substandard markets in which they pay more for products of lower quality and face greater risks in doing so. For example, discrimination and other barriers force lone mothers into sectors of the housing market where they pay higher-than-average rent for the most precarious housing in the worst condition.<sup>41</sup> Likewise, digital services that appear to be the least expensive and the most accessible to those with poor credit histories and insecure incomes carry the greatest risk of increased costs. By contrast, more expensive plans guarantee predictability. The gap is not only economic and social, it is also spatial: while workers in Toronto's downtown knowledge economy enjoy ubiquitous digital access at work and in public spaces, low-income, diasporic suburban residents must pay for virtual mobility to bridge global distances, remedy geographic isolation, and reclaim time spent in long commutes.

If credit itself is a necessary infrastructure of the new economy, then communities at the social and spatial edges of the city encounter unevenness, insecurity, and risk when they seek to access it. In fact, rather than facilitating the workings of daily life, as infrastructures usually do, credit has become a mechanism of predation, extracting resources from and diminishing the quality of life of low-income families. Digital technologies are a critical enabler of this extraction because, as Safiya Umoja Noble and Brendesha M. Tynes point out in *The Intersectional Internet*, “Information, records, and evidence can have greater consequences for those who are marginalized.”<sup>42</sup>

Consider the processes by which borrowers with the lowest income come to pay the highest interest rates. Banks have retreated from low-income neighbourhoods, and their requirements for loans often exclude marginalized consumers. The new digital mechanisms of surveillance now make bank accounts visible to creditors, which means a deposit could trigger calls from debt collectors.<sup>43</sup> Consumers at the margins – excluded from banks by geography, social status, or the risk of garnishment – are forced to obtain financial services from payday loan centres, where their debt loads continue to multiply unseen. The benefits of this arrangement flow back to banks at the city’s centre because many payday loan operations are owned by banks.<sup>44</sup>

### “THEY SHOULDN’T BE ALLOWED TO DO THAT”

As wages have fallen or stagnated and work has become increasingly precarious, credit has become a way for low- and moderate-income households to bridge the gap and meet daily needs.<sup>45</sup> In the context of fluctuating incomes, households use debt to manage risk and cover fixed costs such as rent and child care. In spite of these causes, high levels of indebtedness in Canada continue to be framed – whether by the Bank of Canada, media commentators, or credit counselling agencies – as a moral issue. Debt, they argue, is an individual responsibility, and high debts indicate a lack of discipline.<sup>46</sup>

All of this risk and responsibility is a lot to bear, and it exacts a toll that is not only financial but also emotional. Debt stress includes feelings of fear, shame, isolation, desperation, and loss of hope, regardless of whether the debt was accrued to pay for necessities or nonessentials.<sup>47</sup>

Our interviews corroborated this. Residents blamed themselves for accumulating digital debt. In addition, the privatization of digital technologies and their representation as commodities whose purpose is entertainment obscured the digital's status as an essential infrastructure.

In *Disorderly People*, Joe Hermer and Janet E. Mosher suggest that neoconservative policy reforms that mobilize moral discourses are “intentionally designed to dismantle both the material and emotional infrastructure of the welfare state.”<sup>48</sup> Indeed, subjectivities of responsabilization are a crucial component of neoliberal hegemony. In other words, in an economic and social system in which everyone is considered a radically free agent, if we can't secure the necessities of life, we have only ourselves to blame.

Yet the residents we worked with resisted these attempts to render them responsible. In meetings and focus groups, they shared information about devices and hacks that could be used to obtain services at reduced costs, techniques to avoid penalties, and effective arguments for wringing concessions from digital service providers. They countered representations of the digital as frivolous entertainment, insisting upon its status as a necessary infrastructure, as necessary as water, one that the state should make available to citizens as a social right.

The residents' responses to digital debt opened a path to broader critiques of prevailing economic, social, and spatial arrangements, and these claims extend beyond the digital realm. Like protesters who wave banners that read “We won't pay for your crisis,” the residents refused, in both material and discursive ways, to carry the burden of risk associated with the global city's evolution under financialization.

