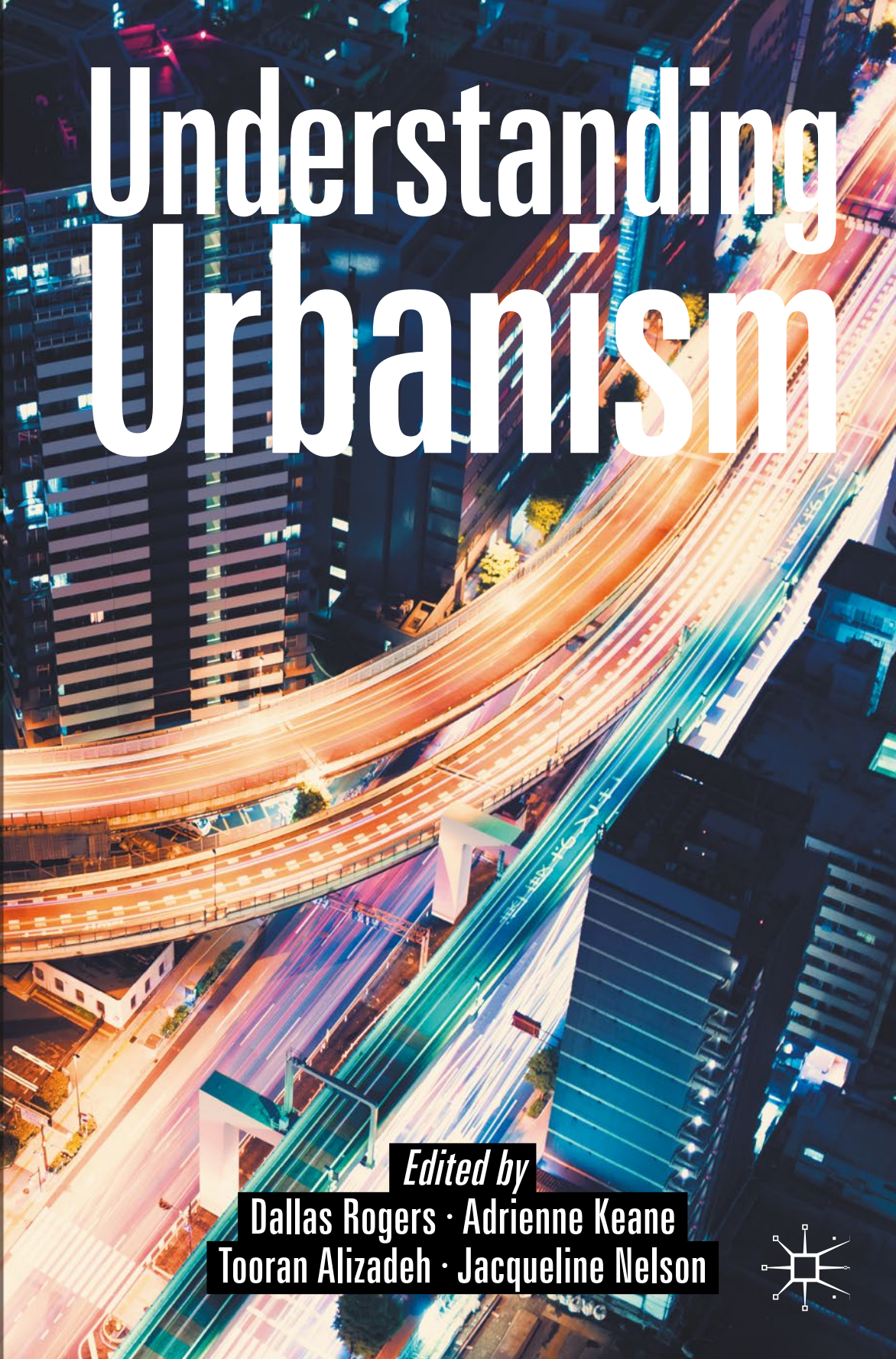
Understanding Urbanism



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About this book

We acknowledge that we edited this book on the traditional land of the Gadigal people of the Eora Nation. It is upon their ancestral lands that the University of Sydney and University of Technology Sydney are built. As we share our own knowledge through this book may we also pay respect to the knowledge embedded forever within the Aboriginal Custodianship of Country.

In early 2017 emergency repairs to a leaking roof in the Wilkinson Building, the home of the University of Sydney's School of Architecture, Design and Planning, somewhat fortunately displaced Dallas and Tooran from their shared office. They took up residence in a shared office with Adrienne on the fifth floor of the Wilkinson Building. The idea for this book was born in that shared office in mid-2017, and it took form as we informally discussed our teaching programs for undergraduate and masters students in our school. Jacqueline from the University of Technology Sydney came onboard soon after to provide editorial guidance around the study of the cultural dimensions of cities.

We talked about the need for an entry-level university book that would provide a basic multidisciplinary overview of cities. We imagined a target audience of first year undergraduate students working across a range of disciplines. It had to be a plain English text that was easy to read, and we laboured over the choice of urban topics. We cover a lot of ground in this book and we asked the authors to address some important issues; the most significant of which is the Indigenous context of studies of urbanism in settler-societies like Australia. We asked the authors to use Aboriginal placenames first in their chapters, as is increasingly common in Australian urban studies. You will see this in the writing when the authors talk about Naarm/Melbourne or Gadigal land. But there is also a clear silence in the pages of this book too, namely the work of scholars from the Global South. Countries in the Global South such as China and India are on the frontline of the rapid urbanisation of the world. It would be useful to compliment the chapters in the book with the work of scholars such as Ananya Roy and Nezar AlSayyad.

This book is a collaboration between authors and editors. We learned a lot from their work, and in turn, this informed the development of all the chapters. The quality of the work is also enhanced by our peers who reviewed the chapters. We appreciate their freely given time and their academic criticisms which elevated this work. We also acknowledge the University of Sydney School of Architecture, Design and

Planning for supporting us in our endeavours and its confidence in this book as a unique and timely resource for emerging built environment professionals.

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Dallas, Adrienne, Tooran and Jacqueline.

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Understanding Urbanism

1

Dallas Rogers

Abstract

By 2050 almost 70 per cent of the world's people are predicted to live in cities. This chapter begins with a discussion about the difference between urbanisation and urbanism, and suggests that it is at the intersections of the various definitions of these ideas that the most important discussions about cities take place. The Aboriginal context of urban development in Australia is discussed as a case in point. The substantive sections provide six brief contextual primers for the chapters in this book, covering: (1) professions and practices; (2) morphology and change; (3) scales and agglomerations; (4) infrastructures and services; (5) experiences and cultures; and (6) inquiry and analysis. The conclusion suggests to understand the relationships between the physical form and social function of cities, and how urbanisation makes people, changes places, shifts power relations, creates property or changes cultures requires a very broad range of data collection and analysis tools, as well as a broad sweep of urbanism theory.

