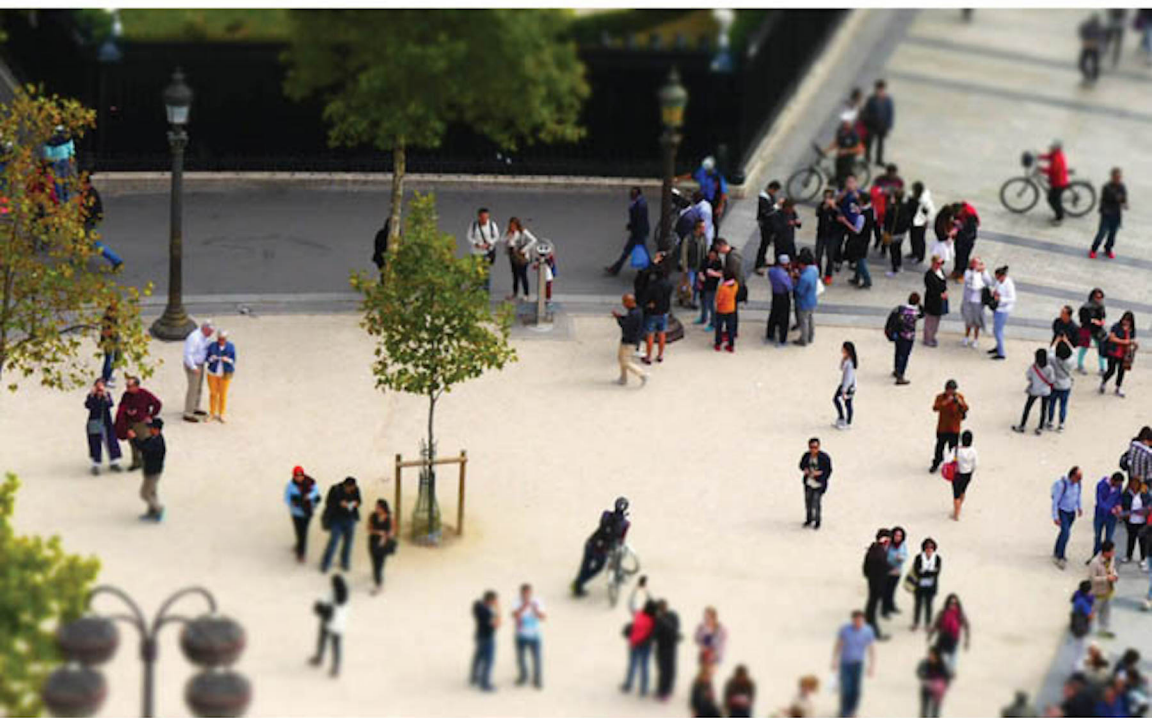


Co- Cities

Innovative Transitions toward
Just and Self-Sustaining Communities



Sheila R. Foster and Christian Iaione

CO-CITIES

Urban and Industrial Environments

Series editor: Robert Gottlieb, Henry R. Luce Professor of Urban and Environmental Policy, Occidental College

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INNOVATIVE TRANSITIONS TOWARD JUST
AND SELF-SUSTAINING COMMUNITIES

SHEILA R. FOSTER AND CHRISTIAN IAIONE

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Sheila R. Foster:

To Rosalind and Tyler, the wind beneath my wings

Christian Iaione:

To my father, Arturo, my mother, Ada, my grandmother,
Bella who all inspired my engagement for
self-empowerment and justice

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INTRODUCTION

It is now a truism that we are an urbanized world. Today a majority (55 percent) of the world's people live in cities and their surrounding metropolitan areas, a trend that has been accelerating since the mid-to-late twentieth century (UN DESA 2019). It is estimated that by 2050 almost 70 percent of the world will live in cities and metropolitan areas. Cities are not only where most of the world's population will continue to physically concentrate but are also key centers of economic production. Consider that in the US, the ten most productive metropolitan areas alone contribute about 40 percent of the gross domestic product (GDP), and the top twenty metropolitan areas contribute over 50 percent of the US GDP (Perry 2018). This includes metropolitan areas and surrounding major cities like New York, Los Angeles, San Francisco, Boston, and Chicago. The New York City metro area alone constitutes about 10 percent of the US total GDP and produces 4 percent more economic output than the entire country of Canada (Perry 2018). The Los Angeles metro area, the second largest US metropolitan economy, produced just slightly less economic output than Mexico. Chicago's economy is the third largest metro economy in the US; its GDP is slightly higher than Switzerland's GDP.

Outside of the US, the numbers are as revealing. Cities such as Toronto, Mexico City, Tokyo, London, Paris, Stockholm, Tel Aviv, and Seoul generate anywhere from 18 percent (Toronto) to over 50 percent (Tel Aviv) of

national GDP (Florida 2017a). According to some analyses, people living in large cities will account for as much as 81 percent of global consumption by 2030 and 91 percent of global consumption growth by 2015 to 2030 (Dobbs et al. 2016).

As the most highly educated and affluent populations agglomerate in cities, the working class and low-income workers and their families are increasingly being pushed out of the urban core and further away from the economic opportunities concentrated there (Ehrenhalt 2012). The spatial mismatch between where jobs are located and where the lowest income workers live, often on the periphery, is immense in some cities and metropolitan areas. America's inner-ring suburbs, for example, once a marker of suburban prosperity, are increasingly becoming home to poorer populations and immigrants as core cities become less affordable (Ehrenhalt 2012). Likewise, rural to urban migration into cities in the Global South fuels the expansion of informal occupations of peripheral urban areas and precarious urban settlements (Davis 2006).

As urban peripheries grow and expand outward, so too do stark wealth and resource disparities between neighborhoods within a city and between cities (and towns) within metropolitan regions. The result is high and worsening levels of income inequality, ethnic and economic segregation, increasingly unaffordable housing and food insecurity, and unequal access to amenities ranging from broadband networks to parks and green spaces.

While cities have become the heart of the growing problem of economic and spatial inequality, within them lie at least some of the solutions to this inequality and to other challenges that range from climate change to migration. Exactly how cities can meet these challenges is one of the core debates in contemporary urban literature. This literature offers several urban approaches or frameworks that capture how cities can function to make human life within them better, smarter, more efficient, more sustainable, and/or more equitable and inclusive.

One approach focuses on cities' need to compete for and attract concentrations of highly educated workers, highly skilled employees, and high tech and creative industries. Cities that attract the right combination of skill and talent and the industries that serve them are expected to reap and sustain high growth and economic prosperity. The positive spillover effects

of these agglomeration economies also promise to create new classes of service workers and job opportunities for a broader class of residents.

Another approach focuses on technology as the main force shaping cities and making life better for the people who govern and live in them. In this vision, the city is a platform for the use of advanced technologies and data, equipping cities with improved features for a safe and more convenient urban existence. Technology can also more effectively enable urban residents to participate in local decision making and more efficiently deliver a range of goods and services. Equipped with sophisticated technological tools, cities would become digitally networked places, facilitating the sharing of urban infrastructure and digital platforms that more efficiently connect urban inhabitants to each other and to businesses and service providers.

One more prominent approach or framework views urban life through the lens of the right to the city and seeks to empower residents to collectively shape the city for its inhabitants. Cities, according to this framework, can be places that fully realize the right to adequate housing, universal access to safe and affordable drinking water and sanitation, equal access to quality education, and other public goods. Embedded in this approach is a city *for all*, where different populations have equitable and affordable access to basic physical and social infrastructure to foster prosperity and the sustainability of human settlements.

