



City, Public Value, and Capitalism

New Urban Visions and Public Strategies

Edited by Hiroyuki Mori, Tomohiko Yoshida, and Ari-Veikko Anttiroiko



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The Age of Urban Visions: From Global Cites to Civic Cities

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CITIES AND THE CAPITALIST ECONOMY

Human beings have built and resided in cities since ancient times. Cities throughout history have been the “flower of civilization:” they have contained the cutting-edge social resources of their times and have been a driving force shaping the history of humankind.

Most cities were originally created based on political and religious powers around which various social and economic activities were carried out and, ultimately, around which urban societies developed. Cities with a clear identity as a “political city” and “religious city” can still be found all over the world.

In modern times, the market economy itself has become the driving force for the formation and development of cities, and “industrial cities” or “economic cities” are now more common than political or religious ones. In some cases, private industry grew spontaneously, and in others the politically-directed market economy exerted great power. Both types of city growth result from the logic of constant expansion tied to the development of capitalism. Capitalism is an economic system dominated by capital that aims for an eternal process of economic value accumulation that subordinates entrepreneurs and workers. Capitalism pursues constant economic growth for society as a whole, and cities have been the centers of capitalistic economic development. Cities today are developed by the power of this capitalistic economy and have become a base for capital accumulation; land use and public policy are geared toward the purpose of economic growth (Harvey, 1985).

On the other hand, the accumulation of economic resources in the space of the city has threatened the lives of residents in urban societies. Big companies and high-income earners occupy land that is in good condition and benefits from infrastructure and other social and economic benefits, driving workers to poorer

residential areas and suburbs. These workers are forced to live in poor housing and endure bad traffic conditions. Over time, the absence of public health and pollution control eroded their lives and health. Even the supply of social resources such as decent housing and water have been so inadequate that cities were constantly afflicted with fear of infectious diseases and pollution. These issues emerged as a new category of social problems called urban problems. Urban problems emerge at every point in the history of the industrial city. While urban growth under capital accumulation was actively driven by the market economy, the urban policy created to deal with the social costs caused by it was poorly designed and implemented.

The appearance and development of industrial cities continued into the twentieth century. The shift of industrial structure from light industry (e.g., textiles) to heavy industry (e.g., petrochemicals) has led to the development of cities where environmentally destructive industries were concentrated. Environmental problems such as air and water pollution have been extremely damaging to biologically vulnerable populations, such as the elderly and children, and the socially vulnerable, such as those with low incomes. Cities are densely populated and required the presence of social services, public facilities, and infrastructure for residents to be able to live a decent life together.

However, under market-led socio-economic systems, public policies focused on economic growth were prioritized. The municipalities did not actively adopt urban policies from a positive perspective to actively solve the difficulties of living for people, so social movements stepped in to solve urban problems. However, even after these movements, since people in weaker social positions tended to be the victims of urban problems, the enhancement of social services and pollution control measures were frequently neglected.

The growth of the city has also had a significant impact on the natural environment. Natural and agricultural lands in and around the city became the target of development due to their inferior economic value. When municipal power for city planning was weak, the city developed in a chaotic manner, taking on an ugly appearance. These development activities increased the administrative and financial burden on local governments and caused waste in public finance. The unplanned accumulation of business establishments and housing in central areas led to delays in the development of communal social conditions, leading to a shortage of public services such as schools, nurseries, water and sewage systems, and transportation. Residential areas built one after another in the suburbs were often equipped with the necessary infrastructure and social services from the beginning and enormous transportation investments were made to connect them to the central areas. Infrastructure development for disaster prevention also had to be improved in areas where the risk of disasters increased due to business-led land development in both the private and public sectors.

CITIES OF THE TWENTIETH CENTURY—DEVELOPING INTO GLOBAL CITIES AND SUSTAINABLE CITIES

Nevertheless, in the decades after World War II, progress in urbanization meant that some of the fruits of high economic growth could be directed to public policies. The three conditions that formed the post-war welfare society were the market economy, the nation state, and democracy, and all worked together. These conditions made it possible to balance urban economic growth and necessary urban policies in a

relatively even manner because economic growth increased central governments' and municipalities' tax revenues and allowed them to direct their fiscal resources to the urban policies necessary for the improvement of citizens' lives. In short, within the post-war socioeconomic system, the market economy came under control.

However, cities still faced economic and social problems. Under capitalism, national and local governments had no choice but to adopt public policies premised on economic growth, in which effective urban policies still tended to constantly fall behind. Yet while the rise in respect toward basic human rights during this period advanced urban policy, the change was short-lived.

Welfare states suffered from low economic growth and budget deficits. As a response, so-called neoliberal policies emerged in a search for solutions in the 1980s. Neoliberal economic thought is market fundamentalism, which seeks to entrust the socioeconomic system to market mechanisms as much as possible. The social services and public works projects provided by the central and local governments up to that date were marketized and commodified. Public sector functions were privatized and outsourced to the private sector. Deregulation in the public sector was also carried out to promote this trend, and the natural and social environment of urban and rural areas changed considerably. In the public sector, a type of organizational management that imitated business companies, called new public management (Hood, 1991), was introduced, and citizens were treated as customers/objects rather than sovereigns/subjects. Citizens who did not pay a fair amount of tax became bad customers of the public sector, and the safety net for vulnerable groups—who needed the government most—became fragile.

The psycho-cultural impact of the spread of neoliberalism led to a prevalence of extreme individualism and self-responsibility. Under the neoliberal philosophy, deregulation, privatization, and fiscal cutbacks have been promoted since the late 1980s, and the market economy has been separated from political administration and civil society and has taken on a superior position. Moreover, in concert with this, “world cities” or “global cities” such as New York, London, and Tokyo developed as new fields of urban research (Friedmann, 1986; Sassen, 1991). The industrial structure of cities has changed drastically, and with the progress of IT, a specialized field called the creative industry expanded significantly (Florida, 2002). The development of these new, growing industries have been a major source of economic growth in the twenty-first century, and, when coupled with the deregulation of the labor market, have widened the wealth and income gap (Sassen, 1991).

This gap has also sharpened social conflict in the city. The city center has been redeveloped to allow for new business activities and to serve the lifestyles of the wealthy. Global money, which has been constantly moving on an international scale, flowed into cities, and urban real estate became the target of global speculative investment. Gentrification expelled the citizens who lived in the city (Smith & Williams, 1986) and has come to be called “urban enclosure” (Hodkinson, 2012). As a result, disparities and conflicts have sharpened not only in the economy but also in living conditions among citizens. This change was the logical consequence of economic growth associated with the shrinking function of the public sector. The dominance of the city by the market economy—a constant characteristic of modern history—was advanced to its limit.

In addition, the future of the global environment was jeopardized by the expansion of human economic activity. International environmental problems such as global

warming, ozone depletion, acid rain, and marine pollution have become common issues for all humankind.

In response to these realities, deliberative discussions on how a city could best operate have been ongoing since the 1990s. Various opinions on alternative city images include the effort of sustainable cities led by Europeans (Expert Group on the Urban Environment 1996). This was an urban movement that responded to the environmental crisis and tried to transform the economic structure of the city into one that was environmentally friendly. This movement was strongly influenced by the idea of sustainable development, which was the philosophy promoted by the report *Our Common Future*, submitted in 1987 by the United Nations World Commission on Environment and Development. Sustainable development places the environment at the center of urban policy.

Unfortunately, the sustainable cities movement during the late twentieth century was based on the premise of maintaining economic growth and demanded that social costs—such as environmental destruction and resource waste—be internalized based on a fair distribution of environmental harm between present and future generations. Due to their economic priorities, sustainable cities had a relatively weak awareness of the other social issues that prevailed in the modern generation.

THE SPREAD OF SOCIO-PATHOLOGY AND VARIOUS RESPONSES IN CITIES

In the late twentieth century, the world entered the era of neoliberalism in earnest as its influence intensified in cities. Economic globalization, which encouraged the free movement of capital, weakened national borders and caused nation-states to suffer from chronic fiscal pressure. It was the same in cities. This situation prompted a battle among states and cities to attract capital through deregulation and corporate financial support such as tax reductions and subsidies for private companies. At the same time, the role of the public sector was decentralized from the central government to local governments and the private sector.