As Margit Mayer has suggested, the discourses, tactics, and social movements that are challenging the deep inequities of the current system are emerging from the margins of the neoliberal city.<sup>49</sup> To ascribe systems-toppling power to these nascent instances of agency would be to romanticize them.<sup>50</sup> But in them new spaces and forms of resistance are coming into view. They are anchored in hyperlocal places and globally networked. They are led by racialized migrants, many of them women, and concerned with the stuff of the everyday – rent, roaches, bills, the bus. They are converging not in the workplace but in the neighbourhood. And they are skilfully deploying homemade hacks to circumvent predatory traps while amassing the cache of tools required to navigate the neoliberal global city.



**A picnic sponsored by the residents' association.** Photograph by Jaime Hogge.  
Courtesy of the National Film Board of Canada.



Back on the ground floor of the building on Kipling Avenue, the tenants' association is meeting. Members enumerate problems with the building's infrastructure, recount repeated episodes of disrespectful treatment from the building's management, and take stock of the small but tangible improvements they have won over the course of more than five years' hard work: functioning elevators, a community garden, and a playground for the kids. Still, rents continue to rise while conditions deteriorate. There is so much more to be done, and the City program that funded the establishment of the tenants' association has just been terminated. The frustration is palpable. Some say they are ready to give up.

The woman whose daughter's phone was cut off leans forward. She is a leader here, and people listen when she speaks. She looks around the table and gives voice to the question in everyone's mind. "Why should we have to do the dirty work," she asks, "when they get to have their cake and eat it too?"

## NOTES

- 1 Canada's telecommunications sector is heavily concentrated. Five huge companies – Rogers, Bell, Telus, Shaw, and MTS/Allstream – reap 84 percent of revenues from telecommunications services. Canadian Radio-television and Telecommunications Commission, "Communications Monitoring Report 2015: Telecommunications Sector Overview," <http://www.crtc.gc.ca/eng/publications/reports/policymonitoring/2015/cmr5.htm>.
- 2 Digital services providers aggressively market bundles through which customers receive a discounted monthly rate in exchange for purchasing data, cable television, telephone, and mobile phone services from the same company for a contracted period of time.
- 3 Greg Suttor, "Rental Market and Policy Comparison: Toronto, Montréal and Vancouver" (presentation of work in progress, Neighbourhood Change Research Partnership Research Day, Toronto, May 7, 2015), on file with author.
- 4 Glen Searle and Pierre Filion, "Planning Context and Urban Intensification Outcomes: Sydney versus Toronto," *Urban Studies* 48, 7 (2011): 1426.
- 5 Margit Mayer, "First World Urban Activism," *City: Analysis of Urban Trends, Culture, Theory, Policy, Action* 17, 1 (2013): 5–19.
- 6 Greg Suttor, "Rental Housing Dynamics and Lower-Income Neighbourhoods in Canada," Research Paper 235, Neighbourhood Change Research Partnership, Cities Centre Research Paper Series, University of Toronto, 2015.
- 7 United Way Toronto, *Poverty by Postal Code 2: Vertical Poverty, Declining Income, Housing Quality and Community Life in Toronto's Suburbs* (Toronto: United Way Toronto, 2011).
- 8 J. David Hulchanski, *The Three Cities within Toronto: Income Polarization among Toronto's Neighbourhoods, 1970–2015* (Toronto: Cities Centre, University of Toronto, 2010).
- 9 Ibid. The data here, drawn from Hulchanski's 2010 study, *The Three Cities within Toronto*, propelled the issue of sociospatial inequality in Toronto into public and political debate. While reliable updates are available for the income statistics via tax-filer data, Canada's national five-year census was replaced in 2011 by a voluntary survey. As a result, reliable data on race, immigrant status, and other variables are not available for 2011. The mandatory long-form census was reinstated in 2016.
- 10 Custom analysis of 2012 Canada Revenue Agency data by Richard Maaranen of the Neighbourhood Change Research Partnership, Factor-Inwentash Faculty of Social Work, University of Toronto (principal investigator: J. David Hulchanski).
- 11 Alan Walks, "Mapping the Urban Debtscape: The Geography of Household Debt in Canadian Cities," *Urban Geography* 34, 2 (2013): 153–87.