These three frameworks are the most prominent offered by urban scholars for understanding urban growth in cities today, ways to shape future cities, and the potential of cities to address some of our most pressing social and economic challenges. Each approach is rooted, at least in part, in reality. For example, we see evidence of urban agglomerations of knowledge and technology workers and the industries that depend on them in cities like San Francisco and Toronto; the emergence of digitally sophisticated *smart cities* in cities such as Amsterdam and New York City; and the codification of the *right to the city* in Brazil's City Statute, Mexico City's Right to the City Charter, and policies taking shape in Barcelona and other European cities.

In this book we offer another approach rooted in our decades-long investigation of over two hundred cities and direct involvement in crafting practices and policies in a few of them that enable public, community,

civic, knowledge, and private actors to collectively create and then steward shared urban resources throughout the city. Our framework, the co-city, captures and reflects the ways that some cities are moving or being pushed toward embracing practices and policies that are fostering social innovation in urban services provision, spurring collaborative economies as a driver of local economic development, and promoting inclusive and equitable urban regeneration of blighted areas. We believe that the co-city framework, supported by an ongoing empirical project and the conceptual building blocks articulated in our scholarship over the last decade, is in part a challenge to existing urban vision frameworks and in part a refinement of them.

The co-city framework offers a new path forward—including new tools and practical approaches—to achieve some of the normative goals that animate, for instance, the right to the city and smart cities. At the same time, it is a response to the failures of the market-based agglomeration approach to cities that is associated with vast economic stratification and inequality in so many global cities.

As we write this, the COVID-19 pandemic and the movement against racial injustice have accelerated a rethinking of the urban landscape to meet the challenges of creating more resilient and just cities. New ideas and visions are emerging to meet these challenges. Ideas that range from the *15-minute city* that focuses the scale of urban planning to provide access to all human needs within a short walk or bike ride, to more equity-focused place-making approaches that reimagine public spaces to mitigate racial, ethnic, and gender divisions in cities. Although there is no one vision or panacea that can address all the challenges faced by contemporary urban life, the co-city framework offers something distinct in comparison with existing urban visions, as we set out in this chapter.

THE CITY AS A MARKET: URBAN AGGLOMERATION ECONOMIES AND CREATIVE CITIES

A prominent strand of urban research has drawn attention to the relationship between urban agglomeration, knowledge and creative workers, and urban economic growth in cities. Urban economists have long posited that the migration of workers with high levels of talent to amenities-rich

locations is the dominant reason that cities and metropolitan regions grow and other regions remain stagnant or decline. Urban agglomeration economic theories trace to seminal works by Jane Jacobs (1969) and Edward Glaeser (1998, 1999), among others, to account for the fact that individuals move to cities not only to increase their wages but also to capitalize on the proximity to others like themselves.

The core claim of urban economists is that individuals seeking economic (and other) gains base their location decisions on where similarly *high human capital* individuals cluster. These agglomeration gains can include the ability to learn from other high knowledge workers and to acquire additional skills through information spillovers. Agglomeration economics suggests that individuals more *efficiently* acquire new skills in urban metropolitan areas because of the greater opportunities to interact with other highly educated and skilled people, thus increasing the rates of human capital accumulation, technological innovation, and ultimately, urban growth.

An important possible gain from agglomeration of high human capital individuals is *matching*, a form of labor market pooling in which workers have a greater likelihood of obtaining a good match between their skills and an employer, thereby increasing productivity and wages. For example, technology workers who cluster in regions with a concentration of technology firms will be better able to find firms that value their skills and talent. Similarly, firms will benefit when they are looking for specific skill sets or specialized labor force because they will have plenty to choose from. Whereas the proximity strain of agglomeration economics highlights the immediate benefits of smart people who are near each other, matching supports the advantages of a broad diversity of opportunities. Matching includes the ability to trade across specialties, whether in employment or in the goods and services offered, and applies to knowledge workers as well as service workers—for example, a clerical worker, janitor, security guard, barista, or rideshare driver. These advantages of urban agglomeration economies require a certain critical mass, and cities and metropolitan regions have a much easier time providing the requisite diversity than do small local governments or rural areas.

Richard Florida (2002, [2012] 2017) famously expanded on this approach to urban growth by arguing that attraction of the “creative class”—a

category that includes the well-educated and others with specific skills and interests suited to the modern knowledge-based economy—was essential to urban revitalization and growth. Florida focused on people working in intensely creative occupations such as science, the arts, architecture, and writing, and in knowledge-intensive fields like financial services and high technology. To attract them, Florida argued, cities should offer amenities and a cultural climate—including “tolerance” and diversity—that appeals to young, upwardly mobile, and geographically mobile professionals (Florida [2012] 2017, 244–249). Many of the most populous and fastest growing regions, Florida posited, were distinguished by a new model of economic development that takes shape around what he referred to as the three Ts of development—technology, talent, and tolerance—with the most successful metropolitan areas excelling at all three (Florida [2012] 2017, 228–236).

For Florida, the attraction of the creative class to a city or metropolitan region would have significant positive spillovers for an entire metro region, as the concentration and interaction of creative people spurred high levels of innovation and the expansion of technology-intensive sectors in the region. The growth of the creative class in a metropolitan region would also, he argued, lead to the growth of the “service class,” because the service economy is in large measure a response to the demands of the creative economy (Florida [2012] 2017, 146–148). This multiplier effect from the growth of the creative class would make these regions more economically resilient over the long term (Florida [2012] 2017, 50–51; Moretti 2012, 58–63).

Florida has had his share of critics, some of whom questioned the causal relationship between the presence of the creative class and economic growth (Rausch and Negrey 2006). Despite the criticism, many cities embraced urban revitalization plans and economic development policies that mirrored the “creative” city vision that Florida promoted. They aimed to provide cultural amenities and high levels of local service to attract and retain this class of mobile urbanites and adopted innovative financing and development strategies that would attract creative talent and firms. There is evidence to suggest that those kinds of campaigns worked. Mobility patterns suggest that the educated, skilled, and talented mobile residents are disproportionately drawn to a small number of “cool” cities and concentrate in those surrounding regions (Frey 2011).

The most successful urban metropolitan regions—for example, those that surround US cities such as New York, San Francisco, Boston, and Chicago and European cities such as London, Paris, Milan, and Barcelona—have attracted successful industries that have done well in the information economy, have high levels of educated and skilled residents, and provide a rich set of consumption activities such as theater, museums, and restaurants, among other attributes (Glaeser et al. 2001; Frey 2012). In contrast, many older, dense urban regions surrounding cities such as Detroit and St. Louis in the US and Manchester in the UK have industries that have done less well, lower levels of highly educated and skilled workers, and few consumption advantages (Gleaser et al. 2001). Some like Pittsburgh and Detroit have bounced back or are on track to do so, largely through a strategy aimed at providing the type of amenities that attractive the creative class (Frey 2012). The Pittsburgh region, for example, was rated one of the five best places for the “creative class,” in part by investing in arts institutions and sports venues and by transforming its old industrial area into an entertainment and shopping destination (Davidson and Foster 2013, 99). Similarly, Detroit’s Creative Corridor Center (DC3), opened in 2010 by the local government, has invested in arts and cultural institutions, has fostered the creation of new enterprises and opportunities for designers, and is developing the next generation to follow careers in the creative industries. Despite the development of its Downtown and Midtown areas, the latter around some of its premier university and hospital institutions, Detroit still has the lowest share of creative class workers among US cities where these workers are agglomerating (Florida 2019).