1.1 Understanding Urbanism

1.1.1 What Is Urbanisation and Urbanism?

This is a question that has been asked for a very long time, a question that is hard to answer. In his meditations on government, democracy and the ancient Athenian city-state the philosopher Aristotle (384–322 $_{\text{B.C.E}}$) said,

> The amalgamation of numerous villages creates a unified city-state, large enough to be self-sufficient or nearly so, starting from the need to survive, and continuing its existence for the sake of a comfortable lifestyle.

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As hinted at here by Aristotle, at its most foundational, urbanisation 'is the increase in the proportion of a population that is urban as opposed to rural' (Gate and Stout 2011: 15 citing Davis 2011: Davis 1965). Historically, urbanisation was underwritten by immigration from the countryside into the city. This rural to urban migration driver of urbanisation is still largely true today. At the turn of the twenty-first century more than 50 per cent of the world's people lived in cities. In 2020 that figure had reached 55 per cent, and by 2050 almost 70 per cent of the world's people are predicted to live in cities (United Nations 2018). Countries with populations over 1 billion people, such as China (1.38 billion) and India (1.34 billion), will be key to global urbanisation. Consider this: when the Peoples' Republic of China was established in 1949 only 10 per cent of the national population lived in cities (Ren 2013). By 1978, a time of major market reforms, that figure had only reached 20 per cent. But 55 per cent of the national population was urban in 2015 and that figure is predicted to reach 60 per cent by 2030. This 'demographic' or 'population mobility' definition of urbanisation is a useful starting point for our discussion because it suggests that urbanisation and urbanism are not the same thing.

Urbanism is about what happens inside cities, the form and function of cities, and how cities relate to the rural. It often refers to the study of how inhabitants of urban or urbanising areas interact with the social and built environments of cities. What marks the boundary between the rural and the urban or a town from a city is the topic of an extended and ongoing debate in urban studies (Gate and Stout 2011; Lefebvre 1970/2003). In 1938, Louis Wirth (1938) published *Urbanism as a way of life* and suggested there were three key urban characteristics: a large population, a high population density, and social heterogeneity. Wirth proposed with his universal social theory of the city that the complex phenomena of urbanism could be understood through an analysis of a limited number of basic categories. 'A sociologically significant definition of the city', writes Wirth (1938:190), 'seeks to select those elements of urbanism which mark it as a distinctive mode of human group life'. Wirth's idea that 'urban difference' rather than 'rural similarity' shaped the social relations in the city was a powerful heuristic in its day, even if sociologists and geographers later rejected universal theories of the city like his. From Aristotle to Wirth and beyond, cities have be variously defined and analysed by population density, geographic size, integrated economies with a diversity of goods and services, the proliferation of specific building types or changes in urban form such as high-rise buildings, high population recreational spaces such as stadiums and theatres, new forms of government and urban governance, or the increasing detachment of a population from directly providing their own food and energy needs (Brenner and Schmid 2014; Bounds 2004; Engels 1845; Graham and Hewitt 2013; LeGates and Stout 2011; Lefebvre 1970/2003; Mumford 1961). Cities might also be defined by what they produce, such as housing wealth or inequality, or the forms of pollution, noise, water and food shortages, and other issues and inequalities that are somewhat unique to urban environments.

It is at the intersections and edges of the various definitions and analyses that the most interesting discussions about cities take place. But specificity is important. The architect Alexander D'Hooghe (2010:13) provocatively suggests that

'urbanism' today 'describes the world as it is, and also all its alternatives. Taken this way, it now means everything and its opposite. Such a word does not deserve to exist. It is wholly empty' (p.13). For the term 'urbanism' to have practical utility, then, the build environment professions 'should not compound urbanism's attempt to be everything to everyone. It needs narrow-mindedness' (p.13). As such, we are talking about urbanism in a very narrow way in this book, as a set of concerns and issues associated with the built environment professions (see our six urbanism themes below); concerns that are common to people who study urbanism or practice a built environment profession and call themselves urbanists.

An urbanist might be interested in, for example, how the number of people living in poverty in China fell 'from 250 million at the start of the reform process in 1978 to 80 million people by the end of 1993 and 29.27 million in 2001', as people moved into cities to find work and other opportunities (Jacques, 2012, p.162). In Australia, urbanist and Yugembir man, Dillon Kombumerri, a principal architect in the Office of the Government Architect NSW, has been involved in the Sydney Ochre Grid, a 'mapping project that seeks to connect both Aboriginal and non-Aboriginal communities, building knowledge bridges to enable better planning and design decisions that embrace culture and connection to country' (Russell 2018:np). Wiradjuri man, Joel Sherwood-Spring and Wiradjuri/Gamilaroi woman, Lorna Monro are centring 'Indigenous voices amongst multicultural Waterloo residents [a suburb of Sydney on Gadigal land] to critique colonisation and gentrification showing there is a Black History to your flat white' (Sherwood-Spring and Monro 2018:np). Their work shows how the current gentrification of the Gadigal land at Waterloo is connected to the violent invasion of Aboriginal lands in Sydney by the British (Moreton-Robertson 2015; Indigenous Archives Collective 2018). In all three cases, changes in the built environment and how it is governed were central to the social outcomes of the urban inhabitants.

Thus, the concept of urbanism is linked to the professions associated with the physical and social design and management of urban structures and communities. These professions include urban planning, urban design, architecture, engineering and heritage management. But urbanism is also linked to a range of academic disciplines and fields that are, at least partly, focused on the study of urban life and culture (Lefebvre 1970/2003). These academic disciplines and fields include urban sociology, human geography, urban politics, urban anthropology, architecture, engineering and heritage studies, amongst others.

Urbanism is, therefore, a mode of inquiry—a way of analysing and understanding cities—but it is also a component of built environment practice, and it might even be a component of someone's identity when they say, 'I'm an urbanist!'. It is probably clear by now that answering the question *what is urbanisation and urbanism?* from Aristotle's ancient Athenian city-state to the megacities of today is beyond the scope of this book. There are just too many definitions, theories, and understandings of urbanism to cover, as well as rigorous debates in the built environment professions about what these concepts mean and how to deploy them to inform built environment work. Being an urbanist requires a lifelong commitment to the study of cities, and this book is an entry point into some of the key ideas you

will need to begin your built environment studies. As you work your way through the chapters, you will develop a critical understanding of the different ways in which architects, urban planners, urban designers, heritage professionals, engineers, and other built environment professionals understand and design the urban environment.