This battle also meant that people faced lower wages and reduced social services. Inequality widened and poverty intensified, and discrimination against immigrants and certain racial groups increased. In the discussion sustainable cities, however, these conditions were moved to the background. How to deal with growing social conflict caused by reductions to income and social-service disparities has become a major social issue in cities.

As one factor in globalization, cities around the world embraced tourism as an important economic strategy, which in turn caused new social issues. Underlying this trend is the fact that cities have tried to compensate for the shrinking population and economy by developing tourism demand. This is especially true in cities like Kyoto, where tourism resources are abundant while the outflow of working generation is large and birth rate is extremely low. Middle-class and wealthy people from all over the world were rushing to cities in each country as tourists, and hotels and accommodation facilities for tourists were built in order to absorb demand. Traditional commercial stores shifted their aim from residents to tourists. Land and housing prices skyrocketed, a significant portion of existing housing was transformed into facilities for tourists, and some residents were expelled. Chronic problems with infrastructure such as transportation congestion and poor waste treatment occurred,

which worsened urban residents' daily lives and aggravated their dissatisfaction. Cities around the world began to seek ways to balance residents' lives with tourism.

In addition, many cities in developed countries began to shrink due to declining population and employment. The most typical situation is found in Japan, which is in the midst of the fastest population decline among all countries, with a population aging more rapidly than any in human history. In particular, Japan has a rigid immigration policy, severely restricting the acceptance of immigrants from abroad, so the population decline has been sharp (Hollander, 2018). Due to the declining population in Japan, the country's urban spaces have been compared a sponge, filling with holes as population density has decreased and the problem of vacant houses has become a national social issue. Declining population density negatively impacts administrative and financial efficiency. Many cities in Japan aimed to be compact cities that concentrate people in the city center based on the 2014 amendment of the Act on Special Measures Concerning Urban Renaissance.

A compact city approach like Japan's causes gentrification because it concentrates administrative and financial resources in the city center. By deregulating land use to encourage compact city formation, the compact city promotes the consolidation of public buildings such as schools and the construction of high-rise condominiums that can accommodate a large number of people. This approach also tends to damage the community and the built environment.

Sustainable cities aimed for environment-friendly urban development. The explosion of the Fukushima nuclear power plants caused by the Great East Japan Earthquake in March 2011 made the shift to renewable energy an international trend. The normalization of atypical weather has made it clear that climate change is an unavoidable problem, and the number of cities that control greenhouse gases and save energy as much as possible has expanded. Smart cities, which seek to be energy-efficient through IT, are one outcome of this idea. Smart cities are a form of city created by a new industrial structure and initiatives to actively utilize the latest information technology for urban development.

Major efforts have also been made to reduce dependence on the neoliberal free market economy and to create an urban economic structure that is as independent and circular as possible. The guiding idea of the market economy is that the best way to purchase goods and services is to "buy good things as cheaply as possible." Based on the theory of comparative advantage in economics, it is rational to actively purchase cheap and good products and services from outside the city, and conversely to sell products and services with comparative advantage in the city to the outside. However, the logic of comparative advantage presupposes normal and stable times. In the event of a disaster or other emergency, the socioeconomic structure that presupposes such a division of labor exposes vulnerabilities due to long supply chains.

Therefore, the movement to create a resilient urban economic structure has aimed to increase the economic circulation within the city and diversify its industrial structure in order to construct a community-based or social-solidary economy as promoted worldwide through the "buy local" and "slow food" movements. This represents a reemergence of the idea that the existence of the community should be valued. In addition, it has begun to develop into "municipalism," extending into a movement that enhances the economic, political, and administrative independence of a city as a whole (Baird, K.S. et al., 2019; Thomson, M. et al., 2020).

On the other hand, there are still strong movements to develop cities as tools for economic growth. For example, the World Bank seeks to create jobs and mitigate poverty by attracting and growing private firms and industries through the development of more competitive cities (World Bank, 2015). Cities lead the economy, and so pursuing cities' growth may not be a mistake. However, current cities with their urban problems have emerged as a result of tracking productivity and competitiveness. It is clear from the results of neoliberal urban policies that such competitive cities do not promise to solve the environmental issues and correct the widening disparities among populations. A city's economic growth should never be denied, but the sound development of a city cannot be directed by the sole value of growth supremacy as it used to be.

Moreover, many recent studies have shown that economic growth and rising incomes are not directly related to people's well-being. The presence or absence of relatives and friends, health, freedom, the environment, and so forth, do not have a strong correlation with income levels, and it has been reaffirmed that increasing these universal values is an important role of public policy (United Nations, 2020). Recent disasters and the COVID-19 pandemic clearly show that people's well-being is based, above all, on safety and freedom from fear. Cities are the most vulnerable to these emergencies, and the promotion of safe cities is emerging as a new policy agenda.

Such new findings provide hope even in the age of shrinking cities. Even if the population and economy shrink, the well-being of the citizens may increase if a high-quality city can be created. To that end, cities that have been developed under the dominance of the market economy must be returned into the hands of politics and society, and new urban policy initiatives must be developed. The diverse urban practices that have spread in the twenty-first century are opportunities to explore new policies.

TOWARD A NEW CITY VISION

The situation outlined so far indicates that the present age is an era in which cities must develop into something new that is not strongly dependent on the single value of economic growth supremacy. The priority must be to develop cities so that people can jointly explore various forms of industry, society, culture, and environment and live happily together.

Notably, a city's values are diverse and its character will differ accordingly within a certain range of stances toward the public good. This means that we need to create a public discourse space within which people can articulate diverse public values and discuss and consider them carefully.

On the other hand, cities typically have less strong territorial and human ties than rural areas, so individuals are often isolated in them. This characteristic indicates that the operation of a public discourse space is challenging in cities. However, in the present age when neoliberalism has taken hold, regaining the public discourse space in a city is indispensable for creating a new future after a society long governed by market power and directed by the logic of economic efficiency has distorted the meritocracy and neutralized society's necessarily diverse public and moral discourses (Sandel, 2020). Since cities with economic supremacy are incompatible with the reality of a healthy society, people must carefully discuss issues based on their diverse public values, and develop a vision for a city that has appropriate systems for politics, economy, and civil society.

Such a vision is not created from a blank slate without a basis in reality. Because development processes repeatedly encounter various trials and errors, this will be reflected in the practices of cities.

As cities have developed along lines determined by economic systems, urban research has also become a central subject of social science. For example, Engels' book on urban problems in the 1870s is a classic analysis of urban problems under industrial capitalism (Engels, 2021). On the other hand, social sciences centered on economics have focused their analysis on atomized individuals and companies because they pursued "scientificity." Individuals and companies are mainly regarded as actors that make up the market, and a model has been built in which the socioeconomic system functions most efficiently when the government sector only responds appropriately to events that occur outside the market. The function of the civil society or community is neglected and viewed as an obstacle to an efficient socioeconomic system.

Karl Polanyi has positioned the market economy, government, and community as the main actors that make up the socioeconomic system, and therefore devised a more comprehensive and realistic model by integrating them (Polanyi, 1944). This framework was developed in economic anthropology and institutional economics and differs from orthodox neoclassical economics. In addition, Polanyi positions human beings as depending on the natural environment and ecosystems and living in institutionalized interactions with them. In that respect, his model depicts a holistic socioeconomic system.

Polanyi models the market economy as a system embedded in society, which he calls "modes of integration." When applied to cities, such an integrated socioeconomic system is materialized in the most concrete sense. Because the market economy has grown unbalanced in relation to the government and communities, cities have become extremely large and have caused various social pathologies by disrupting proper social integration.