Even if one fully credits the economic logic of urban agglomeration economics as an explanation or driver of urban growth, its costs have become clear. Richard Florida’s more recent work on the “new urban crisis” has tracked the geographic segregation of cities to which the creative class has flocked and has found that affluent, highly educated, and skilled populations tend to cluster in and around central business districts and urban centers, transit hubs such as subway, cable car, and rail lines; universities and other knowledge institutions; and natural amenities such as coastlines and waterfront locations (Florida 2017b). He has argued that the most economically successful cities—particular “superstar cities” like New York and London and “tech hubs” like San Francisco—are also the most unequal.

Middle-class neighborhoods are all but fading away. Suburbs, he points out, are growing statistically poorer than urban areas and “large swaths of them are places of economic decline and distress.” These class divisions “form a patchwork of concentrated advantage and concentrated disadvantage that cuts across center city and suburb alike” (Florida 2017b, 7).

This new urban crisis requires, in Florida’s view, a “new and better urbanism.” What this new and better urbanism looks like is up for grabs, as his long list of policy prescriptions suggests. These prescriptions include rebuilding the middle class by investing in infrastructure, building more affordable housing, reforming zoning laws to incentivize density, fostering mass-transit-oriented development, investing in people through a universal basic income, and developing new urban policies at the federal level, among others (185–218). Some of these proposals require national level action, and others are focused on mayors and other local officials who would implement them. It is hard to disagree with many of them.

At the same time, it is difficult to imagine Florida’s set of policy prescriptions displacing the idea that the city is a “location market” in which the benefits of agglomeration or proximity to certain classes and types of people are captured by those best able to grab and retain them (Rodríguez and Schleicher 2012). Increased government policies and regulations are said to be disruptive to this market, creating inefficiencies in socially optimal locations of individuals and land uses that result from relatively unconstrained individual choices. It is this very idea of the city as a market that has imposed costs on so many urban communities by fostering real estate speculation, rising rents, gentrification, and unprecedented expulsions (Sassen 2014). To grapple with the urban crisis that has resulted in the market working as it should requires something more than tinkering with policy around the margins of the market. It requires a rethinking of the city and what and whom it is for.

THE CITY AS A PLATFORM: TECHNOLOGY-ENABLED SMART CITIES

The vision of a *smart city* presents a unique opportunity to innovatively tackle significant urban problems while reinventing the city in a more open and innovative form through distributed data and technological capacity.

The idea of a smart city emerged as a strategy to mitigate problems generated by urban growth and uncontrolled urbanization processes, promising to transform urban life, urban planning, and city hall (Townsend 2014). It is poised to be responsive to a host of civil, social, economic, and ecological problems in cities by deploying information and communication technologies (ICT) and the use of big data to address them (Goldsmith and Crawford 2014).

Smart city technology can be deployed to catalyze economic development, monitor pollution and energy use, adjust traffic patterns to avoid congestion, enable better predictive policing, and deliver better health care and education, among other aspects of city life. In a smart city, high-speed wireless and broadband connectivity is provided by the city as a public good, reaching all communities and populations. Smart devices, sensors, and other technological tools are disseminated throughout the city to enable real time data. processing, management, and analysis.

For some, smart cities have the potential to turn the city into a kind of civic laboratory, enabling and facilitating data-led strategies by integrating design and community-based solutions (Townsend et al. 2010). City leaders can use these tools to enable city government to be more responsive to and engaged with its citizens, including the most marginalized and powerless. In this vision of the smart city, technology can be adapted in novel ways to meet local needs by putting urban residents in “the driver’s seat” where they will be able to “respond to subtle social and behavioral clues from their neighbors about which way to move forward” and to “use their distributed intelligence to fashion new community activities, as well as a new kind of citizen activism” (Ratti and Townsend 2011, 42–43).

Smart cities are as varied as cities themselves, in part because of the capaciousness of what the term *smart city* represents. As Robert Hollands (2008) has argued, the term obscures as much as it reveals. A smart city refers to “quite a diverse range of things,” including information technology, business innovation, governance, communities, and sustainability (Hollands 2008, 306). Hollands identified two of the main aspects of designated smart cities: the use of new technologies throughout their cities and a strong pro-business/entrepreneurial state ethos. Nevertheless, he noted that many smart city agendas were also concerned with high-tech and creative industries—such as digital media, the arts, and the cultural

industries more generally—as well as “soft infrastructure” that includes, for example, knowledge networks, voluntary organizations, safe crime-free environments, and a lively after-dark entertainment economy (Hollands 2008, 309). Still other smart city developments, he noted, manifest a concern with both social and environmental sustainability. Whereas social sustainability fosters social cohesion and inclusion, environmental sustainability focuses on the ecological and “green” implications of urban growth and development (Hollands 2008, 310).

Over the last decade or so, the smart city vision and agenda has expanded and grown, as have the number of global smart cities influencing the best practices that other cities might replicate. One recent study identified twenty-seven leading smart cities around the world—mostly “capital” or “alpha-world” cities in Asia, Europe, and North America—that are focused on “multiple dimensions” of the city beyond just infrastructure and technology (Joss et al. 2019). The authors identified the “discourse” of these smart cities—that is, how they describe their smart city—along several dimensions. Reform of urban governance, including systems integration and broader collaboration across society, was a centralizing theme of smart cities, followed to some degree by a focus on international global activity. The picture that emerges, according to the study authors, is that the smart city “is seen as an opportunity to embark on fundamental infrastructure modernization activities, for which appropriate governance mechanisms are called for” (Joss et al. 2019, 13).

Today, smart cities are the products of a consortium of aligned actors, which includes an epistemic community (a knowledge and policy community), an advocacy coalition (of stakeholders and vested corporate interests), and embedded technocrats in local government (e.g., chief technology and information officers, chief data officers, data scientists, smart city specialists, and IT managers) (Kitchin et al. 2017). At the same time, as Dan Kitchin et al. (2018) explain, the “focus, intention, and ethos of smart city ideas, approaches and products remains quite fragmented and often quite polarized.” On one hand are smart city enthusiasts—scientists, technologists, technocrats, companies, and government—who want only to develop and implement the technologies and initiatives to improve cities and city life “often with little or no critical reflection on how they fit into and reproduce a particular form of political economy and their

wider consequences beyond their desired effects.” On the other hand, are critics who raise a host of concerns rooted in political, ethical, and ideological perspectives—focused on issues of power, equality, participation, labor, surveillance, and other concerns—who come largely from the social sciences (geography, urban studies, sociology, etc.) and civic organizations. Although their critiques are powerful, they often “provide little constructive and pragmatic (technical, practical, policy, legal) feedback that would address their concerns and provide an alternative vision of what a smart city might be” (Kitchin et al. 2018).

The tensions embedded in the ideation of the smart city can manifest in a lack of trust between public authorities and the communities who are seen as its beneficiaries. The recent failure of a technologically sophisticated, state-of-the-art, sustainable neighborhood project on Toronto’s waterfront created by Google subsidiary Sidewalk Labs is illustrative of the contradictions and pitfalls of the best-laid smart city plans. Unable to trust the intentions of the sensor-based surveillance and data-driven “responsive” service and frustrated by a lack of transparency about the scope of privacy and data protection, Toronto residents lost faith in the project, and it collapsed. The heavily celebrated project, with a sense of inevitability, ultimately represented a failure of urban governance. As Ellen Goodman and Julia Powles (2019) argue in their in-depth analysis of the project’s demise, its failure is not attributable to the public’s grievance with technology or innovation per se. Rather, its failure is attributable to the fact that the public authority, a partner on the project, lost the confidence of the public that the project’s vision was compatible with democratic processes, sustained public governance, or the public interest (Goodman and Powles 2019). The public evinced deep skepticism with the “centrality and hugely asymmetric power of a private corporate group” exerting dominance over nearly every aspect of the future district (Goodman and Powles 2019, 498).