In other words, this book is an introduction to some of the key ideas you will need to begin your built environment education—this is the beginning of your learning not the end. Rather than focusing on particular case studies, technical practices or policy and regulatory settings you will be presented with 13 key urbanism ideas. These key urbanism ideas are organised under the following 13 chapter headings: Indigenous Cities, Economic Cities, Planned Cities, Heritage and Cities, Designed Cities, Mobile Cities, Multicultural Cities, Public Cities, Green Cities, Healthy Cities, Digital Cities, Data Science and Cities, and Political Cities. As you can see, each chapter covers a specific theme. There are many ways of dividing up the key ideas for thinking about cities, and the 13 urbanism ideas we selected do not cover all the possible entry points into an analysis of the city. As an urbanist, you should ask yourself what are some of the other ways we could have explored the city; what about gender and cities or queer cities? And while the selection of these 13 urban themes should be a source of continuous debate, we made pragmatic decisions to write this book. As such, our 13 themes will provide you with a foundational knowledge of some of the key themes in urbanism upon which to build more discipline-specific learning throughout your under- and post-graduate studies.

You will see that each chapter follows a common heading structure. Each chapter starts with an *Introduction* to the urbanism theme, followed by the *Key Debates* in the urbanism theme and finishes up with a *Critical* appraisal of the urbanism theme. The chapter structure and learning objectives are outlined in Table 1.1. This common heading structure creates a coherent narrative throughout the book that will help you to navigate and compare the ideas in one chapter against the ideas in other

Table 1.1 Chapter headings and learning goals

Heading	Learning aim	Learning objective
Understanding	Introduction to the key historical ideas for the urbanism theme	In this section, you will develop a basic working knowledge of the historical progression of ideas under this urbanism theme. You are encouraged to think about contemporary urban practices as being connected to a long history of ideas.
Key debates	Summary of the key contemporary ideas for the urbanism theme	In this section, you develop a basic working knowledge of a set of key contemporary ideas under this urbanism theme. You are presented with these ideas without necessarily being called on to think critically about the politics of these ideas at this stage.
Critical readings	Critical review of the current state of play for the urbanism theme	In this section, you are pushed to develop a more critical perspective in relation to the contemporary ideas for this urbanism theme. You are encouraged to cast aside your preconceptions and to critically reflect on these ideas.

chapters. Furthermore, these 13 urbanism themes have been written in a way that will allow them to be read in parallel with contemporary case studies wherever you are reading this book. Because local case studies, empirical data, technical practices, and policy and regulatory settings change quickly, this will allow your university teacher to build local, contemporary case studies into your teaching materials to be read alongside this book.

In the next section, we provide some brief context to the key urbanism ideas discussed in this book. We have organised this discussion under six intersecting themes. These are an alternative suite of categories you could use to organise your thinking about and analysis of cities. We encourage you to add to our six short contextual briefings as you work your way through the book and the case studies provided by your university teaching staff.

1.2 Key Debates in Urbanism

As a built environment professional, you will need to work with a wide range of professionals and have a working knowledge of a complex suite of urban issues and solutions. These professionals, issues, and solutions will not fall neatly under the 13 themes we present in this book, rather they will cut across, blend, and merge these themes. In many cases, it will be hard to keep the 13 themes separate, as the issues intersect and weave across one another. Consider the digital city for example. The introduction of digital technologies to cities spans almost the full spectrum of themes discussed throughout this book. Digital technologies have already been used to profile Aboriginal people in cities (Indigenous cities), they are important drivers of urban economies (economic cities), they have clear urban planning and design uses, such as on roads and in public spaces (planned, designed, and mobile cities), and they can be used in placemaking (multicultural and public cities) and as a mode of inquiry (data science and cities). As such, we present six intersecting themes here that are more common ways of thinking about urbanism. These are terms you are more likely to use throughout your built environment career.

1. *Professions and Practices*—e.g. urban design, architecture, urban planning
2. *Morphology and Change*—e.g. forms, histories, economies, populations, ecologies
3. *Scales and Agglomerations*—e.g. governance, land, people, industries
4. *Infrastructures and Services*—e.g. transport, housing, schools, hospitals
5. *Experiences and Cultures*—e.g. functions, recreation, work, religion, sport, art, habitation
6. *Inquiry and Analysis*—e.g. a mode and field of inquiry through which to understanding the city

In the following sections, we provide some brief contextual primers that we hope you will take into your studio or classroom discussions about the chapters.

1.2.1 Professions and Practices

A typical reading list of the key historical figures in the built environment often includes urbanists such as Ebenezer Howard (1850–1928), Louis Wirth (1867–1952), Ernest W. Burgess (1886–1966), Lewis Mumford (1895–1990), Jane Jacobs (1916–2006), William Julius Wilson (1935–present), amongst others. Some architects have made significant contributions to urbanism too, such as Marcus Vitruvius Pollio (70 BCE–15 BCE), Frank Lloyd Wright (1867–1959), Charles-Édouard Jeanneret (1887–1965), Robert Venturi (1925–2018), Frank Gehry (1929–), Denise Scott Brown (1932–) and Daniel Libeskind (1946–). The presentation of these intellectual lineages varies, but these urban thinkers are important for two key reasons. First, they have provided much of the intellectual footing for students of the built environment in Western universities throughout the twentieth century. Therefore, having a working knowledge of these authors and their ideas is necessary in the professional domain because they provide a commonly cited touchstone in professional practice. Many Western-trained built environment professionals know who the American-Canadian Jane Jacobs is, but do they know about scholars like the Australian Jane Jacobs? If not, the second reason why these key urban thinkers are important is they represent a blind spot in our thinking about cities, and this is particularly the case in settler-countries like Australia (Moreton-Robertson 2015). The work of the Australian Jane Jacobs focuses on postcolonialism, Indigenous rights, and cities and in her 1996 book entitled *Edge of Empire: Postcolonialism and the City* she writes,

> In Sydney, as I listened to various papers on postmodern cities, I could not help but wonder why the processes and formations being discussed were infrequently connected to colonialism, imperialism and postcolonialism... The relations of power and difference established through nineteenth-century British imperialism linger on and are frequently reactivated in many contemporary First World cities (Jacobs 1998:1)

The implication of these two factors for the built environment professionals of tomorrow is that they will need to be knowledgeable in the Western built environment canon and critical of it too (Kiddle et al. 2018). This book will help you with both. You will see that we have included some of the key Western thinkers in the chapters where they are appropriate and useful for the discussion, but we have also provided alternative positions too. For example, Wirth's most important contribution as an applied sociologist was that he called upon researchers and students go out into the city to learn about the people and places of the city. In other words, we can take from Wirth his idea that being an urbanist is an applied practice that requires you to get out of the studio or classroom and into the city and his writing is a useful touchstone in the history of ideas about the formation and analysis of cities. But arguably more important for contemporary Western built environment professionals today is the need to come to terms with the violent colonial foundations of their professions.