So far, governments have tried to compromise with the market economy, civil society, and the natural environment by curbing it with increasing public spending and enacting public regulations. However, neoliberal globalization has become extreme and put most municipalities under fiscal stress. As a result, the social integration model, by increasing the role of government, has reached its limit. However, many municipalities are promoting marketization, including commercialization in the public sphere, with the aim of maintaining urban society through short-term economic growth. This condition has led to further imbalances between the market economy and political and civil society, as well as increasing disparities and instability in urban societies.

Under these circumstances, Matthew Thomson and others argue for the application of Polanyi's model to a new model of urban governance (Thomson, M. et al., 2020). Polanyi attributed the functioning of the economy to provisioning for peoples' needs or livelihood, with the three elements of reciprocity, redistribution, and exchange weaving through mutual processes. Reciprocity means gifting and mutual aid, redistribution means the collection and distribution of economic resources by power, and exchange means the movement of goods in the market. Reciprocity and redistribution belong to non-market areas. Reciprocity is the economic function of community like the management of commons, and redistribution is mainly conducted under the jurisdiction of the government sector. The balance of these three elements varies by time and place and depends on broader social, cultural,

political, and economic contexts. Currently, market exchange is the dominant process in cities. Thomson and others insist that modern municipalities should properly reintegrate Polanyi's three economic elements with urban economies using political, legal, and economic powers to create social justice and sustainable economic development. In that case, it is crucial to make full use of fiscal tools and public regulation, create public value, and revitalize the community beyond the logic of capital.

The dominant actors in Polanyi's three economic elements each have their own codes of conduct, as shown in Table 1.1. The codes of government and the market are widely understood in theory and practice. However, the code of conduct for a community may differ depending on the understanding of the basis of the community's existence. For example, if community is understood as a mere collection of individuals, as it is in mainstream social sciences, the idea of inclusiveness does not appear as part of its code of conduct. However, if companionship implied in reciprocity or mutual care is understood as a part of human nature that transcends individual profit and loss calculation and coercion, then "inclusiveness" is nothing but the original function of community. In this sense, the community code of conduct can be defined by inclusiveness. As the expansion of the market economy and the cutbacks by the government have caused the decline of urban society, the fate of the city in the future depends on how community can be activated through this function of inclusiveness.

Table 1.1 Logics of community, government, and market

| | Economic role | Code of conduct |
|------------|----------------------|------------------------|
| Community | Reciprocity | Inclusiveness |
| Government | Redistribution | Fairness |
| Market | Exchange | Efficiency |

Source: Author

In order for a community to have strong inclusiveness, it needs to rely on a social philosophy (or communal value); some examples include autonomy, mutual respect, symbiosis, solidarity, self-esteem, empowerment, and democracy. The socioeconomic system that embodies these qualities holistically can be said to have public value. Community is an element of the nature of human society that has been passed down from the origin of human beings' group life, and is the most important viewpoint through which we can revive cities as a space where we live.

Municipalities should move toward becoming sustainable cities in the future by actively creating socioeconomic structures with this public value. For that purpose, it is crucial that the policy of community strengthening in the municipalities, which has been weakly grounded in theory and practice, is more fully developed.

Fig. 1.1 distributes public policy implemented by municipalities across four quadrants showing the success or failure of policies in terms of community and market effects. In mainstream social science (especially economics) so far, only market successes and failures have formed the basis of public policy. Public goods provision, redistribution, and economic stabilization have also been regarded as the role of public policy by the government, but none have been considered to have a direct

relationship with the community. Therefore, for example, public assistance that has lacked a sense of community value sometimes caused emotional conflict between residents. Future urban policies must aim for the development of new cities by pursuing a model in which both the community and the market economy are encouraged to develop (the area depicted in the first quadrant in Fig. 1.1). For example, urban industrial policies that utilize labor and economic resources within a city are put in the first quadrant area. This kind of policy will give the residents involved a strong awareness of their interdependence and strengthen social credibility and ties. This policy will also increase the community's trust in local governments and businesses.

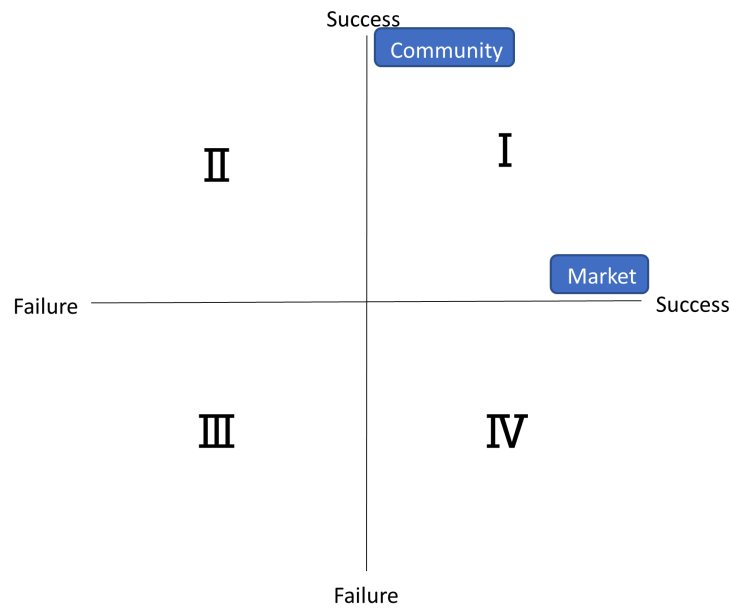


Fig. 1.1: Quadrant of Policy Effects of Municipalities (Source: Adapted and modified from Bozeman, B. 2007)

Fostering such a strong sense of trust in civil society is also important for the efforts of smart cities, which will have to progress rapidly in the future. Collecting and utilizing data on people's behavior won't be possible without their willingness to trust in information management and utilization by governments and businesses. Smartening without such trust violates people's privacy and deprives them of their freedom. In this case, smart cities become surveillance societies based on data controlled by governments and businesses. Surveillance is never acceptable in a society based on modern democracy.

In this book, we will discuss new methods of urban governance derived from each field as a platform of community perspective including sustainability.

BOOK STRUCTURE

This book sets out to explore the future of the city at the contemporary turning point in the neoliberal era from the viewpoint of public value. Public value is an obscure and dynamic idea, but that does not mean it is less important in science. Rather, it can be said that as a result of the spread of "scientific" economic activities and

administrative policies in a narrow sense, the forms of community that underpin human existence have been weakened, leading to social, cultural, and environmental deterioration. Current public value should be based on the human rights of individuals and on restoring the nature of the community and environment. To help readers navigate the rest of the book, we have provided the following summary of the chapter contents.

Part I: The Age of City Regeneration (Chapters 1 and 2) gives an overview of the current situation at which the global market, led by neoliberalism, has arrived from the perspective of cities. The market has reconstructed the foundation of public value in its interest, yet it is indispensable for future city regeneration. Public value is essential for the establishment of a city based on community or civil society, which prioritizes the fellowship of its citizens. Public value is not a clear-cut idea, but it is very important to recognize that a constant orientation of citizens towards public value will promote a permanent movement for the creation of a good city and society.

Part II: New Urban Visions picks up typical directions for new urban development in the cities of the present based on the perspectives developed in Part I. Urban restructuring that employs rapidly advancing IT is an initiative that has obviously enabled the introduction of smart cities. Chapter 3 discusses the features of the smart city and suggests new directions to be taken for IT to be utilized in urban life.

Chapter 4 explores the situation surrounding shrinking cities in Japan and discusses measures for their revitalization based on the shared conditions of cities in developed countries where the populations are also declining. The chapter suggests that, even if the city shrinks in size, this is not directly related to citizens' well-being and the city's livability. Rather, the autonomous policy capacity of the municipalities and citizens is crucial to determining how to create a livable city in the face of population decline.

Chapter 5 discusses the challenges of restoring and retaining the qualities of natural ecosystems that have deteriorated due to urbanization. From a purely economic perspective, it is desirable for cities to concentrate their economic and social resources on growing their economies as much as possible. From this perspective, natural ecosystems have long been treated as irrelevant to the market economy and evaluated only when valuable as "resources." Their intrinsic value has been treated as ancillary. In this chapter, new city efforts to restore them are discussed.