It is possible, as Duncan McLaren and Julian Agyeman (2015) have proposed, to reorient smart cities by “harnessing smart technology to an agenda of sharing and solidarity, rather than one of competition, enclosure, and division” (McLaren and Agyeman 2015, 5). For McLaren and Agyeman, “sharing and cooperation are universal values and behaviors,” and if cities are shared creations with shared public services, streets, mass

transit, and shared spaces, “truly smart cities must also be sharing cities” (24). Cities that embrace the smart/sharing city paradigm would be inclined to expand and share physical and data infrastructure more widely and put idle public resources to use in creating an inclusive urban economy (McLaren and Agyeman 2015, 71–77).

The idea of the shared, smart city offered by McLaren and Agyeman is consistent with our idea animating the co-city—that the city itself should be conceptualized as a shared resource or shared infrastructure. Like us, the authors embrace collective forms of resources sharing, peer-to-peer production, and co-produced goods and services. They also have as a goal the sharing of the “whole city,” including its technological and digital infrastructure, toward particular normative ends (McLaren and Agyeman 2015, 5). This is contrasted with a technocratic and market-driven vision of a smart city that ignores questions of power and distribution in the accessibility of basic goods and services in contemporary urban environments. The sharing paradigm, as they construct it is situated in contemporary theories of “just sustainability” and the human capabilities approach that are drawn from a number of classic and contemporary philosophers such as John Rawls, Michael Sandel, Amartya Sen, and Martha Nussbaum (McLaren and Agyeman 2015, 199–208).

What the sharing city paradigm lacks, however, is a more refined understanding of what kinds of sharing practices and policies would satisfy its normative aims and which kinds would fall short. By the authors’ own account, “sharing” practices in the cities that they highlight fall along a spectrum that ranges from the commercial to the communal, from city-wide to informal neighborhood practices. Cities like Amsterdam and Seoul, for example, have embraced both the “smart” and the “sharing” city labels, using technology to empower residents through open-access public data and free platforms for citizen participation, and to catalyze citizen development of sharing economy apps, enterprises, and start-ups. Other sharing cities have embraced policies or exhibit practices that leverage their city assets and public buildings to support community-based sharing enterprises and organizations, toward social and economic inclusion. Still others embrace policies that facilitate more profit-driven sharing economy platforms like Airbnb and Uber that are in tension with communal or solidarity forms of sharing.

For cities whose practices are more aligned with the authors' vision of a sharing city, many questions remain unanswered. For instance, how might these practices scale and replicate in different urban contexts? What are the informal and formal mechanisms that residents and communities utilize to share or *co-produce* common goods with other actors, and what are the challenges they face given the political economy of cities and the market forces that constrain these actors? What is the role of the state in facilitating sharing practices across a city that are embedded in communities' material needs and differential capacities? What kinds of place-based governance (or institutional) arrangements constitute best practices for sharing? What does it mean to consider the whole city a shared resource, and to co-create or co-produce goods and services that are accessible and open to those most in need of them?

Answering these questions involves a more comprehensive assessment of city policies and practices than that offered by McLaren and Agyeman. For this reason, the co-city framework that we have developed is rooted in significant part in a multiyear empirical study surveying hundreds of policies, practices, and projects in different cities around the world to enhance our understanding of the various ways that built, environmental, cultural, and digital goods are being co-created and co-governed in different geographic, social, and economic contexts. The empirical project sought to obtain, from on-the-ground examples, recurrent design principles and common methodological tools employed across the globe and for different urban resources. We have extracted the characteristics of these diverse efforts to develop a framework that reflects the conditions and factors that we observe as necessary to rethink the city as a shared infrastructure on which a variety of urban actors can cooperate and collaborate and in which various initiatives of collective action can emerge, flourish, and become sustainable.

What kinds of resources should be shared, collaboratively governed, or held, and which actors can (or should) manage them are in part applied questions that can be answered only by reference to the specific location and context of each city. For this reason, we conceptualize and frame the co-city as a form of urban experimentalism guided by a set of design principles that can be adapted to local context.

THE CITY AS A COLLECTIVE GOOD: RECLAIMING THE RIGHT TO THE CITY

The idea of the “right to the city” was introduced in the scholarly debate by the philosopher Henry Lefebvre ([1968] 1996) in his examination of the urban roots of social movements. As articulated by Lefebvre, the right to the city is a framework through which citizens can reclaim or re-appropriate city space, inhabit and share its spaces, and actively participate in formation and stewardship of city space. As Mark Purcell has argued in his close reading of Lefebvre, the right to the city should be interpreted, at least in part, as a struggle to “de-alienate” urban space and to “reintegrate” it into the web of social connections among urban inhabitants, activating inhabitants to participate in the collective stewardship of urban life and to manage the production of urban space themselves (Purcell 2013, 150). The right to the city is rooted also in the struggle between exchange value and use value, or between the city as a site of accumulation and the city as an inhabited place that nurtures the use value and needs of its inhabitants (Purcell 2013, 150).

Critical urban geographer David Harvey considers the right to the city as a fundamental but neglected *human right* to “make and remake the world that we live in” and the “right to change and reinvent the city” by those whose labor produces and reproduces the city (Harvey 2012, 4, 137). For Harvey, the right to the city idea embodies far more than a right of individual or group access to the city’s resources. Reinventing the city also requires endowing urban inhabitants with the “collective power” over the processes of urbanization and in decisions about urban space (Harvey 2012, 137). Harvey builds on Lefebvre’s vision of “urban” as a process rather than a fixed space or set of resources.

Despite the elegance of the theory and various forms of articulation, there are uncertainties and contradictions about what exactly the *right* to the city entails in practice. For one, we might locate the right as access to the city’s physical infrastructure, as some progressive property scholars suggest. Nicholas Blomley, for example, powerfully argues for the right of the poor “*not to be excluded*” from the property of the city (Blomley 2008, 320). He observes that “we can find many examples in cities across the world where state or private actors use the power to exclude, which is central to private

property, to displace, evict and remove the poor” (Blomley 2008, 316). This is a call for recognition on behalf of the poor of a collective claim to neighborhoods and structures within them as a response to the appropriation and enclosure of those places in ways that exclude the poor from cities. This collective claim is a highly *localized* one that includes streets, parks, and buildings, among other resources, over which the poor have legitimate interest as both a symbolic and a practical matter (Blomley 2008, 316).

The right to the city could include the right to collective political power as it relates to public deliberation and participation. The right to collective political power entails, at the least, that urban inhabitants should have an increased voice in local decision-making processes and exercise greater control over the forces shaping city space. In other words, the right to the city must mean, as its adherents agree, the right to *governance* of the city by its inhabitants. Lefebvre is clear that the decision-making role of *citidans*—urban inhabitants—must be *central*, even if he is not explicit about what exactly that centrality would mean in practical terms, including whether decisions that produce urban space should be made entirely by urban inhabitants (Purcell 2002). The right might include, at the least, the right to reject unjust collective decisions taken by local authorities (Attoh 2011).