As Libby Porter writes in Chap. 2, 'Indigenous peoples have universally experienced subjugation, dispossession and domination through colonisation and their

ways of life, forms of knowledge, systems of governance and distinctive laws and customs have been seriously threatened by dominant cultures'. Planning cities and constructing buildings on Aboriginal land is literally how Aboriginal peoples were (and continue to be) dispossessed of their land in Australia, and the built environment professions are therefore implicated in this ongoing dispossession (Kiddle et al. 2018; Moreton-Robertson 2015; Rogers 2017). The professional organisations for the built environment professions in Australia, for example, are still coming to terms with this history, and they are actively working out how their professions will move forward in less destructive ways. With this in mind, Libby Porter's chapter is a call to action for the built environment professionals of the future.

1.2.2 Morphology and Change

The birth of settler-state urbanism in countries like Australia is different to the birth of urbanism in Europe. We know much about the early urban empires from scholars such as Lewis Mumford (1961) and Michael Bounds (2004). Scholars like this write about the development of cities such as Mesopotamia (4000–3500 $_{B.C.E}$), Indus (3000–2500 $_{B.C.E}$), Egypt (3000 $_{B.C.E}$), China (2000 $_{B.C.E}$), Central Andes (500 $_{B.C.E}$), Mesoamerica (1000_{AD}), or Southwest Nigeria (1000_{AD}). As discussed in Chaps. 3 and 5, these writers were interested in the different eras of urban development, showing that early Medieval cities were characterised by trade and economic activity, mobility via immigration and emigration, the concentration of skills and knowledge, and changing political arrangements vis-à-vis new forms of social and legal organisation. Mercantile capitalism led to the formation of nation-states and citizenships, with cities becoming the 'economic engines' of these nation-states (Bounds 2004). As these new nation-states expanded their territory, they added new cities as additional economic nodes within the mercantile system. We see in these cities the beginnings of global capitalism and ideas around free trade and individualism (Bounds 2004).

Thus, understanding city formation is central to understanding the emergence of capitalism, free trade and nation-state formation. As discussed in Chap. 2, as the European trading empires expanded their political, economic, and territorial power around the world, they linked the rural to the urban and plugged the urbanising colonial cities into a new global colonial order, as 'primary rural products' were brought into the urban 'economic engines' of the colonial state to be commodified and sent back to the colonial powers. In the process they created the urban in the 'New World' (Bounds 2004), which was always central to the colonial project. The shift from mercantile and colonial wealth to industrial wealth was accompanied by the rise of industrial cities in the seventieth and eighteen centuries. Chap. 5 discusses the complex negotiations that surround the efforts to preserve the built form and social heritage that is connected to these older urban histories.

The changing urban conditions that are associated with the industrial revolution led to changing ideas about urban life. As discussed in Chap. 4, the labour-driven in-migration into cities, overcrowding, and the appalling living and working

conditions that emerged in these cities resulted in new social philosophies that intended to remedy the dreadful living and working conditions in industrial cities. The urban rich and poor alike become conscious of their social position, and this gave rise to class consciousness in the industrial city (Engels 1845). Within this context, Chap. 4 deals with the intellectual traditions associated with the development of urban planning and the urban morphology of cities during this period. Chapter 9 addresses multiculturalism in settler-societies like Australia, which is connected to the colonial and postcolonial migration histories of this country. Additionally, over the last 50 years a change in job roles and new digital technologies have ushered in an era that is being defined as the digital or knowledge economy, as discussed in Chaps. 10 and 11, and these changes can manifest in physical form in our cities as innovation and tech precincts. Finally, Chap. 12 shows, at a broader level, how urbanisation is having a severe impact on the health of the planet and what built environment professionals can do about it.

The chapters contributing to the morphology and change theme will prepare you for some of the core analytical and practical tasks you will do as a built environment professional, including preparing heritage reports, conducting demographic analysis, understanding urban economics, and considering built form and ecological morphology over time.

1.2.3 Scales and Agglomerations

Time and space are two of the most important concepts for a built environment professional. While you will often encounter these ideas via other names—scale, place, history, agglomeration, etc.—you will always be working with time and space; these are the tools of your trade (Lefebvre 1970/2003:23–44). There are long philosophical discussions about time and space, but one of the most common ways of thinking about these ideas is to separate them into the 'physical' and 'sensory' conceptualisations of time and space (Rogers 2014). The easiest way to think about these two conceptualisations, although it not without its problems, is to think about 'physical' time and space as mathematical and 'sensory' time and space as experiential. Consider how these two notions of time and space are evident in your university lecture theatre or teaching studio, and how we might use both of these conceptualisations to analyse the spatial and temporal dimensions of these spaces. The physical conceptualisations might be useful for measuring the mathematical dimensions of the room or recording the time period over which a lecture or studio is conducted. Equally, the sensory conceptualisations might be useful for measuring the subjective experiences of students and teaching staff in the lecture or studio over a given time period. Neither conceptualisation is more valid or more objective than the other, they are simply different ways of thinking about and analysing time and space.

As a built environment professional, you will be constantly working across these two different ways of thinking about the space and time of cities. For example, designing a new park requires an understanding of both the physical site

attributes *and* how people will experience this place; and because not everyone will experience this place in the same way, nor will everyone agree on how this park should be used, there is always a politics to time and space. Never underestimate the importance of the politics of time and space as a built environment professional because people's lives may, and often do, depend on it. What you design and build, and how you think about time and space in your built environment practice, is critically important. This is perhaps most powerfully captured in discussions about the colonisation of Australia and some of the earliest examples of built environment practice in Australia. As the European settlers moved the colonial frontier across this continent and built simple structures in the frontier's wake, they not only violently dispossessed Aboriginal peoples of their land they also sought to rewrite Aboriginal peoples' understandings of these places (Moreton-Robertson 2015; Rogers 2017). Deborah Bird Rose (1997) reminds us that the mathematical demarcation of physical space and calendar time are ideas that were imported to Australia by the European colonisers. Aboriginal peoples have their own conceptions of time, space, land, and history (Kiddle et al. 2018; Moreton-Robertson 2015) and Bird Rose talks about the frontier as 'Year Zero… a moment of transfiguration—an ontological disjunction violently thrust into Indigenous space and time" (p.29).

> Zero is thus a disjunctive moment when not just history, but a wholly different kind of life, is about to begin. I am contending that in settler societies the frontier is culturally constructed as precisely this moment: a disjunction between wholly different kinds of time. I suggest that we imagine the frontier as a rolling Year Zero that is carried across the land cutting an ontological swathe between 'timeless' land and historicised land. (Bird Rose 1997: 28)

As shown in the chapters throughout this book, the politics of time and space is central to the built environment professions today. Chapter 2 covers the ongoing tensions between Aboriginal and settler-colonial time and space, and Chap. 9 discusses urban planning proposals to establish mosques and Islamic schools that 'have attracted particular controversy, with critics often objecting on the grounds of technical urban planning criteria, e.g. parking, congestion, noise, that disguise deeper cultural concerns about Muslim "enclaves" and "takeovers"'. Chapter 3 talks about the urban planning idea of industries co-locating together in a city, which is referred to as agglomeration within the city, and suggest that these complementary clustering industries will have a strategic advantage over others. Chapter 5 outlines a suite of urban scale typologies, including 'urban place types, centre or neighbourhood types, street types, open space types, and building types', and Chap. 14 talks about the politics of urban governance across a number of government scales—local, state, and federal.