- 12 Scott Graham, Emily Hawes, and David Ley, *Metro Vancouver's Debtscape* (Vancouver: Social Planning and Research Council of British Columbia, 2016), 18.
- 13 Walks, "Mapping," 167.
- 14 Graham, Hawes, and Ley, *Metro Vancouver's Debtscape*, 18.
- 15 Certified General Accountants Association of Canada, cited in Walks, "Mapping," 160.
- 16 Graham, Hawes, and Ley, *Metro Vancouver's Debtscape*, 41.
- 17 Walks, "Mapping," 180.
- 18 Ibid., 180.
- 19 Nandita Sharma, *Home Economics: Nationalism and the Making of "Migrant Workers" in Canada* (Toronto: University of Toronto Press, 2006).
- 20 Luin Goldring and Patricia Landolt, *The Impact of Precarious Legal Status on Immigrants' Economic Outcomes*, IRPP Study No. 35 (Montreal: Institute for Research on Public Policy, 2012).
- 21 Poverty and Employment Precarity in Southern Ontario (PEPSO) Research Alliance, *It's More Than Poverty: Employment Precarity and Household Well-Being* (Hamilton, ON: McMaster University, 2012); and Sheila Block and Grace-Edward Galabuzi, *Canada's Colour-Coded Labour Market: The Gap for Racialized Workers* (Toronto: Wellesley Institute and Canadian Centre for Policy Alternatives, 2011).
- 22 Suttor, "Rental Housing Dynamics."
- 23 Emily Paradis, Ruth Wilson, and Jennifer Logan, "Nowhere Else to Go: Inadequate Housing and Risk of Homelessness among Families in Toronto's Aging Rental Buildings," Cities Centre Research Paper 231, Cities Centre, University of Toronto, 2014.
- 24 Jamie Peck, *Workfare States* (New York: Guildford Press, 2001).
- 25 Krystle Maki, "Neoliberal Deviants and Surveillance: Welfare Recipients under the Watchful Eye of Ontario Works," *Surveillance and Society* 9, 1–2 (2011): 47–63.
- 26 Saskia Sassen, "Mortgage Capital and Its Particularities: A New Frontier for Global Finance," *Journal of International Affairs* 62, 1 (2008): 187–212.
- 27 Margit Mayer and Jenny Kunkel, "Introduction," in *Neoliberal Urbanism and Its Contestations: Crossing Theoretical Boundaries*, ed. Jenny Kunkel and Margit Mayer (London: Palgrave Macmillan, 2012), 3–26; Brendesha M. Tynes, Joshua Schuschke, and Safiya Umoja Noble, "Digital Intersectionality Theory and the #BlackLivesMatter Movement," in *The Intersectional Internet: Race, Sex, Class, and Culture Online*, ed. Safiya Umoja Noble and Brendesha M. Tynes (New York: Peter Lang, 2016), 21–40; and Engin Isin and Evelyn Ruppert, *Being Digital Citizens* (London: Rowman and Littlefield, 2015).
- 28 See *The Thousandth Tower: Stories from Inside a Toronto Suburban Highrise*, <http://highrise.nfb.ca/thousandthtower/>, and *One Millionth Tower*, <http://>

- highrise.nfb.ca/onemillionthtower/1mt\_webgl.php, directed by Katarina Cizek.
- 29 In response to this identified need, the research team worked with the tenants' association to offer multilingual workshops in the buildings' shared meeting room, in which residents set up Gmail accounts and learned to use Skype.
  - 30 David Friend, "Precarious Employment: Why 'On-Call' Shifts Have Workers Stressed, Activists Fuming," *CTV News*, September 3, 2015; and Seres Lu, "On-Call Scheduling under Increasing Scrutiny in Canada," *Globe and Mail*, September 6, 2015.
  - 31 Doug Saunders, *Arrival City: The Final Migration and Our Next World* (Toronto: Vintage, 2010).
  - 32 Angel's story is documented in the National Film Board documentary *Higbrise*.
  - 33 The Patels are also featured in *Higbrise*.
  - 34 Christine Dobby, "How Canada's Internet, Wireless Rates Compare with International Prices," *Globe and Mail*, August 11, 2016.
  - 35 This cost range is similar to that being paid by Canadian households in general, according to a recent report. See John Lawford and Alysia Lau, *No Consumer Left Behind: A Canadian Affordability Framework for Communications Services in a Digital Age* (Vancouver: Public Interest Advocacy Centre, 2016).
  - 36 Laurie Monsebraaten, "Anti-poverty Advocates Call for Affordable Internet," *Toronto Star*, February 6, 2016.
  - 37 Major providers now enable customers to access information about their data usage online.
  - 38 It is worth noting that regulatory changes are typically in response to issues affecting mainly middle- and upper-income consumers. An example is the curtailment of excessive charges and the imposition of alert systems for data roaming when service users leave the geographic area covered in their plan. These changes were made in response to public outrage spurred by media accounts – and first-hand experiences – of travellers returning from international vacations or business trips to bills for thousands of dollars.
  - 39 Graham, Hawyes, and Ley, *Metro Vancouver's Debtscape*, and Walks, "Mapping."
  - 40 After the research was completed, a public inquiry by Canada's telecom regulator vindicated these concerns. ACORN Canada (see Judy Duncan's essay in this volume) was a leading participant. See Public Interest Advocacy Centre, "CRTC Report on Telecom Sales and Practices Vindicates Consumer Concerns," <https://www.piac.ca/our-specialities/crtc-report-on-telecom-sales-practices-vindicates-consumer-concerns/>.
  - 41 Maureen Callaghan, Leilani Farha, and Bruce Porter, *Women and Housing in Canada: Barriers to Equality* (Toronto: Centre for Equality Rights in Accommodation, Women's Housing Program, 2002).