Notwithstanding its lack of granular specificity, the right to the city discourse and framework have found practical application in some Latin American and European contexts. Most notably, in 2001, Brazil incorporated the right to the city into its City Statute, a federal law regulating urban development under Brazil’s 1988 Constitution. The City Statute sets out general guidelines that must be followed by federal, state, and local governments to ensure “democratic city management,” including through mandating participation in planning processes and adopting the principle of “the social function of property and the city.” The “social function of property” principle is found in many constitutions around the world, particularly in many Latin American countries. The doctrine embraces most broadly the idea that an owner cannot always do what she wants with her property; rather she is obligated to make it productive, which may include putting it at the service of the community (Foster and Bonilla 2011). In other words, sometimes the state is obligated to require individuals to sacrifice some property rights in order to put property to its

productive and socially functional use, or to do so itself. Through several new legal instruments allowing municipalities to control and expropriate land, the City Statute established that the development of urban land (in either the formal or the informal sector) and buildings should be determined first and foremost by its social “use value” over its commercial “exchange value” (Fernandes 2007).

Similarly, Mexico City passed its Right to the City Charter in 2010, setting out six fundamental principles that incorporate human rights and a “collective right” of urban inhabitants to the city. These principles and rights include the social function of the city and of property, participative management and democratic production of the city, sustainable and responsible management of its commons and resources, full exercise of human rights in the city, and equitable right to enjoy the city itself. The drafting of the charter involved a bottom-up process by the Urban Popular Movement (Movimiento Urbano Popular, MUP) with the participation of over 3,500 citizens through consultations and public meetings.

Both the Brazil City Statute and the Mexico City Charter were groundbreaking in instantiating the right to the city as a legal and governance principle, although both have faced challenges in implementing their broad rights and guarantees (Fernandes 2011; Friendly 2013). Market pressures have made it difficult to sustain some of the social housing and other welfare provision gains on behalf of the urban poor, given the rise of urban land values in Mexico City, for example, leading to displacement and expulsions of the urban poor (Adler 2017). Discontent with the implementation of the promise of right to the city through legislation and policy has led the precariat (the lowest-income class) to occupy vacant and underutilized land and buildings for housing (Irazábal 2018). It has also led to a push toward more collective or cooperative forms of ownership in the place of government-subsidized individual property that has faltered in the face of speculative urban property markets (Adler 2017).

More recent citizen-organized *rebel city* platforms have emerged in the aftermath of frustrated efforts to implement legal reforms like those in Brazil and Mexico City. David Harvey popularized the concept of rebel cities to encourage urban inhabitants to take an active role in resisting the process of capital-intensive urbanization—a “perpetual production of an urban commons (or its shadow-form of public spaces and public goods) and

its perpetual appropriation and destruction by private interests” (Harvey 2012, 80). In a rebel city, urban inhabitants actively engage in the struggle for reclaiming their right to the city that is under the attack by predatory capitalist forces, to retain the value that they collectively produced. Harvey highlighted urban revolutionary movements such as urban protests and sit-ins in London, Madrid, and Barcelona and the Occupy Wall Street movement in New York, as examples of the potential of rebel cities.

The turn toward rebel cities has taken hold in cities like Barcelona and Naples to strike more directly at the outsized role that capital and market forces play in controlling urban land and other critical resources. Barcelona’s transformative citizens’ electoral platform, *Barcelona en Comú* (Barcelona in Common), has successfully pushed for progressive local policies on housing and energy provision and advanced the right to information and to open, participatory decision making through new digital and platform technologies (Charnock et al. 2019). In the city of Rome, organized residents proposed a Charter of Common Rome identifying ten fundamental principles aimed at the recognition of the right to use city infrastructure and vacant spaces. This charter defines these ten principles for the participatory management of the public goods of the city, including the inalienability of state-owned assets, the right to “common use” of such assets, the recognition of the urban commons, and the right of citizens to co-manage the urban commons and participate in decision-making processes related to them (Decide Roma).

Our co-city framework shares much in common with the right to the city and rebel city approaches. Like the right to the city vision, our framework is rooted in a collective claim to certain public spaces, vacant land, and abandoned structures as shared, common resources. Conceiving the co-city through the lens of the right to the city also requires conceptualizing urban governance along the same lines as the right to the city—the right to be part of the creation of the city by participating in the stewardship or governing of urban resources. From a normative perspective, the co-city framework brings squarely into view questions of social and distributive justice. As a matter of distribution, the resources of the city should be shared more widely throughout its communities and on behalf of its inhabitants, particularly the most vulnerable and those subject to what Saskia Sassen (2014) calls “expulsions”—unprecedented displacement,

evictions, and eradication of living spaces and professional livelihoods. We join progressive property scholars, like Nicholas Blomley (2008), who poignantly call for the recognition on behalf of the poor of a collective claim to neighborhoods and communities as a necessary response to the appropriation and enclosure of urban spaces and infrastructure through private property rights.

It is communities, as property scholar Greg Alexander (2009) has argued, that are the mediating vehicles through which people acquire the resources that they need to foster the capabilities necessary to function and flourish. In other words, human flourishing requires resources, although ownership of those resources is not always required for all kinds of capabilities; use and access may be enough (Alexander 2020). Nevertheless, as progressive property scholars argue, “however the details are conceived, attention to human beings’ social needs pushes strongly in the direction of a state obligation to take steps to provide substantial and realistic opportunities for people to obtain the property required for them to be able to participate at some minimally acceptable level in the social life of the community” (Alexander and Peñalver 2009, 148).

Consistent with the capabilities approach to questions of justice, in the co-city framework the state—the central or higher-level government—plays a crucial role in enabling and facilitating collective action as well as providing some of the necessary resources to generate and sustain resources as urban commons. The co-city approach federates a wide spectrum of actors, agents, and sectors in the city, including single city inhabitants or informal groups, civil society organizations, knowledge institutions, and private institutions, to pool resources in order to co-govern or steward city infrastructure, assets, networks, and services. The result of these *pooling* practices is the co-production and co-governance of affordable housing, land for growing food, green or recreational space, shared entrepreneur and workspaces, and new forms of broadband connectivity and energy provision. These pooling practices—what we also refer to as *pooling economies*—emerge out of the collective action of different actors who, using existing urban infrastructure, mix and match their resources to expand their capacity to construct and co-govern urban essential resources. The participation and active urban citizenship manifested in these pooling practices resonate with what historian Peter Linebaugh has

called “commoning”—social practices of users in the course of managing shared resources and reclaiming the commons (Linebaugh 2008). It also builds on Lefebvre’s vision of *urban* as a process rather than a fixed space or set of resources.

THE CITY AS A COMMONS: THE CO-CITY VISION AND FRAMEWORK

The co-city framework is supported by the conceptual pillars of the urban commons and the idea of the city as a commons. Starting over ten years ago, we began to explore the idea that urban infrastructure and other resources within cities could be collectively or cooperatively governed by city residents, most often sharing this governance responsibility with other actors depending on the scale of the resource. Our study of the *urban commons* began as separate projects that each investigated how various kinds of urban assets such as community gardens, parks, neighborhoods (Foster 2006, 2011) and urban services and infrastructure such as urban roads (Iaione 2008, 2010) could be reconceived as common resources. We later joined our efforts to conceive the city itself as a commons, which we defined as a shared infrastructure on which a variety of urban actors can cooperate and pool resources and where various initiatives of collective action can emerge, flourish, and become sustainable (Foster and Iaione 2016). Thinking of the city as a commons is a way to acknowledge that the city is generative, capable of providing for different social and economic needs of its population.

The *commons* has a long historical and intellectual lineage ranging from the enclosure movement in England to the Nobel Prize winning work of Elinor Ostrom. In her groundbreaking work, Ostrom documented the success of human communities around the world that rely on natural resources—such as lakes, forests, and fisheries—to collectively govern those resources by creating “institutions resembling neither the state nor the market,” which have had reasonable degrees of success over long periods of time (Ostrom 1990, 1). Under certain conditions, Ostrom found, resource users collectively decide how to produce value from the resource, enforce rules and norms of use, and avoid overconsuming or depleting the resource over time.