The chapters contributing to the scales and agglomerations theme will prepare you for some of the most important analytical and practical tasks you will do as a built environment professional, including thinking about how concepts like scale, agglomeration, place, history, and heritage are never neutral nor a-political ideas, rather they are inherently political.

1.2.4 Infrastructures and Services

Barney Warf (2003) writes, 'infrastructure consists of the veins and arteries that make urban space possible, the networks that facilitate the time-space compression of urbanity by shuttling people, goods, water, energy, waste, and information within and among cities'. The critical infrastructures literature shows that the infrastructure we build in our cities—such as our transport, digital technology, sewerage, energy, communications, financial, food, and housing systems—will in turn shape our societies (Steele and Legacy 2017). These systems shape our movement, our social interactions, our health outcomes, our environment, our economies, our politics, and more. Despite this, urban infrastructure is an often invisible intervention in the form and function of the city because while we are highly dependent on it for our housing, mobility, energy, and sustenance, it is not until something goes wrong with this infrastructure that it becomes (more) visible to us. Infrastructure can create tensions between people, but it can also bring people together, and it can be built, destroyed, bought, and sold (Legacy et al. 2018). But perhaps the most important contextual point about infrastructure is that, as Stephan Graham and Simon Marvin (2001:11) put it, 'configurations of infrastructure networks are inevitably imbued with biased struggles for social, economic, ecological and political power'.

Graham and Marvin argue that the provision of infrastructure was key to the formation of a new kind of urbanism that emerged in the mid-twentieth century, post-war period in Western cities. This included the standardising of transport (road, rail, airports), energy (electricity cables), water (pipes and dams), and telecommunications (telephone poles and lines) across the urban landscapes of Western cities. These were essential for the smooth production, distribution, and consumption of the new urban goods and services that would flow over, through and between these infrastructures. These infrastructures, then, effectively stitched together an otherwise factious urban landscape and gave Western governments' more capacity to regulate, govern, and control the population. The objective of governments at this time was to provide an integrated and accessible infrastructure network that was democratically activated and available to everyone. These integrated infrastructure systems were effectively state-owned monopolies that were controlled and managed by government and required price controls and other subsidies to maintain their democratic intent.

However, by the late-twentieth century, as the post-war Welfare State infrastructure stated to age through poor maintenance and a lack of reinvestment, new ideas about how to fund, build, and manage urban infrastructure began to emerge. No longer would the city be underwritten by an integrated and accessible infrastructure system that was democratically available to everyone. Rather, the city's infrastructure was 'splintered' and sold off to private companies who would thereafter use market and user-pay models to provide, build, and manage urban infrastructure (when later combined with digital technologies Graham and Marvin (2001) call this process splintering urbanism).

The early twenty-first century has seen three key changes from the earlier post-war Welfare State infrastructure period. First, the private funding, provision, and

management of urban infrastructure increasingly affects different parts of the city and different urban residents in different ways (Rogers 2016, 2017). Second, and related to the first point, no longer is infrastructure integration thought of as a democratic project wherein issues such as urban inequality and socio-spatial disadvantage might be addressed (Steele and Legacy 2017). Third, digital telecommunications infrastructure is an increasingly important component of urban infrastructure provision but has its own equity problems relating to access and cost (Alizadeh 2017).

Almost every chapter in this book contributes in some way to the infrastructure and services theme. Given the provision of urban infrastructure and services is often used by built environment professionals to inform their work—e.g. new train lines can lead to land use zoning changes and new housing provision (Sisson et al. 2019)—understanding the logic of urban infrastructure and service provision is key for a built environment professional.

1.2.5 Experiences and Cultures

Sociological and geographical understandings of urban life shift our thinking somewhat from how people and society shape the built environment to thinking about how the built environment might be shaping people and society. It turns towards the intersections of the physical, economic, political, and cultural structures of cities to understand urbanism. We have already talked about the different ways in which people engage with and understand the city in our discussion about Aboriginal and Western notions of time and space and cultural tensions over the provision of mosques and Islamic schools that play out through the urban planning system. As a built environment professional, you will be continually asking yourself questions like, is the physical morphology of the city following the social morphology of society? Or is social morphology in the city producing certain built forms? Is social discrimination and inequality manifesting in the physical built form of our cities, and if so, what can we do about it?

When you are called upon to go out into the city to learn about urbanism in your university course, these are the types of questions to consider. The city should be the site and focus of your inquiry into urbanism, which might be explored through the link between people's experiences and cultural practices in the city, the ideas and ideologies that are driving built environment professionals, and the function of the physical built form of cities.

1.3 Critical Urbanism Studies

We conclude this chapter with the last of our six intersecting urbanism themes: inquiry and analysis. We noted at the opening of this chapter that urbanism is a mode of inquiry and analysis through which to understanding the city. New definitions, theories, and understandings of urbanism are being published every year and you will need to develop skills to separate rigorous peer-reviewed research from

other information and commentary about cities. Contemporary studies in urbanism will help you to keep informed about some of the more perennial questions about cities, such as: what type of urban dweller is the social, economic, and built form transformations of our city producing? What type of built and social forms will our city need to take in the future? And what type of urban professionals do we need to meet the needs and challenges of our future city?

Clearly digital technologies are introducing a suite of important changes to urban environments, and we have included a chapter on data science and cities—which is the only urban studies 'methods' chapter in the book—because data science is likely to be a new professional avenue for built environment professionals. However, to understand the relationships between the physical form and social function of cities, and how urbanisation makes people, changes places, shifts power relations, creates property, or changes cultures will require a very broad range of data collection and analysis tools, as well as a broad sweep of urbanism theory. We encourage you to return to different urban theories and questions throughout your studies: such as questions about property and Aboriginal dispossession (Moreton-Robertson 2015), the role of money and power in producing our social and material cities and the 'entrepreneurial city' (Harvey 1989), the relationships between the rural and urban with 'planetary urbanism' (Brenner and Schmid 2014), the role of technology in cities and 'platform real estate' (Fields and Rogers 2019), urban planning and real estate (Stein 2019), and the sexualisation of the city (Kalms 2017).

We hope you have a long interest in cities and urban life; congratulations, you are now an urbanist!