Chapter 6 explores urban practices that can positively impact various vulnerable or marginalized people and support their self-esteem and social reinstatement. Neoliberalism has created a significant number of vulnerable groups in cities around the world. Financial disparity and discrimination are based on a false meritocracy developed in the name of personal responsibility. However, human conscience and an innate community spirit prevents us from leaving such socially vulnerable people behind. Attempts are being made to walk hand-in-hand with them as citizens sharing the same city.

Chapter 7 discusses how to create an inclusive city that encourages participation by marginalized people. It can be said that this is important to the restoration of a true civil society, which is the key to true urban regeneration in the future. In this chapter, the best practices for and primary challenges of achieving this purpose are presented.

In the spirit of implementing the proposals in Chapter 7, the critical points for putting them into actual practice are specifically examined in Part III: Strategies for Inclusive

City Making. Chapter 8 examines the reality of gentrification, which is a spatial expression of people's conflicts in cities, and discusses countermeasures. Gentrification is not a simple matter of people being segregated according to their income disparity, but steadily unfolds through the effects of various economic and social factors such as tourism. This chapter discusses these factors from a comprehensive perspective.

Chapter 9 examines a practical strategy for regenerating the community. Community revitalization and strengthening includes a wide range of activities, from soft practices that directly restore people's connections to hard developments in built environments that naturally create networks of people. Without such integration, a community strategy cannot be fully functional.

Building on this point of view, Chapter 10 discusses the practical regeneration of the community centered around the development of a concrete architectural space conceived from the standpoint of the vulnerable. It is clear from the cases introduced in this chapter why the strategy for creating community from both software and hardware is important. This chapter shows that future community regeneration must be promoted by a strategy that integrates them both.

In Chapter 11, we discuss how to utilize IT, which will expand rapidly in the future, for urban planning that supports community regeneration and strengthening. This planning proposes the ideal state of smart cities from the perspective of community strategy, and this chapter explains how important IT is for the development of cities that serve a purpose beyond mere technological progress.

City visions and efforts in the above chapters encourage reflection on the state of the capitalist economy itself, which is the driving force behind the creation, development, and decline of cities. Part IV: Cities and Capitalism deals with this subject head-on. Chapter 12 argues that urban theories and policies that do not fully reflect the capitalist nature of the economy are ineffective in today's era of social change. It imagines a future city that incorporates all these points, the ideal form of which will vary depending on its location and conditions. Even within each country or region, cities make a difference depending on how they utilize their autonomy. With this premise in mind, we must develop the city as a spatial property common to all humankind.

Chapter 13, the book's conclusion, re-proposes the citizen-centric principle by placing public value, a topic that runs through this book, as the foundation of the future city and the basis of urban governance.

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Public Value in the Late Modern City: From Global Cities to Civic Cities

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INTRODUCTION

Cities are dense urban settlements that serve as the loci of consumption, commerce, power, and security (see Kotkin, 2005). They are as such more than just a group of people who settle down and interact in a given area. Cities as urban dissipative structures facilitate processes that are both local and relational. This is evident in how wars, economic booms, disruptive innovations, depressions, and the rise and fall of trade routes have shaped cities throughout history. At the highest level of abstraction this implies that each city as an instance of local choice evolves in a dialectic relationship with its societal and ultimately global contexts.

It goes without saying that people living in the same area is a necessary condition for the existence of a city, as is its physical environment. However, the social nature of the city becomes comprehensible only when we identify local instances of collective action, structures of human interaction, and the spatial organization of the local society. Regarding late modern cities in the developed world and their evolution both from industrial to postindustrial conditions and from local orientations to global connectedness, such an essence is usually associated with logistics (Cardenas et al., 2017), production (Henderson et al., 1995; Lobo et al., 2013; Helper et al., 2012), technological development (Castells & Hall, 1994), services (Jones et al., 2014), and collective consumption (Castells, 1977). A contextual perspective on such development has been articulated in the form of the world city hypothesis and global city theorizations (Friedmann, 1986; Sassen, 2001).

Regarding the recent developments that have reshaped these urban functions, dramatic changes took place in post-war decades, which witnessed economic expansion, Keynesian economic policy, the emergence of influential social movements, and the rise of the welfare state. Further changes took place in the 1990s

due to the intertwining of globalization and an emergent information society, which appeared to be game changers in many respects. Keynesianism made way for neoliberal policies, the fall of the Berlin Wall epitomized the collapse of socialism, and the crisis of the welfare state prompted a search for alternative models for organizing the economy and society. For some time, it looked as if the Western liberal democracy and its underlying capitalist economic system had won the ideological war (Fukuyama, 1989).

A range of factors started to shake the global scene and increase tensions in the West during the 2000s. Namely, the triumph of neoliberal thinking seemed to have been accompanied by continuous economic crises, such as the dot-com bubble of 2000, the financial crisis of 2007, the late-2000s recession, and the EU sovereign debt crisis 2009, to name a few. Other features included the accelerated intensity of the impact of global economic forces, the financialization of the economy, and the emergence of the so-called “new economy.” This had both positive and negative implications. Globally, millions of people were lifted from extreme poverty, especially after the opening of the economies of China and India in the late 1980s, but due to the consequent shift in production and services from developed to developing countries, unemployment and uncertainty increased in the West. In the urban world, the 1980s witnessed the emergence of neoliberal urbanism, which was expected to be the answer to the challenges posed by global competition. This was the time of the rise of urban entrepreneurialism (Harvey, 1989), in which local politicians, public managers and urban developers started to align the urban growth machine with the requirements of the global age (Anttiroiko et al., 2020).

The neoliberal city epitomizes this development (Hackworth, 2007; Pinson & Morel Journel, 2016; Storper, 2016). It emerged in the wake of the conservative and libertarian thinking in politics and society associated with economic liberalization and the promotion of free-market capitalism. Neoliberalism favors such policy measures and practices as dismantling trade barriers, privatization, competitive tendering, reductions in government spending, tax cuts, and consumer choice. In the management of cities, this led to the widespread adoption of the New Public Management (NPM) doctrine with its emphasis on marketization, managerialism, and customer choice (Hood, 1991; Knafo, 2020), on the one hand, and a competition-oriented development policy or urban entrepreneurialism, on the other (Harvey, 1989). The many faces of neoliberal urban policy are epitomized by such cities and city-states as New York, Chicago, Toronto, London, Frankfurt, São Paulo, Hong Kong, Singapore, and Shanghai.

Neoliberal thinking obviously reflects its liberal foundation, with roots in individual freedom. In urban life it has increased cost-awareness and competitiveness and contributed significantly to economic growth. However, it also has a negative effect that will be taken as the starting point of this chapter, namely in terms of social consequences. There are societal mechanisms that are supposed to bring about collective benefits from the full-fledged economic freedom of individuals. These include the “trickle-down” effect, “voting with one’s feet,” consumer choice, and the like. Yet, due to a variety of reasons, the aggregate impact of neoliberal policy seems to produce unintended consequences and side effects that cannot be ignored, especially when considered from the point of view of collective welfare and the fundamental conditions of human relations and existence. One critical aspect of this development is the so-called “great decoupling” in which, despite productivity increases, a large segment of the population is excluded from the fruits of economic success (Brynjolfsson & McAfee, 2014). This is related to the polarizing tendencies of

the new economy (Anttiroiko et al., 2020). A factor contributing to this is the gradual transition toward the greater role of value extraction in the economy (Mazzucato, 2018). Even if neoliberalism as such is not the only cause behind such problems in the economy, it appears to have contributed to increased inequality, urban poverty, economic exclusion, and deprivation. More importantly, neoliberal thinking provides insufficient tools for understanding the nature of the social consequences of global and national free-market policies, and is even less equipped to produce the means to tackle them. Taken to the level of urban governance, this implies that urban boosterism and streamlined competitiveness policies may not provide the answers to the fundamental problems faced by cities. It could be hypothesized that we need more balanced perspectives, reinterpretations, and refocusings in order to meet such daunting challenges.