Ostrom's work sparked the study of a variety of user-governed, shared resources beyond natural resources that require thinking about the process of developing and enforcing rules, social norms, and other legal or governance tools for sharing and sustainability utilizing those resources. Scholars have conceptualized and articulated new kinds of commons that involve "communities working together in self-governing ways to protect resources from enclosure or to build newly open-shared resources" (Hess 2008, 40). These include knowledge commons, cultural commons, infrastructure commons, and digital commons, among others. Until the last decade or so, there had not been a serious effort to apply the commons to the built environment in cities. Although the literature on natural resource *commons* and *common pool resources* is voluminous, virtually no scholars had endeavored to transpose Ostrom's insights into the urban context in a way that captures the complexity of the *urban*—the way that the density of an urban area, the proximity of its inhabitants, and the diversity of users interact with a host of tangible and intangible resources in cities and metropolitan areas.

Through our individual and joint work, it became clear that cities and the many kinds of urban resources within them differ in important ways from traditional, natural resources commons as well as other kinds of new commons. We needed to start with Ostrom's work and her design principles but also to acknowledge the limits of her framework and its applicability to the urban environment (Foster and Iaione 2019). The economic, regulatory, and political complexity of cities for us means that although it would be tempting to simply transpose Ostrom's work and findings to the city and to apply them to the stewardship and governance of many kinds of public and shared resources in the city, doing so would obscure rather than illuminate any concept of the urban commons. Moreover, our work raised larger social and economic issues related to broadscale urbanization than existing commons literature adequately accounted for. We realized that we needed a different approach that bridged urban studies and commons studies, which encompass multiple disciplines ranging from law and economics to political science and geography (Iaione 2015).

Apart from our work, the urban commons has become an important conceptual framework across many disciplines for examining questions of resource access, sharing, governance, and distribution of a range of both

tangible and intangible resources in cities (Borch and Kornberger 2015). Urban commons in this growing body of literature encompasses both material and immaterial resources—ranging from housing, urban infrastructure, and public spaces to culture, labor, and public services (Dellenbaugh et al. 2015). The language of the commons is deployed to disrupt the boundaries separating public and private goods and services in cities and to open up those goods and services to public use in ways that do not depend on and are not controlled by a prevailing authority (Stavrides 2016).

Progressive scholars and activists also invoke the idea of the urban commons to bring under scrutiny the ways that capitalist power has resulted in the enclosure of urban space by economic elites (Harvey 2012). The literature on urban commons in part investigates the city as a site of capital production and surplus and a place of contestation for resources (Stavrides 2016). For these scholars, the urban commons must be “wrenched” from the capitalist landscape of cities out of fear that collective or common resources are always susceptible to being co-opted by the market (Huron 2015). The roots of progressive reformers’ commons analysis are traceable to the work of Michael Hardt and Anthony Negri (2009), who refer to the “common” (rejecting the term “commons” as a reference to “pre-capitalist shared spaces that were destroyed by the advent of private property”) as the product of shared efforts by city inhabitants. Cities are, as they argue, “to the multitude what the factory was to the industrial working class”; in other words, it is the “factory for the production of the common,” a means of producing common wealth (Hardt and Negri 2009, 250).

We embrace the potentially disruptive role of commons discourse to highlight the privatization and enclosure of city space and to interrogate who has access to our shared resources in cities and how they are allocated and distributed. The language of the commons is a powerful counterclaim to resources on behalf of city inhabitants subject to the dispossession and displacement that has resulted from unfettered capital accumulation. Making claims on urban resources and city space as a *commons* creates an opening, or space, to bring under scrutiny the character of particular urban resources in relationship to other social goods, to other urban inhabitants, and to the state. Thinking of some urban assets as resources to be collectively or collaboratively stewarded by an identified community or group of people requires us to move beyond the public/private and market/state

binary choices to which we often default in thinking about resource use and control. It is in the space between public and private and between market and state that we locate a set of rich conceptual and practical possibilities.

Locating the rich set of practical possibilities for collectively stewarding and governing urban infrastructure has motivated our development of the co-city framework. In addition to our scholarship, the co-city framework is rooted in our own experiences working with city officials and subsequent empirical investigation of different policies and practices in cities around the world. We began applying our conceptual approach to the urban commons and to the city as commons in Bologna, Reggio Emilia, and Rome Italy, as part of their experiments to create a *collaborative city*.

In 2011, the local administration in Bologna began a process to put into place a set of policies that would reshape the social, economic, and political functioning of the city. Two of the centerpieces of this effort, in which we participated, were the drafting of two new local regulations. The first regulation concerned “The Realization of Micro-Projects of Improvement of the Public Space by the Civil society.” The second regulation, which became more well known, was on “Collaboration between Citizens and the City for the Care and Regeneration of the Urban Commons.”

The second Bologna regulation, adopted in 2014, empowered the local administration to enter into “pacts of collaboration” with some mix of city inhabitants, representative civic groups, local nonprofits, and local businesses. The pacts are created through a co-design process that includes robust public participation, resulting in an agreement that describes the urban resource that is the subject of collaborative regeneration and/or co-management and the project scope including the duration and the respective roles and commitments of the actors involved. The regulation also provides for different forms of fiscal, logistical, training, and organizational support from the city to realize the goals and implementation of the pacts.

The regulation on collaboration between citizens and the city was the cornerstone of this urban economic transformation and civic engagement process, but it was only a part of the larger experimentation. The regulation was designed to rely on neighborhood experimental projects as its starting point. These were fieldwork activities that consisted of three *governance experimentation labs*, which comprised a mentoring and co-design program in which local officials worked together with local NGOs

and neighborhood residents with the support of experts and scholars. In these governance labs, communities of actors were able to identify and co-design projects that would revitalize or regenerate three types of *urban commons*—cultural assets, green spaces, and city-owned buildings—and to overcome legal and procedural obstacles that could hinder meaningful cooperation with local officials and more cooperative engagement of neighborhood residents.

Following the successful adoption and implementation of the Bologna regulation (to date, around six hundred pacts of collaboration signed and implemented), other cities began experimenting with similar regulation and policies. First, several Italian municipalities embraced the Bologna approach, sometimes copying verbatim the Bologna regulation and other times instituting their own innovative approaches to fostering co-governance of urban resources. On the heels of the Bologna regulation, for example, the city of Reggio Emilia enacted the “Neighborhood as Commons” policy, implemented through “citizenship agreements,” which spurred hundreds of innovation projects in neighborhoods that served almost 14,000 users and were co-designed in citizenship labs. The city of Naples, as another example, adopted a “civic and collective urban uses” policy that recognizes informal management by city residents of city-owned buildings. The city of Turin approved a regulation that blends the Bologna and Naples approaches through “civic deal(s)” that recognize and grant rights of collective use, management, stewardship, and ownership of shared urban assets specifically designed to reduce poverty in the city. In Rome the regulatory and governance complexity suggested the creation of a citizen science platform and project called Co-Roma, which allowed the experimentation in a large metropolis of adaptive and polycentric governance mechanisms such as creation of a community cooperative for vulnerable neighborhoods, a city-region-citizens contract for the Tiber River, and a house of emerging technologies for sustainable development.