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Indigenous Cities

2

Libby Porter

Abstract

The historical origins of thousands of cities around the world, many of them cities from where mainstream theory and urban scholarship emanates, lie in dispossession and genocide of Indigenous peoples. Yet this foundational dimension of urbanisation is often simply missing from urban scholarship. Thinking about the city as an Indigenous place is to call for a more truthful and accurate account of what cities are, how they have come to be, and what work they do in securing colonial expansion and erasing Indigenous belonging. Focusing specifically on settler-colonial contexts, this chapter reveals key dimensions for thinking about how cities are Indigenous places, the ways cities are knitted into the structures of settler-colonial domination, and their vital importance for all our futures.

I acknowledge that I write this paper from the place known as Naarm and Birrarung-Ga to Woiwurrung and Boonwurrung/Bunurong speaking peoples. I live on Wurundjeri Country, in what is now Melbourne, and pay my respects to Wurundjeri ancestors and Elders and the Elders of the wider Kulin Nation. I acknowledge my responsibility as an uninvited guest on unceded Kulin lands to locate my own knowledge and practice in a respectful relationship with Kulin sovereignties and knowledge systems that have always been here.

This acknowledgement is a practice of law in the place that I live and that is why I make it here. As a practice, it invites us to consider more deeply what it means to say that cities are Indigenous places, and that is the focus of this chapter. This is often a challenging theme for students of the city, and is a contested topic for a non-Indigenous person, such as myself, about which to write. To be clear, my use of the phrase 'Indigenous cities' is not intended as a claim about a specific form of Indigenous urbanisation, nor a claim that a discrete phenomenon of Indigenous urbanism exists and can be known, especially by a white urban social researcher. As will become clear through this chapter, such an approach would practice appropriation and a problematic claiming of knowing 'about' Indigeneity by settler society, and on settler society's terms and advantage. While I cannot as a non-Indigenous scholar fully unpick myself from such inclinations of white privilege, I open them here for consideration in a spirit of fostering a decolonising ethic towards scholarly practice.

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What, then, does 'Indigenous cities' mean—if not this? The phrase is intended as a prompt to probe more accurately into the origins and structures of urban life. This is a matter of truth telling, for the historical origins of thousands of cities around the world—those from which much of mainstream theory and urban scholarship comes out of, or is generated from—lies in the appropriation of Indigenous lands, the banishment of Indigenous bodies, and the marginalisation of Indigenous peoples from urban life. Yet reading the urban scholarship that comes out of most cities around the world, a reader might be forgiven for thinking those origins never happened. 'World cities' like New York and other cities of the 'global north', such as Vancouver or Sydney, that are often the focus of urban theory and research for what they teach us about urbanisation, are positioned as if they 'began' at the moment of colonisation. Urban texts from and on these places virtually never discuss the continuing dynamic of colonisation as a force in contemporary urban life. We talk a lot about capitalism in urban scholarship, and much less about colonialism when in fact the two are intimately connected processes and structures. Thinking about the city as an Indigenous place offers a more truthful and accurate account, then, of what the city is, how cities come to be, and how we might think about the urban. At the same time, thinking about the city as an Indigenous place also reveals how mainstream ways of thinking about and understanding urbanisation have consistently worked to erase Indigenous peoples from history and contemporary urban life.

In this chapter, the focus is on the settler-colonial context, the modern nations where Indigenous populations were overwhelmed by a dominant and violent colonial power that 'came to stay'. A huge number of cities fit into this category—from Vancouver to Perth, Jerusalem to Tokyo, Umea to New York, Auckland to Sao Paolo. Indigenous geographies mirror that of the global population, in being predominantly urban. More importantly, cities are both in and of themselves Indigenous places and crucial to the resurgence and struggle for Indigenous futures. But how should this contemporary situation be understood, and what does it mean for how we think about, and practice, city-making? This chapter reveals key dimensions for thinking about how cities are Indigenous places, the ways they are knitted into the structures of settler-colonial domination, and their vital importance for all our futures.

2.1 Understanding Indigenous Cities

The concept of Indigeneity itself is a contested one and has largely defied a globally accepted definition (United Nations 2009). There are, however, some accepted concepts and characteristics that have been asserted by Indigenous people as fundamental to the concept of Indigeneity. Perhaps the most important of these is the right of Indigenous people themselves to assert their own definition of Indigenous people, communities, and nations. This right is enshrined within the UN Declaration on the Rights of Indigenous Peoples (UNDRIP). Other important dimensions of the concept are that Indigenous peoples are distinct peoples, with special attachments to traditional lands based on unique laws and customs that are often intricately place-based. Taking this suite of concepts, the UN identifies that there are approximately 370 million Indigenous people globally across 90 countries (United Nations 2009). This is less than five per cent of the world's population, a population that disproportionately experiences discrimination, marginalisation, poverty, displacement, ethnic cleansing, and dispossession. Of the world's more than 7000 languages, more than 4000 are Indigenous languages and these are some of the most threatened languages in the world.

Truth Telling
Developing a shared and honest understanding of historical events that caused upheaval to those who were impacted by those events. The lack of a widely shared understanding of colonial history is a source of ongoing trauma for Indigenous peoples around the world.

Indigenous Peoples
Distinct peoples and nations with special attachments to traditional lands and waters, based on distinctive laws and customs that are intrinsically place-based. The category 'Indigenous' is derived in and from the colonial encounter.

These dimensions demonstrate that Indigenous peoples are situated in a particular way in relation to nation-states, and with other social groups within nation-states. Indigenous peoples have experienced subjugation, dispossession, and domination through colonisation and their ways of life, forms of knowledge, systems of governance, and distinctive laws and customs have been seriously threatened by dominant cultures. Indigeneity is thus a special kind of concept. It provides a way to name and identify common experiences and similar ways of life yet is contested for the way that a 'catch-all' like this flattens what are in fact highly distinctive and varied ways of life. It is important to understand that the very concept and category of Indigeneity comes from the colonial experience. This raises the tension for Indigenous people of identifying in a category born of such violence, and the importance of highlighting common experiences of subjugation, dispossession, and marginalisation against which Indigenous peoples around the world continue to struggle.

Recognising the intrinsic link between the concept of Indigeneity and colonisation therefore requires bringing colonisation, as a process, structure, and relation of power firmly into view. It is fundamentally inadequate to consider 'Indigenous cities', or the relationship between Indigeneity and urbanisation without carefully examining how colonial processes powerfully shape that very relationship. Therefore it is also necessary to understand some basic definitions and concepts of colonialism, which is at its most basic the practice of controlling and exploiting another jurisdiction in a relationship of domination. There are some important distinctions within the broad category of colonisation to be grasped. These matter for understanding the specific relation of domination in which Indigenous peoples are located in contemporary cities. A colony, as observed by Veracini (2010, p.2-3), encapsulates two aspects—'a political body dominated by an exogenous agency and an exogenous entity that reproduces itself in a given environment'. In exploitation colonies such as the British in India or the French in Africa, minority numbers of an elite class relocate from an imperial centre out to a colony in order to establish a particular form of domination through labour relations. The focus is principally on extraction of natural resources (and labour) to the benefit of the imperial centre and the people being colonised are the majority of the population.