In this chapter, we will address this issue by discussing alternative views of economic growth and their implications for urban policy and governance.

FROM GDP TO WELL-BEING

The conventional idea of economic growth is based on the implicit premise of most of the classic theories of urban growth and development that population and economy are typical indicators of urban growth. Let us begin with population.

Population growth as a global phenomenon has become a threat to sustainability. It is unevenly spread across the globe and produces huge economic inequalities between individual countries and locations. Interestingly, many developed countries have actually reached a point where their population is shrinking which, accompanied by the problems of a shrinking economy, has shifted the agenda from growth to shrinkage. For a long time, industrialization helped strategically well-positioned, advantageously located, and resourceful cities grow. There were undoubtedly declining areas too, but they were seen as exceptional, unlucky, or strategically incapable rather than as symptoms of a structural asymmetry. In the current situation many developed countries are entering a new phase in which the population is both aging and shrinking when migration is not considered. The challenge is that many countries are entering an era of shrinkage in all urban areas, as seen prominently in the case of Japan and a few other locations in Asia. While most Asian countries still experience stable economic growth, rapid aging and population decline are looming just around the corner and will eventually have an enormous societal impact, especially in the case of highly urbanized countries.

The previously discussed demographic trend has an equivalent in the economic life cycle as well. This is most relevant in urban economies, which have been very concerned with creating the preconditions for economic growth while treating citizens' well-being as a secondary matter. Approaches have been slightly more sensitive to context in political science and public administration, not to mention sociology and anthropology. However, it seems that irrespective of discipline, synthesizing views on the generative interplay of the economy and society have been rare. In addition, in most contributions the primary reference is still to urbanization, even if there is an obvious need to redirect the discussion to multi-dimensionality and the qualitative aspects of urban life. This becomes evident when discussing the conceptualization of urban decline, growth, and development.

Let us consider the following. When visiting a city, we sense its character, or as we may put it, its spirit or soul, which cannot be reduced to its population or economic

scale or expansion. Rather, cities evince an important qualitative factor that resonates with something essentially human. Such qualitative aspects of the perception of cities give hope for shrinking cities. No matter how small the city is, it can focus on qualitative development. More importantly, this shift is not limited to shrinking cities, but reflects a need for a deeper reassessment of our perspective on urban development. In addition to an increased focus on the qualitative aspects of development, there is a need to pay attention to the distribution of the benefits from these development efforts. Growth should be smart and inclusive in order to increase the well-being of all members of the community. A precondition for this is that local and national policies support such a holistic and inclusive view of urban development.

One indication of such a paradigm shift is increased interest in happiness as a core element of well-being. Especially since the early 2000s, academics have started to examine how economic indicators relate to people's sense of well-being (Easterlin, 2001; Frey & Stutzer, 2001) and how governments could use such data in a variety of policy areas to improve their citizens' quality of life (Bok, 2010). Important steps were taken in 2008 when Nicolas Sarkozy, former President of France, called on economists Joseph E. Stiglitz, Amartya Sen, and Jean-Paul Fitoussi to set up the Commission on the Measurement of Economic Performance and Social Progress. In 2010, the committee published a report titled *Mismeasuring Our Lives: Why GDP Doesn't Add Up*, which proposed three approaches to measure quality of life: (a) subjective well-being, i.e., understanding the determinants of quality of life at the individual level, (b) a capability approach for understanding the factors that expand life opportunities and options (health, education, income, etc.), and (c) fair allocations that reflect people's preferences regarding various aspects of the quality of life. Through these, the Commission advocated the importance of understanding the non-monetary aspects of quality of life, such as health, education, social ties, environment, and safety (Stiglitz et al., 2010).

![Fig 2.1. The framework for measuring well-being and progress.](fig.2.1.png)

In response to this, the OECD developed the Better Life Index (see <https://www.oecdbetterlifeindex.org/>), which lists 11 areas as indicators of personal well-being, grouped into two rather conventional main categories, "Quality of Life" and "Material Living Conditions" (see Fig. 2.1) (Llena-Nozal et al., 2019).

Although the indicators included in the "Quality of Life" category are not directly related to the economy, they are essential in determining and governing people's well-being. In addition, the OECD identified four categories of capital—natural, economic, human, and social—as the critical resources needed to sustain personal well-being. These are equivalent to such fundamental categories as nature, economy, individuals, and communities, which points to the contextual and holistic nature of human well-being.

The heightened interest in well-being and happiness provides a fresh view that challenges conventional conceptions of urban development. Most strikingly, it challenges the perception of economic growth as being the sole or the most important policy goal of city governments or as a privileged criterion for measuring success in urban development. Human and social factors thus have a vital role in the urban agenda, and social sciences and urban studies have an important task in shedding light on them and integrating them with other aspects into a holistically understood development agenda.

POLICYMAKING FOR URBAN WELL-BEING

A few decades after World War II, interest turned to the promotion of industrial development and amplified economic and population growth as a premise for such a policy. A crucial factor behind this development was the fact that major indicators on urban economic development had been primarily quantitative, which inherently directed attention to activities that were reflected in such indicators. Such a narrow approach tends to keep the urban development agenda instrumentalist and one-dimensional. This is noticeable in the case of the shrinking cities previously discussed, which have started to build their development agendas on novel premises as a reflection of changes in their internal and external environments. They have done so by understanding that shrinkage does not equal decline and recognizing that there are important qualitative aspects of development that should be taken into account. In this setting, the previously discussed role of well-being is critical, as it hints at what kinds of premises the new urban development paradigm can be built on, both as an element of endogenous growth and as a factor that has the potential to attract capital, expertise, creativity, and people to the city (cf. Anttiroiko, 2018).

Guimarães et al. (2016) examined in a multiple case study the push and pull factors that affect residents of shrinking cities in Portugal. According to them, the overall picture shows that, while economic conditions (job opportunities and good working conditions) are the most important factors (especially among the younger generation), social ties and place attachments significantly impact residents' decisions regarding migration. The study points out that stronger a sense of community and a city's identity increase the resilience of the city. It is worth mentioning that in some historical cities in Portugal, "beauty and heritage" was the most important pull factor affecting the decisions of residents. Furthermore, the influence of environmental factors such as "recreational and environmental amenities" was noticeable. Lastly, the study revealed that the factors that contributed significantly to the well-being of residents varied between cities.

Hollander (2011) has shown that people's evaluation of neighborhood quality is almost the same regardless of whether the city is growing or shrinking. In fact, from the point of view of smart growth, depopulation may occasionally be considered a strength. Along these lines, van der Land and Doff (2010) stated that, in shrinking cities, the neighborhood and social ties are strengthened and the relationships of trust between the residents are reinforced, leading to strengthened self-efficacy and collective efficacy. This hints that there is parallel between the strengthening of independence at the individual level and increasing social capital at the community level, which together serve as a positive force in shrinking cities.

Based on the evidence and insights discussed so far, we may conclude that it will be important for cities to design policies that consciously promote community capital, strengthen independence, and encourage place attachment. Such an approach combines different spheres of community life, including the physical environment, relational social capital, and urban symbolism ultimately geared around the well-being of urban dwellers.

PUBLIC VALUE GOVERNANCE IN CITIES

Discussions about how to assess and value economic growth vs. well-being in public policy are deeply rooted in the ideological landscape. Focus on economic growth, especially in the Western context, is associated with neoliberalism, whereas an

emphasis of holistic and inclusive well-being leans towards progressive and collectivist ideologies. Rather than taking sides in this debate, our task is to point to the relevance of discussing the values on which urban public policies can be based. In fact, if we look at urban issues from an ideological point of view along the lines of a conventional liberal vs. conservative dichotomy, it reveals the need to determine on a case-by-case basis what combination of values best suits each respective urban community. In any case, there is a growing need to clarify the values on which urban public policies should be anchored, which would benefit from broadening the perspective on urban development from a focus on mere monetary value (or economic growth) to a broader set of value categories, including well-being and happiness.