Subsequently, other cities in Europe adopted analogous initiatives and regulatory approaches. Madrid passed an ordinance on social cooperation for the urban commons, and Barcelona is implementing a “Citizen Asset program for community use and management.” More recently, cities in northern and eastern Europe—Ghent (Belgium), Amsterdam (Netherlands), Gdansk (Poland), Presov (Slovakia), and Iasi (Romania)—are

working on a similar, common regulatory scheme under the auspices of the *Civic eState Urbact project*. We discuss the Bologna project and some of these other examples from European cities in chapter 3.

Similar projects have since emerged in North American cities, including cities as diverse as New York City and Baton Rouge (Louisiana), and in the Global South cities such as San Jose (Costa Rica) and Sao Paulo (Brazil). These projects are less focused on regulations and ordinances, and more on the co-creation of innovative forms of affordable housing, broadband and wireless networks, and regeneration of public spaces or vacant land and buildings, particularly in marginal or disadvantaged communities. For example, in New York City, the co-city approach is using the infrastructure of a *smart city* to create a community governed broadband network in Harlem to bridge the digital divide there that leaves one-third of households and families without access to broadband internet at home. In Baton Rouge, the co-city approach is deployed to revitalize a historically African American four-mile commercial corridor developing a portfolio of innovative community-based institutions for resident stewardship and governance of existing community assets. We discuss these two projects in chapters 4 and the conclusion, respectively.

On the basis of the Bologna experience and the interest of other cities and communities in adopting similar regulatory or public policy approaches to co-management and co-governance of urban infrastructure, we decided to launch an empirical investigation of the ways that collectively shared and collaboratively stewarded resources can be created and sustained in different political, social, and economic environments. To date, we have mapped over two hundred cities around the world and over five hundred policies and projects within them as part of the co-cities project. The data set, contained in an open book, published on the web platform (commoning.city), and summarized in the appendix to this book, provides case studies of projects and public policies from the cities mapped. From those cities mapped, we more closely analyzed, through interviews with relevant stakeholders and/or more extensive desk research, 140 cities with 289 cases within them.

The cities that we surveyed and analyzed were selected on the basis of the existence of a project or policy relevant to creating, enabling, facilitating, or sustaining collaboratively or cooperatively shared resources utilizing the existing infrastructure of cities. To capture diversity, we identified

and included a group of case studies for every geographical area, including southern Europe, central and northern Europe, eastern Europe, North America, Central America, Latin America, northern Africa, sub-Saharan Africa, Asia, and Oceania.

The examples discussed throughout the book are based in large part on the most robust case studies developed from our empirical exercise. These roughly thirty exemplary cases offer important examples and insights from cities worldwide in which there are emerging community or city-level initiatives that enable and facilitate the pooling of resources that result in urban goods and services that are collectively governed, stewarded, and shared by marginal and disadvantaged populations. These increasingly taking the form of city policies supporting community control of neighborhood land and physical infrastructure, new forms of co-housing, limited equity cooperatives, and community-shared digital networks, among others.

The goal of the empirical aspect of the co-cities research project has been to extract some of the characteristics of these diverse efforts to develop a common framework and understanding of recurrent principles and common methodological tools employed in different contexts and for different urban resources. The result of this research project is to offer those observations as *design principles* to help guide the experimentation of the co-city approach beyond the examples we offer in the book; the design principles can be adapted to local context.

We have distilled five basic design principles, or dimensions, from our practice in the field and the cases that we identified as sharing similar approaches, values, and methodologies. These five key design principles of co-cities are the following:

- Principle 1: *Collective governance (or co-governance)* refers to the presence of a multistakeholder governance scheme whereby a local community emerges as an actor and partners (through sharing, collaboration, cooperation, and coordination) with four other possible categories of urban actors to co-produce and/or co-govern urban resources; the four actors include public authorities, private commercial entities, civil society organizations, and knowledge institutions such as schools, universities, libraries, cultural institutions, museums, and academies.
- Principle 2: *Enabling state* expresses the role of the state (usually local public authorities) in facilitating the creation of shared urban resources

and supporting collective governance arrangements for the management and sustainability of these resources.

- Principle 3: *Social and economic pooling* refers to the presence of autonomous, self-sustaining institutions (e.g., civic, financial, social, or economic) that are transparent, collaborative, and accountable to local communities and operate within nonmainstream economic systems (e.g., cooperative, social, solidarity, circular, cultural, or collaborative economies) that pool resources and stakeholders toward the creation of new opportunities (e.g., jobs, skills, and education) and services (e.g., housing, care, and utilities) in underserved areas and neighborhoods of the city or for vulnerable inhabitants.
- Principle 4: *Experimentalism* is the presence of an adaptive, place-based, and iterative approach to urban planning, legal reforms and policy innovations that enable the co-creation of collectively shared urban resources.
- Principle 5: *Tech justice* highlights access, participation, and co-management and/or co-ownership of technological and digital urban infrastructure and data as an enabling driver of cooperation and co-creation of shared urban resources.

We describe these principles in more detail in chapter 5. The appendix illustrates that even in our exemplary case studies, the presence of each of these principles varies. How strongly each is present in a particular case can depend on different contexts and the kinds of resources being constructed and shared. The design principles are not intended to be prescriptive but rather a starting place to create conditions that reflect those principles. Throughout our examples, drawing on our own experiences, we have also been attentive to the recurring legal, financial, institutional, and digital/technological tools and mechanisms that contribute to the presence of the design principles. Creating the conditions for a co-city requires attention to its aims, attention to its basic principles, and a willingness to learn from the experiences and experiments of others who are pioneering this approach.

THE CHAPTERS

This book has been designed to offer the reader a theoretical and conceptual map to the co-city framework as well as real-world examples of how shared goods are constructed from available and accessible urban

infrastructure. The book then introduces and analyzes the emergence of pioneering legal and policy responses that facilitate collective governance or stewardship of resources in different kinds of cities around the world.

Chapter 1 introduces the foundational challenge from which our framework emerges: the tension between the exchange and use value of urban land and infrastructure. Both in resurgent cities like New York and in *minimal* cities like Detroit, residents in communities that lack basic goods like affordable housing or internet access and lack adequate employment opportunities want access to urban infrastructure—vacant and underutilized land and structures—to transform them into affordable housing units, urban farms, or spaces for local entrepreneurs or artists. Local governments most often value these assets for their potential market exchange value. Some even view the divestment and sale of vacant public property as an economic necessity. At the same time, these assets are valued by residents for their relationship to the community, whether on the scale of a block or of a neighborhood. The use value of these resources comes from their everyday use, the solidarity that it creates among its users, and its accessibility to surrounding residents. Communities living near these assets may endeavor to work with the public sector and other actors to construct new urban resources or goods to meet the needs of surrounding communities: housing, parks, urban farms, co-working spaces, and other resources and goods.

Our starting point is to rethink the city, and specifically the infrastructure of the city, as a shared or common resource that is capable of being generative through the collective action of various urban actors who can construct new goods from this infrastructure to meet the social and economic needs of urban populations. In this sense, we can think of the city as a *commons* and recognize as legitimate, and even innovative, the efforts by residents to utilize land and other infrastructure and to pool resources with other actors in order to construct informal neighborhoods and settlements, community gardens and urban farms, mesh wireless networks, and new limited equity housing and commercial spaces that are collaboratively governed by community, public, and private participants for long-term affordability and sustainability. The chapter reflects on the role of the state—central authorities—in enabling and facilitating these efforts throughout a city, creating a polycentric system of urban governance.