- 42 Safiya Umoja Noble and Brendesha M. Tynes, "Introduction," in *The Intersectional Internet: Race, Sex, Class, and Culture Online*, ed. Safiya Umoja Noble and Brendesha M. Tynes (New York: Peter Lang, 2016), 3.
- 43 John Stapleton, *Welcome to the Financial Mainstream? The Hazards Facing Low-Income People When Navigating the Financial World* (Toronto: House-link Community Homes, 2014), <http://www.houselink.on.ca/wp-content/uploads/Welcome-to-the-Financial-Mainstream.pdf>.
- 44 Walks, "Mapping."
- 45 Graham, Hawes, and Ley, *Metro Vancouver's Debtscape*.
- 46 Ibid., and Walks, "Mapping."
- 47 Graham, Hawes, and Ley, *Metro Vancouver's Debtscape*, 40.
- 48 Joe Hermer and Janet Mosher, *Disorderly People: Law and the Politics of Exclusion in Ontario* (Halifax: Fernwood, 2002), 17.
- 49 Mayer, "First World Urban Activism," 5–19.
- 50 Mayer and Kunkel, "Introduction."

© UBC Press 2020

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, without prior written permission of the publisher.

### Library and Archives Canada Cataloguing in Publication

Title: Digital lives in the global city :  
contesting infrastructures / edited  
by Deborah Cowen, Alexis Mitchell,  
Emily Paradis, and Brett Story.

Names: Cowen, Deborah, editor. | Mitchell,  
Alexis, 1983- editor. | Paradis, Emily, 1968-  
editor. | Story, Brett, editor.

Description: Includes bibliographical  
references and index.

#### Identifiers:

Canadiana (print) 2020025815X |  
Canadiana (ebook) 20200260480 |  
ISBN 9780774862387 (softcover) |  
ISBN 9780774862394 (PDF) |  
ISBN 9780774862400 (EPUB) |  
ISBN 9780774862417 (Kindle)

#### Subjects:

LCSH: Cities and towns—Technological  
innovations. | LCSH: Technology—Social  
aspects. | LCSH: Sociology, Urban. | LCSH:  
City and town life. | LCSH: Smart cities. |  
LCSH: Online social networks—Social  
aspects. | LCSH: Information society.

Classification: LCC HT153 .D54 2020 |  
DDC 307.76—dc23

### Canada

UBC Press gratefully acknowledges the financial support for our publishing program of the Government of Canada (through the Canada Book Fund), the Canada Council for the Arts, and the British Columbia Arts Council.

This book has been published with the help of a grant from the Canadian Federation for the Humanities and Social Sciences, through the Awards to Scholarly Publications Program, using funds provided by the Social Sciences and Humanities Research Council of Canada. We also acknowledge support from Furthermore, a program of the J.M. Kaplan Fund.



Set in Gilam and Sabon by Artegraphica  
Design Co.

Copy editor: Lesley Erickson

Proofreader: Caitlin Gordon-Walker

Indexer: Judy Dunlop

Cover designer: Martyn Schmolle

Illustrations on pages 18–19, 114–15, and  
206–7: Lize Mogel

UBC Press

The University of British Columbia

2029 West Mall

Vancouver, BC V6T 1Z2

[www.ubcpres.ca](http://www.ubcpres.ca)