Capitalism is from the historical view a superior economic system in terms of organizing production and matching supply and demand. However, on the other side of the picture there are dysfunctional tendencies and socially polarizing outcomes that must be addressed in public policy. For example, Mazzucato (2018) has recognized that in modern capitalism, value-extraction is rewarded more generously than value-creation, even if the latter comprises the productive processes that essentially drive a healthy economy. She urges us to rethink capitalism, to redefine how to measure value in a society, and to rehabilitate the public sector as a key player in balancing such a development.

One of the most worrisome features of the global economy has been economic polarization. In advanced economies, top earners have experienced rapid income growth while the middle class shrinks and the lowest earners are left behind. This development is particularly striking in the United States (Bhatt et al., 2020; Brynjolfsson & McAfee, 2014). These kinds of changes have made traditional economic indicators, such as GDP, look problematic, if not obsolete. Polarization implies that the economic benefits of the increase in GDP are reaped primarily by the wealthiest segment of society, or rather, the transnational capitalist class. This urges us to reconsider the relevance of traditional economic indicators as the measure of success (Fox, 2012).

Measuring well-being, quality of life, or happiness has obvious challenges. Even if we use surrogate indicators and develop as many objective criteria as possible for determining such phenomena (e.g., aggregated holistic health data), the dilemma of subjective value and its methodological ramifications persists. A similar challenge to be faced is the multi-dimensionality of well-being, which makes this field conceptually fuzzy (see Stiglitz et al., 2010). This should not prevent us from seeking measures of a good life beyond quantitative indicators. Many attempts have already been made. For example, Skidelsky & Skidelsky (2013) proposed seven essentially irreplaceable values for living a good life, namely health, security, respect, personality, harmony with nature, friendship, and leisure.

Another strand of thought that offers conceptual tools to deal with the challenge at hand is public value theory, which emerged in the 1990s (Moore, 1995). This discourse is of particular interest here because it shows how the concept of value is used in public administration, management, and policy. The original idea proposed by Moore (1995) was based on public managers' ability to create value in a society by using the means available to the government, such as service machinery, regulations, laws, resource allocation, and others. This is based on an idea that legitimizes the existence of government: government should be able to create value in a society in collaboration with a wide range of stakeholders from different sectors.

A watershed moment in this discourse becomes apparent when we consider what “public” actually refers to in this context, and what is the factual role of government in creating public value or ensuring that public interest is taken into account in all relevant aspects of community life. The minimum criteria for anything to be “public” are (a) collective or democratic decision-making, (b) community involvement in policy making, governance or management, and (c) public funding. So, for any activity to be deemed “public” in the given context it should fulfil these three criteria. When government is involved in creating public value, it is expected to base its actions both on collective values—e.g., fairness, equality, and social cohesion—as explicated in policy or legislative documents, and on the principles of good governance, including participation, effectiveness, responsiveness, transparency, and accountability. It is generally held that the impact of private-sector management doctrines and the New Public Management in particular have in fact diminished the “publicness” of public administration (Rugge, 2019).

The discussion of public value is rather government-centric and, to some extent, public-management-oriented. It is important to keep in mind that all individuals, organizations, and institutions create or at least have the potential to create public value irrespective of the degree of their publicness. This gave rise to new public governance, new public service, network governance, and public value management approaches that brought values to the core of public governance and public-sector management. Especially, early developments surrounding public value management in the public sector became associated with networked governance methods that focus on the motivational side of stakeholder engagement, including loyalty, mutual respect, shared learning, and negotiated order (Stoker, 2006). This is seen as an approach built on values that go beyond efficiency, giving prominence to the application of democratic principles. Government serves as a collectively organized guarantor of the creation of public value, but it is worth emphasizing that the government does not have a monopoly on the agenda setting, public debate, and value-driven practices found in society because citizens, civic associations, and businesses have their stakes in such collective processes too (Bryson et al., 2014).

The public value perspective emphasizes the active role local civil society and the business community have in open discussions about the values and guiding principles applied both in the public sphere and in, partly, the private sphere in the community. This requires enabling community structures, such as open policy forums, deliberative mechanisms, and urban public spaces, as well as fostering a culture of openness and inclusion that encourages communicative action. It is important that, in addition to formal political institutions, there are informal arrangements, public spaces, cafeterias, parks, shopping districts, and other “third places” suitable for interaction and exchange of ideas (Habermas, 1991; Sandel, 1996; Oldenburg, 1989). We need to consider as well the use of digital technology, social media, and urban networks and platforms, many of which are locally embedded. A strategically critical mission is to integrate such civic discourses, forums, and platforms into the decision-making procedures of the city government in a dynamic and flexible manner. This integration requires a generative interplay between an unorganized discursive sphere and a democratically controlled decision sphere.

FROM THEORY TO PRACTICE

There are already many cities all over the world that reflect an alternative view on growth and pay special attention to the well-being of citizens. There are zero-carbon

communities that aim for hands-on sustainability, wellness cities with a focus on holistic health, slow cities (like the Cittaslow Movement) designed to improve quality of life, shelter cities that pay special attention to human rights, and others. It is worth noting that there are many ways of promoting well-being and quality of life. For example, as in the case of the shrinking cities previously discussed, they can adopt various strategies for responding to their contextual challenges, as depicted in Fig. 2.2.

![Shrinking Cities and their diverse policies.](fig.2.2.png)

When discussing cities with progressive policies that broaden the view of urban development, this book will address such cases both theoretically and empirically. These include city-concepts such as smart, compact, shrinking, sustainable, restorative, and inclusive cities, each reflecting particular aspects of urban well-being. One of the main policy challenges faced by cities is to be able to take a holistic view of urban development and thus to be able to pinpoint the interrelatedness of the environment, people, technology, and economic development. The path towards urban futures should be sustainable, democratic, smart, and inclusive, as these qualities are conducive to a genuinely citizen-centric approach to urban development that is able to contribute to the holistic health, well-being, and happiness of the citizenry.

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Digital Transformations in Planning: An Australian Context

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INTRODUCTION

Australian cities face numerous housing challenges, the most prominent of which is the housing shortage faced by the country over the past three decades (Yates and Wulff, 2005). Indeed, up to 2009, it was estimated that approximately 180,000 additional dwellings were needed to meet housing demand (NHSC, 2010). However, to date, this gap has since continued to widen (Phillips and Joseph, 2017; Pawson, 2020). Today, the disparity between housing supply and demand has become a highly topical subject. It has been credited as the root cause of the housing stress¹ experienced by many Australians (Rahman and Harding, 2014). Most recently, the Australian Institute of Health and Welfare (2021) estimated that, in 2018, approximately 17% of Australians spent over 30% of their gross annual incomes on housing costs, with a more concerning 5.5% of the population spending more than half of their incomes on housing. This figure had risen year-on-year since 1994, when 13.8% of Australians were considered to be under housing stress (see Fig. 11.1; AIHW, 2021).

! [Fig. 11.1. Housing Stress in Australia between 1994 and 2018. Figure adapted from ABS, 2019.] (fig.11.1.jpg)

This is an issue that has become particularly pressing when considered in terms of demographic characteristics and geography. Not surprisingly, it was noted that lower-income households disproportionately feel housing stress; in more urban regions, close to 48% of low-income households were considered to be under some

financial stress concerning housing costs ABS, 2019; AIHW, 2021). Having been poorly addressed, these issues have continued to contribute to numerous urban challenges. In many Australian cities today, issues such as homelessness, housing affordability, and increasingly disparate intergenerational home-ownership rates have become the most tangible symptoms of the housing crisis (Yates and Bradbury, 2010; Parsell and Marston, 2012; Wood et al., 2015; Wilkins & Lass 2018). Moreover, coupled with their persistence over time, these issues have made achieving urban equity amongst the country's most vulnerable demographic groups all the more difficult.