Chapter 2 delves deeper into the concept of the urban commons, beginning with understanding how urban commons differ from the kinds of common pool resources that Elinor Ostrom and others have studied. Some urban resources, such as parks and urban gardens, at first glance may resemble the kind of natural resource commons that are the subject of Ostrom's (and many others') work. However, we argue that many facets of collectively stewarded or governed urban resources are notably distinct when observed and studied in the context of contemporary cities that are often crowded, congested, socially diverse, economically complex, and heavily regulated. As such, we highlight some characteristics of *constructed* urban commons that are not captured well in the literature on user-governed natural resource commons. We identify three elements that are key to the creation of many urban commons and that are not always present in collectively managed natural resource commons. These are the role of central authorities (the state) in enabling the creation and sustainability of urban common; legal and property experimentalism or adaptation; and social and economic *pooling*.

We also draw a clear distinction between top-down and bottom-up urban commons. The former kind are exemplified by park conservancies and business improvement districts. Although these institutional arrangements resemble some of the features of Ostrom's design principles for collective governance of shared resources, they are not the kinds of constructed commons that our work has identified as engaging resource users in the stewardship of shared common goods. Instead, they represent the kinds of self-professed *public-private partnerships* that can carry costs for urban communities least able to participate in the stewardship of the common resources that they manage. Many other kinds of urban commons emerge, on the other hand, from bottom-up efforts of residents or resource users who are motivated to overcome traditional collective action problems and to collaborate to construct new goods and services that many urban communities lack or find inaccessible to them. These constructed commons are increasingly taking the form of community land trusts, new forms of co-housing, limited equity cooperatives. We discuss the way that these institutions can become nested within the institutional framework of the city through public-community partnerships or public-private-community partnerships and can scale with the support of local

policies and public resources to create a polycentric network of urban commons in the city.

In chapter 3, we turn to the emergence of city policies that enable, facilitate, and support urban commons and allow them to nest within the governance infrastructure of the city. We examine the emergence of public policies in a handful of cities that endeavor to deeply engage citizens through public-public and public-community partnerships with the goal of implementing an arrangement in which citizens are governing the city rather than merely being governed. The policies described in this chapter situate the local government as an enabler and facilitator of collaboration and ultimately of political and economic redistribution through shared urban goods and infrastructure. While communities and other stakeholders organize themselves autonomously as potential collaborators that can collectively manage urban resources, city officials and staff are tasked to assist, collaborate, and provide technical guidance, which can include data, legal advice, communication strategy, design strategies, sustainability models, and other assistance, to those efforts. The governance output that emerges from implementation of these policies is the co-design of a variety of urban commons as well as the co-production of community goods and services at the city and neighborhood level.

To better understand and turn a critical eye toward these policies, we organized them in two categories: *declaratory* versus *constitutive* policies or laws. A declaratory policy acknowledges the existence of collectively managed individual resources or neighborhood institutions as forms of urban commons. These policies officially recognize the right of these communities to self-organize and might entail recognition of social norms agreed upon by the community and/or validation of the public value produced by the community that justifies their right to utilize the shared resource. The local government might even enter into some sort of agreement with the collective, lending legitimacy and some stability to the effort as well as indirectly encouraging other bottom-up efforts throughout the city. Constitutive policies, on the other hand, embody a more top-down, institutionalized approach. They are specifically aimed at encouraging the creation of urban commons throughout the city and endeavor to create the conditions for governing some city resources collaboratively by offering new legal authority or adapting existing laws. Those two approaches

are implemented through a range of different legal tools ranging from collaboration pacts or agreements to civic-use regulations allowing the private use of public assets. Both approaches present ongoing challenges and attendant costs, which we discuss in the chapter.

Chapter 4 conceptualizes the urban co-governance that is reflected in policies and settings in which communities interact with the state and other actors to collectively create and steward urban resources like land, buildings, and even utilities and wireless networks. This urban co-governance embraces the role of the facilitator state, in which city officials and staff are tasked to assist by providing resources and technical guidance to help create the conditions for co-governance, sometimes in the form of public-public and public-community partnerships. It also creates a system that at its core redistributes decision-making power and influence away from the center and toward a network of engaged urban actors. The co-governance model that we embrace takes as a starting point the active involvement or participation of urban residents in the management and governance of urban resources to support the livelihood and well-being of their communities. We argue, however, that to truly generate collective benefits for city residents and truly democratize the local economy, citizens cannot act alone. As such, our model of co-governance implies the involvement of other actors including public authorities, private enterprises, civil society organizations or NGOs, and knowledge institutions. The only question is how to think about, or conceptualize, their involvement. Building on the idea of the helix from innovation studies, we propose a *quintuple helix* or 5P co-governance model that integrates the literature on innovation ecosystems, engaged universities, and citizen science, participatory or deliberative democracy, and governance of common pool resources. It also argues that communities need learning and digital and financial tools to completely realize the kind of co-governance that we envision, and it offers examples of what those tools do and can look like.

The chapter contrasts co-governance with participatory policies, such as participatory budgeting, and other forms of decentralized local decision making. Even the highest form of participation and citizen power can fall short of altering the unequal power dynamics, privileges, and advantages that often characterize urban geographies that are stratified by class, ethnicity, immigrant status, and race. The challenge for any system

of participatory or collective governance is to avoid replicating the very inequalities and power dynamics that they are often set up to address. The best collaborative urban processes, in our view, will intentionally and deeply engage and empower the most vulnerable stakeholders in any *partnership* process, arrangement, or agreements. The chapter offers examples of cities that are experimenting with institutional and organizational public-community partnerships (PCPs) and public-private-community partnerships (PCPPs) that target areas and populations exhibiting poor health, social, and economic outcomes. These partnerships are aimed not only at improving the quality of urban space and infrastructure or strengthening community social ties but also at leveraging constructed urban commons as platforms to generate collaborative economies that provide communities in these neighborhoods with the opportunity to develop new skills, support job creation, and offer childcare and other shared services. These examples also reveal other innovations in designing an environment that is conducive to co-governance arrangements throughout a city, such as the importance of administrative mediators (i.e., the neighborhood architect) and institutional spaces (i.e., the co-labs and the collaboratory) that facilitate public, civic, and private actors to collaborate before institutionalizing the alliance through contractor or legal partnerships. These examples also demonstrate the crucial role that digital and technological infrastructures play in increasing the capacity of vulnerable communities to engage in partnerships with other actors as part of urban co-governance.

Chapter 5 explains the five design principles that characterize a co-city: a city that enables its infrastructure to be utilized as a platform on which a variety of urban actors cooperate and collaborate to govern and steward built, environmental, cultural, and digital goods through contractual or institutionalized public-community partnerships or public-community-private partnerships. These partnerships involve cooperation and collaboration between civic, knowledge, public, and private actors that support the creation and governance of shared and common resources by an identified group of people or community vested with the responsibility of maintaining and keeping accessible (or affordable) the resource for future users and generations. These recurring characteristics, methodologies, and techniques best define the ways in which the city can operate as a cooperative space in which various forms of urban commons can emerge and

can be economically, socially, and ecologically sustainable. Some of the design principles described in this chapter resonate with Elinor Ostrom's design principles, whereas others reflect the reality of constructing common resources in the context of contemporary urban environments.

A short concluding chapter, chapter 6, reflects briefly on the challenges that we continue to face in the application of the co-city design principles and pathways for future study and research. The design principles are extracted from the projects that we have surveyed and studied, including some in which we have participated. As the co-city approach has spread to different kinds of cities, we have begun to identify some of the challenges to its application in other political, social, and economic contexts. In this concluding chapter, we identify new challenges from projects in Baton Rouge, Louisiana, and Rome, Italy, which will test the power and saliency of the co-city approach to address endemic racism and injustice in a US city and bureaucratic ossification and wealth concentration in a capital city with one of the richest cultural heritages and most vibrant sustainable innovation ecosystems in the world.

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