In a settler colony such as Australia or Canada, the colonial purpose and structure is quite different. It is to usurp land and re-create the imperial 'centre' in a new place by supplanting the peoples already there, replacing their social order with another (Veracini 2010; Wolfe 2006). In this variant of colonialism, settlers come to stay which means that they specifically seek to dispossess Indigenous peoples of their land and erase Indigenous ways of life, governance, and knowledge. This means that the specific relation of domination between Indigenous and settler peoples is structured around land, place and sovereignty. For example in Australia, from where I write, the foundational myth of *terra nullius*—land belonging to no-one—was perpetuated in order to enable and justify the imposition of western legal, governance, and property systems with no regard or recognition for the existing systems of law, governance, and spatial organisation that were already here.

Settler-colonial cities, then, are built on the unceded lands of Indigenous peoples. Due to the nature of the settler-colonial impulse, even when treaties were used as a basis of settlement, Indigenous peoples never ceded their political authority or their land to settler authorities. This means that any discussion of the origins of modern cities in settler-colonial contexts cannot be understood without acknowledging those origins are also *how* land theft, dispossession, and violent displacement of Indigenous peoples actually occurred.

Settler-Colonial
A form of colonisation that seeks to replace an original population and social order with a new society based on the one brought from the imperial centre. It requires the domination of Indigenous populations with invasive settler and later migrant/arrivant populations.

Despite this dispossession and marginalisation, Indigenous peoples are not disappearing, and urban areas feature very significantly in contemporary Indigenous life. There is a significant presence and diversity of Indigenous lives in contemporary cities around the world. The world's Indigenous population is increasingly urban, often caused by factors outside Indigenous people's control such as land dispossession and climate change (Brand et al. 2016). In many parts of the world such as Australia, Canada, Bolivia, Brazil, New Zealand, the USA, and Norway, the majority of the Indigenous population lives in urban centres (UN-Habitat 2010). Many of the forms of resistance that have always been enacted by Indigenous peoples globally have occurred in cities, from early frontier struggles to vigorous land rights campaigns. The long-standing Tent Embassy in the Australian national capital, Canberra, and the use of urban streets and public spaces for street-based protests and marches such as Idle no More in Canada, and Invasion Day rallies in Australia demonstrate the importance of the city for contemporary Indigenous societies. Yet cities are also places where Indigenous people experience socio-economic disadvantage and marginalisation. Often Indigenous people living in urban areas are housed in poor conditions, experience high rates of unemployment and poverty, and significant rates of relative

disadvantage. For all these reasons, cities are important places for the lives, livelihoods, and futures of Indigenous peoples.

2.2 Key Debates in Indigenous Urban Studies

Indigenous people and lands have been mostly overlooked in urban studies. Discussion of Indigenous peoples and lands is more likely to be absent than present in any book or paper that a student of cities might read. This is a function of the specific location of Indigenous peoples in colonial relations of power, as was discussed above. We will come to some reasons why later in this chapter, for now it is important to understand how this silence occurs, and also where urban studies as a discipline *has* focused on Indigeneity and around which key debates.

The relatively standard theoretical and historical construct of cities in western urban studies is that urbanisation begins with population movement and the emergence of built form. Those processes are understood in the context of industrialisation, capitalism, and the emergence of specific cultural and political forms that have produced what we recognise as the city today. Writing about the absence of Indigenous peoples in the key Australian urban texts, Johnson, Jackson, and Porter note a trend that is equally the case across all of the urban studies literature:

> The treatment of Indigenous Australians in the major planning texts was one of complete absence before the 1980s or forming a brief historical cameo before the main story of settlement and planning gets underway, or as marginalised groups contained within theoretical frames of difference at the edge of the city and its various social and economic centres (2018, p.X)

Thus, the standard trajectory of thinking about cities, what they are, and how they have come to be has followed a fairly standard way of thinking in the past 80 years that has largely denied the fact they are built on Indigenous lands and ignored the presence of Indigenous peoples. We will come to consider this absence more critically, and why it exists, in the next section.

To say that there is a large silence about Indigenous peoples in the urban studies field is not to suggest that Indigenous people do not feature at all. In some specific corners of the urban literature, contributions have focused on the relationship between Indigeneity and the city. Largely because of the socio-economic disadvantage and racism that Indigenous people experience, much of that research has been on housing, welfare, and services uncovering and documenting the specific conditions of Indigenous peoples living in urban areas (see, e.g. Gale and Brookman 1972; Cardinal 2006; Peters and Walker 2005; Peters 2006; Walker 2003; Walker and Barcham 2010). A distinct and important body of work has documented the processes underpinning the varied ways Indigenous people are marginalised and impoverished within urban settings through the intertwined processes of urbanisation and colonisation (see, e.g. Edmonds 2010; Jacobs 1996; Shaw 2007; Blomley 2004; Stanger-Ross 2008; Anderson and Jacobs 1997; Morgan 2006; King 1990; Harris 1993; Mar and Edmonds 2010). As well, there are important contributions about Indigenous place-making, struggle and resurgence in cities, urban planning, and other urban governance processes (see, e.g.

Peters 1996; Peters and Andersen 2013; Hinkson 2003; Blatman-Thomas 2017; Yacobi and Pullan 2014; Wilson and Peters 2005; Jojola 2008; Sandercock 2003; Umemoto 2001). Many of these works and the philosophical lineages from which they draw, ask us to pay attention to the ways that social groups are Othered through knowledge-making activities such as research. This highlights the importance of problematising the way that Indigenous people are often presented (by non-Indigenous scholars and practitioners) as an 'urban policy problem' in ways that obfuscate the underlying questions of sovereignty, land dispossession, and Indigenous law and governance.

However, despite these corners where there is presence and activity, cities remain stubbornly difficult contexts in which to *recognise* the presence, sovereignty, and agency of Indigenous peoples and place-making. Evelyn Peters once called this the 'impossible contradiction' of urban Aboriginality (Peters 1996). At the heart of this impossibility is the structure of denial that underpins settler-colonialism, where as noted above for settler-colonialism to 'succeed' requires denying the existence, sovereignty, and legitimacy of Indigenous place and governance. The discursive construction of cities as places of modernity and advanced development frame Indigenous peoples as corrupted by modernity and lost to their cultures when those cultures are practiced and experienced in urban areas. The result is that cities have come to be thought about as places devoid of Indigeneity, absent of 'real' Indigenous peoples, and irrelevant to demands for Indigenous rights (see, e.g. Behrendt 2006; Foley 2007; Fredericks 2013).

This tension within the urban studies literature of the absence and presence of Indigenous peoples speaks to the specific location of Indigenous peoples within settler-colonial urbanism. That location derives from the twinned denial of Indigenous peoples, lands, and sovereignties and the simultaneous construction of Indigenous people as deviant, dysfunctional and requiring a policy 'fix' by the settler state. Indigeneity is recognised as a category of Other, often framed by cultural difference or as a policy problem rather than a function of the colonial encounter itself.