However, despite these longstanding consequences, housing delivery in Australia remains hindered by a multiplicity of unresolved factors. These include land supply issues, zoning and development restrictions, lengthy planning processes, and a lack of coordination between the development bodies overseeing infrastructure and housing delivery (Gurran and Bramley, 2017; Phillips and Joseph, 2017; Murray, 2020). Pawson et al. (2021) add that, whilst increasing capacity for home building is undoubtedly crucial, housing policies addressing it need to be more carefully considered to ensure the consistency of housing delivery and its accessibility across all demographic groups both financially and geographically.

If we consider these issues more tangentially, it can be argued that the facilitation of better housing delivery is crucially lacking in the critical exchange of data and information surrounding the housing stock at present. Indeed, for housing development processes in Australia to be more efficient and transparent, critical pathways to improved data management, visualization, and analysis of housing stock need to be considered (Pettit et al., 2017). This is a gap that has not been fully addressed yet and which has contributed detrimentally to housing delivery in the country. In fact, up to more recent years, aspects of data management and analytical communication had been relatively overlooked. This has since changed, with an increase in the digitization of planning data and the proliferation of analytical tools that seek to create more data-driven and responsive urban services (Barns, 2018).

These linkages between digitization and housing are explored more deeply in this chapter with respect to housing data as a critical resource in the digital transformation of planning in Australia. Opportunities that accompany this shifting paradigm are discussed with a view toward potentially shifting planning practice through the introduction of a singular housing database for Australia. In this context, we detail how citizen-centered approaches in this ongoing transformation may facilitate more granular communication around current housing development conditions, greater community engagement and ownership, and the democratization of planning technology and data that enable greater community participation. Furthermore, it we show how such a platform may facilitate the essential exchange of knowledge that precedes development and delivery.

BACKGROUND

In 2020, the Planning Institute of Australia released a statement on the guiding principles for the future of digital planning systems. It was noted in the report that, whilst there had been a marked proliferation of tech- and data-driven planning assistance tools, there were reformations of Australia's underlying digital data infrastructure that also needed to be considered (PIA, 2020). Indeed, it has since become clear that, given the increasing digitization across all domains of planning and development, strategic decisions need to be made in both data administration and operationalization. These are pressing requirements that shed light on the

central role that national governments must play in this ongoing transformation (Dunleavy and Margetts, 2015) which, ultimately, will shape the future models of Australia's data governance. Considering this, Pettit, Lieske, and Jamal (2017) posited that approaches to the development of data management systems and downstream analytical tools needs to be more collaborative. They put forward the notion that government agencies (as data providers) and external agents (as the developers of these necessary toolkits) both require mutual support in identifying and addressing a city's national development priorities.

This integral step was also noted by Barns (2018, p. 5), who suggests that, whilst a more cooperative dynamic was essential, national government also needed more tactical direction in their "curation and management of data assets to support strategic [planning] priorities." In this vein, there is a growing call for the government to foster a more enabling environment in the co-design and co-development of digital platforms in Australia. As such, policies that underpin this movement need to be aligned across all sectors (Barns et al., 2017). In this process, there may be more opportunities for individuals, institutions, and commercial entities to aid with and co-create data-driven approaches and formulate solutions that can meet the remit of future development planning goals. Goldsmith and Crawford (2014) and Barns (2018) maintain that this will require current data custodians to recognize the value of open public data, prioritize their access, and work towards their standardization; this, in turn, may dramatically boost innovation in a way that has not yet been realized in Australia.

Globally, the digital transformation of planning and city data has in fact now become almost commonplace. In cities around the world, access to key information on the city has burgeoned in the form of city dashboards. For example, in the United Kingdom's London CityDashboard, climate sensors and real-time public transport and traffic data are integrated into a single interface (De Lange, 2018; Li et al., 2020; Young et al., 2021). Additionally, in San Diego, the PerformSD dashboard summarizes key metrics on public service performance, crime, transportation, and other important socioeconomic data obtained from numerous public service departments that pertains to the progress and improvements of numerous policy indicators (City of San Diego, 2021). In Australia, similar work on city dashboards has also been undertaken (e.g., the Sydney City Dashboard by the University of New South Wales) to offer citizens a single point of access to similar data (Pettit et al., 2017). These examples provide their citizens ready visualizations of key city information; this provision allows citizens to make informed decisions about engaging with their environment, and these choices can ultimately be quantified in their feedback (Reponen, 2017).

However, as pointed out by Kitchin et al. (2016), caution should be observed given the level of abstraction that accompanies the representation of city data and given the choice of what data is presented. Further, it has also been suggested by Mattern (2013) and Barns (2018) that these initiatives provide citizens only superficial access to data. Instead, separately, they suggested that more value could perhaps be gained should citizens or other development agents be allowed access to government data, in addition to being given choices about its utilization (Kitchin and McArdle, 2016). Platforms that offer these services, colloquially named data stores, place less emphasis on the moderation and selective communication of data, leaning instead towards open or paid access to a larger gamut of data formats to all user types (Barns, 2018). These platforms are aligned with the "Government as a Platform" digital strategy, where the delivery of data is completed through shared registers and

APIs. Yet at the same time, their downstream use remains undetermined (ref. Fig. 11.2; O'Reilly, 2011; Al-Ani, 2017). The objective here can be loosely articulated as to make available the widest diversity of data at the largest volume to the highest number of people. This is reflected in their “one-to-many structure”, wherein numerous distinct applications can be derived from the same datasets (Pope, 2019).

![Fig. 11.2. A possible schema of use for data stores in Australia.](fig.11.2.jpg)

Considering this, data stores need to be designed around the needs of the user given the far-reaching impacts that alterations or modifications can have on services and the analytical models that depend on it. However, there presently also remain numerous challenges to making data stores operational both in Australia and globally. As indicated by Lopez et al. (2012) in their development of QuerioCity—an integrated database of city data—critical structural, functional, and semantic considerations must be made to make the integration of existing datasets possible. They stress that urban data is often highly disparate and exists in multiple formats and structures. Consequently, datasets ingested into data stores need to be restructured, linked, and made relational to meet the primary objective of creating a single comprehensive data ecosystem (Pan et al., 2016; Schieferdecker, 2016). This includes the creation of a common semantic structure across dataset properties that allows rapid queries to be made by users, instead of a manual “mapping” of attributes within these large datasets (Schieferdecker, 2016).

Critically, this remains a difficult task as it may be unrealistic at present for many data custodians to adopt a single schema. These challenges appear to be ubiquitous and are also applicable to Australia (O'Reilly, 2011; Al-Ani, 2017; Gil-Garcia and Henman, 2019). Here, key city data are also held by a diverse set of custodians in an even more varied range of formats. For example, Geoscape Australia, the national provider of location data, offers numerous data products that include key building attributes (e.g., building footprints, materials, height, area), land parcel data (e.g., land ownership, zoning codes, valuation information), and geocoded address files; however, these exist as separate datasets that need to be queried individually. The resulting datasets include numerous data forms (CSV, GeoJSON, JSON, ESRI shapefiles, etc.) that will also need to be made relational. Utilizing these datasets and ensuring their interoperability requires significant time costs for processing and restructuring.

Specific housing datasets in Australia are also highly disparate and disjointed. There is often little information on the housing stock available to the general public; and, where data is available, they are fragmented or available only on an aggregated scale. Furthermore, these datasets are only made fully available through a paid subscription, which adds an additional barrier to both research and the development of downstream tools. Furthermore, should these datasets be utilized in tandem with other relevant datasets from other major providers such as the Australia Bureau of Statistics or the Commonwealth Scientific and Industrial Research Group, subsequent analyses may become less granular given the varying levels of data aggregation. As a result, there are numerous bureaucratic and procedural barriers facing researchers and policymakers alike if they desire to implement evidence-based planning and downstream analytical modelling in the country.

AN INTEGRATED AUSTRALIAN HOUSING DATA PLATFORM

The challenges mentioned above distill only a minute part of the multidimensional challenges researchers and policymakers face in obtaining and operationalizing available housing data in Australia. These challenges often manifest themselves tangibly in the coordination between developmental and institutional agents, which invariably leads to disruption and delay in activities related to housing delivery. Further, given the current pace of growth and urbanization in the country, there is mounting pressure on resource allocation and planning capacities for much-needed housing delivery. These are issues that the national government has recognized, and with smart infrastructure and planning policies now introduced (e.g., New South Wales [NSW] Smart Infrastructure Policy and Smart Places Strategy), active calls for technology-focused, citizen-centered approaches are now being made (Brown, 2012; Pettit et al., 2017). Moreover, since its introduction, the NSW Government's smart city development policies have stimulated many discussions on rethinking how the country's planning and development systems and processes can be enhanced (Pettit et al., 2015; Yigitcanlar, 2020). Despite this, however, a more systematic and coordinated means to facilitate these vital exchanges has yet to be developed or adopted.

Nevertheless, opportunities to address these issues do exist with particular respect to the nation's ongoing pursuit of the digital transformation of its planning system. Here, there is potential not only to remedy Australia's need for a coordinated system of data management and exchange, but there are also actionable avenues to create more efficient, transparent, and responsive systems than those that already exist today. In particular, it is believed that tangible change can be affected by the consolidation of the diverse existing housing datasets, the maintenance of their relevance and validity, and the prioritization of data accessibility for all stakeholders, including the general public. These activities are integral in promoting several required downstream activities concerning Australia's housing data: first, they facilitate the standardization of common built-environment data, sources, and processes to allow data integration and interoperability between multiple platforms and applications; second, they allow for more rapid large-scale data exchanges to be made from a single platform without the need for lengthy pre-processing steps. By reducing the impact of these initial impediments, the development of such a data governance system would inevitably be valuable in promoting and expediting innovation and development in terms of policymaking and other high-value technological advancements.

![Fig. 11.3. Conceptualization of the Australian Housing Data Analytics Platform, its functionality, users, and services.](fig.11.3.jpg)

These are the opportunities and challenges recognized by the University of New South Wales City Futures Research Centre in their ongoing development of a novel Australian Housing Data Analytics Platform (AHDAP). AHDAP seeks to address Australia's housing data disparity by creating a consolidated and harmonized housing data governance model. In its current stage of development, AHDAP is a federated data platform capable of large-scale ingestion, standardization, and management of all digital data on housing and the built environment in the country. This includes the integration of the many existing and varied datasets held by individual custodians across the nation. For the first time in Australia, the platform connects numerous critical private and public institutions in academia, industry, and

government who also recognize the concerted effort required to deliver and implement such a novel data governance model in the country.

AHDAP is able to overcome the current shortfalls of data management in Australia through several essential tracks. First, by harmonizing the large mass of housing data in accordance with global management standards (Kresse and Fadaie, 2013), rapid, multiscale, and multidimensional analysis and simulations can be implemented using previously disjointed datasets to evaluate and substantiate future development scenarios more holistically. Moreover, this addresses present redundancies for policymakers and researchers by commissioning surveys to repeatedly collect the same data used downstream. As a result, significant time and opportunity costs associated with such activities are effectively minimized with a single trusted repository. The breadth of data and the ease with which it can be rapidly obtained and analyzed using AHDAP are central to accelerating policy evaluation and development delivery; however, more importantly, they are crucial to better understanding the linkages between housing, communities, and underlying land use dynamics. Indeed, for policy and research in Australia to be relevant, they must be supported by data that allows for timely and dynamic interventions at the correct locations and spatial scales.

Second, with its planned suite of analytical and decision support toolkits, the development of AHDAP holds significant potential for improving the interrogation of current and future housing development scenarios. In particular, the integration of the proven and validated RAISE and WhatIf? toolkits that preceded AHDAP creates an extensive capacity to hypothesize and simulate possible development futures with regard to land and property value changes, infrastructure allocation, and real-time development decision support (Pettit et al., 2015, 2020). These are critical insights that are often inadequately addressed in reviews of the complex land supply, demand, and allocation issues that have contributed to the country's current housing delivery situation. The advancement of these indispensable tools creates opportunities to develop and elevate current metrics to account for these issues, and to communicate and visualize more effectively the impact of planning and development choices with respect to aspects such as mobility, accessibility, well-being, and diversity, which are fundamental dimensions of the lived experience of Australians. These outputs are made accessible by AHDAP to essential development stakeholders and agents, as well as to the general public, where such data can inform and empower citizens through the insights gained from such spatial intelligence.

![Fig. 11.4. The newly launched Colouring Sydney Platform, as part of the Colouring Cities Research Programme, as novel tool for collecting voluntary geographic information and increasing public participation.](fig.11.4.jpg)

Finally, with the integration of Colouring Australia—a collaboration with the Alan Turing Institute's Colouring Cities Research Programme—AHDAP can leverage new public engagement methodologies and data collection approaches. The Colouring Australia tool was born from the acknowledgement that obtaining accurate and granular building-level attributes is not typically feasible given that it is an onerous exercise. As such, Colouring Australia is positioned as a novel citizen science platform that is able to rapidly collect and disseminate voluntarily provided geographical information on Australia's building stock. Indeed, amidst the ongoing COVID-19 pandemic, digital engagement has become further legitimized and its role in enabling better outreach to more traditionally excluded audiences has been proven. Diversity and inclusion are central themes in its design and development; this can be seen in its focus on the "local" with data collection and inputs open to almost all

demographic groups. As such, it allows local communities to both contribute voluntary geographical information and validate data within their local environment in a way that does not require extensive digital training.

These benefits of this are multifold; primarily, in light of aspirations to encourage participatory policy and solution formulation for local urban challenges, the empowerment and data ownership gained from this engagement are important to increasing support for and trust in Australia's planning processes. In a similar vein, community engagement and data collection through this citizen science space offer a more novel approach to enhancing data granularity and accuracy, which will ultimately be used to improve the current data offering in AHDAP and elevate the accuracy of its corresponding toolkits. Further, as part of the Colouring Cities Research Programme,² the platform is approached in highly collaborative ways with both global and local research institutions, which allows for significant knowledge exchange in terms of both policy and operationalization. This also includes peer-reviewed work on data analytics and machine learning models to ensure the development and deployment of rigorous toolkits for all cities. Ultimately, there is vast potential for a singular housing data platform such as AHDAP to herald a new shift in the way communities, public stakeholders, and development agents in Australia engage with technology and data throughout the entire planning and development process.

CONCLUSIONS

In this chapter, we have discussed the changing landscape of planning and development in Australia. First, we have indicated how critical data is as a commodity for policy makers and other development agents when it comes to creating more value and driving innovation in tech- and data-driven services and applications. In this respect, we have highlighted how widening access to data for these key user groups may aid in identifying key areas of improvements and development, particularly in the realm of Australia's housing delivery. With this in mind, we have introduced the Australian Housing Data Analytics Platform, which is a digital platform in its infancy. The platform is able to support urban researchers, policy makers, and industry by providing access to a comprehensive array of data and decision-support tools that assist in addressing the challenges facing the Australian housing market, including housing supply, affordability, and stress. The platform endeavors to follow the PlanTech principles developed by the Australian Planning Institute, including the directive that digital planning infrastructure should be public infrastructure built with open technology. In this chapter, we have also outlined one of the key digital components comprising AHDAP, Colouring Australia. This open-source digital platform provides a means for democratizing access and contributions to knowledge of the city through a crowdsourcing approach. This platform conceives of data as a public good and enables citizens to access information and analytics in a way that is not currently possible in the country. The next steps in the development of AHDAP are to improve the accessibility of a wider range of digital housing assets across Australia which in themselves provide public value by supporting evidenced-based decision making and improved planning of our cities.

1. Housing stress is identified in households that spend over 30% of gross income on housing costs ABS, 2019.
2. Current (2021) partners include The American University of Beirut (Lebanon), The University of Bahrain and Bahrain Authority for Culture and Antiquities (Bahrain), The University of

New South Wales (Australia), University College London and the Alan Turing Institute (London), The National Technical University of Athens (Greece), and The Leibniz Institute for Ecological Urban and Regional Development (Germany).

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