2.3 Critical Indigenous Studies

A more critical appreciation of the relationship between cities and Indigenous peoples and lands requires situating the debates and issues this chapter has discussed so far within the context of colonial relations of power. As the focus in this chapter is principally on settler-colonial cities, this section will draw on key concepts about land, property, dispossession, recognition, and identity politics to more critically engage with Indigenous cities.

Urban settlement has been central to the making of all European settler-colonial societies. This is because the process of settlement—which is the very thing that settlers as colonisers *do*—is made real through practices of building and shaping space. The establishment of towns and cities literally builds the settler-colony. This is perhaps obvious at one level: a built environment emerges and takes shape from

the practices of settlers making the homes and spaces of their new life. Yet when we recognise that these homes and spaces are being made out of and on lands that are already part of dense social, cultural, political, and economic systems—those of Indigenous peoples—then the process of settlers making a home on the frontier no longer looks quite so innocent. It is in this way that we begin to see how the making of urban landscapes is in fact foundational to the structure and logic of settler-colonialism. It is through the creation of built form, and especially through urbanisation, that the usurpation of Indigenous lands into literally 'settled' spaces actually occurs (Edmonds 2010; Porter 2010; Hugill 2017; Dorries et al. 2019).

This brings us to a consideration of land and property. For as Edward Said (1993: 93) observed—one of the most important thinkers on colonialism—the 'actual geographical possession' of land is what is really at stake in any colonial project. In a settler colony the land is of central concern, and that is because settlers come to *stay* (Wolfe 1999), meaning that settler-colonialism should be thought of as a structure, not an event (Wolfe 2006, p.402). Settler colonists need to take possession of land for themselves, seemingly in perpetuity. This makes land, rather than labour or access to resources, the central feature of the settler-colonial relation (Coulthard 2014).

Taking possession in this way requires a number of practices and structures to give that possession effect. In the critical Indigenous studies literature, this is conceptualised as the ways in which white possession is both practiced and sustained. Here, I mean 'white' as an ideology, and more than a skin colour (see https://www.sceneonradio.org/seeing-white/). Aileen Moreton-Robinson has called this the 'white possessive' and Cheryl Harris has shown how whiteness can itself be considered property. White possession, of course, requires Indigenous *dis*possession. The urbanisation of Indigenous places through settler-colonialism draws land into a circuit of capital, reconstituting land as property for exchange and capital accumulation by white settlers (Coulthard 2014; Bhandar 2015; Yiftachel 1996; Yiftachel et al. 2009; Porter 2010; Edmonds 2010; Jacobs 1996; King 1990; Blomley 2004).

A key mechanism that enables white possession is property. If we think about any settler-colonial city such as Los Angeles, Vancouver, Santiago, or Naarm/Melbourne as a product of this impulse of settlers to possess the lands on which those cities now sit, then it is clear that property literally takes (usurps) Indigenous lands and re-creates those lands as private property (or public space) for white possession (Blomley 2004; Bhandar 2015; Blatman-Thomas 2017).

For settler-colonialism to 'succeed', place must become not only physically settled—materially dense with white possessiveness—but also symbolically settled in the popular imagination. 'Cities signify with every building and every street that this land is now possessed by others' (Moreton-Robinson 2015, p.xiii). The city in this way is literally the 'consummation of empire' (Edmonds 2010, p.7)—here we can consider afresh the link between civilisation and city in the Greek origins of those words. That the city is now synonymous, in contemporary western thought, with civilisation is not an innocent link and is not a view from nowhere. European ideas about what constitutes civilisation is fully embedded in European ways of thinking

that arrange spaces and societies to reflect European sensibilities about the city as a space of culture and civilisation (a peopled landscape) and the 'bush' or 'nature' as primitive and untamed. Positioned as two endpoints on a continuum in European thinking, this normalises a European sense of entitlement to all lands that are defined, under this categorisation, as 'waste' or underutilised. This is in part what enabled the myth of *terra nullius*, land belonging to no-one, to function so effectively in the Australian context. The land was considered unused or 'unimproved', thereby justifying dispossession in order to fulfil a (European) conception of appropriately utilised land (see Porter 2010; Jackson, Johnson and Porter 2018; Banivanua Mar 2012).

Thinking about space in this way has been intimately entangled with the ranking of human societies that accompanies colonisation. People other than Europeans are ranked on a civilisational hierarchy that categorises Europeans as civilised and everybody else as falling somewhere below civilisational standards. Famously, the British colonial governors ranked Aboriginal people in Australia at the very bottom of human existence. That profoundly racist view has driven Indigenous policy in Australia ever since, and is revealing of why up until 1967 Aboriginal people were not even counted as people in the national census.

For settlers, then, cities are completely settled (white) spaces (Blomley 2004). Cities are popularly considered places that do not belong to Indigenous people, as places inappropriate for Indigenous practice or expression and beyond Indigenous sovereignty or claim for land. Managing the urban landscape is seen as a fully white or settler realm where the institutional forms the city takes are organised in the interests of perpetual white possession (Elkins and Pederson 2005). The city becomes the 'endpoint' of assimilation, as if settler-colonialism is fully complete in cities, fully erasing Indigenous peoples, lands, sovereignties (see Blatman-Thomas and Porter 2019).

Thus, the establishment of towns and cities not only literally replaces Indigenous lands with white possession, but enables a racist imaginary to be deployed that Indigenous people in cities are somehow no longer authentically Indigenous. Despite the fact that all settler-colonial cities by definition exist on unceded Indigenous lands, they are already being remade as places not Indigenous. Thinking in these frames allows a more critical appreciation of how settler-colonial cities are a particularly contradictory site for Indigenous peoples—they form the central component of settler society where Indigenous dispossession is most intense, and at the same time render Indigeneity profoundly out of place. This lends new insights into thinking about how the 'colonial amnesia' regarding settler-colonial cities is produced, 'one that tends to erase and deny Indigenous presence or alternatively considers Indigenous peoples to be merely anomalous to urban space, and misplaced in urban historiographies' (Edmonds 2010, p.4).

Yet this erasure is never fully complete, because Indigenous people and Indigenous lands do not actually go away, but instead are present and, especially in contemporary cities, are resurgent. Despite settlers' best efforts, Indigenous people

never left the city and as the demographic patterns described earlier attest are now central to contemporary Indigenous lives. Also, it is important to recognise that Indigenous ways of thinking and knowing (Hunt 2014; Simpson 2014a, 2014b; Matunga 2013) refuse to distinguish between land, people, and other life as European ways of thinking do. There is no distinction, for Indigenous peoples, between the city as a peopled landscape and places considered more 'natural' (Todd 2016). Indigenous land itself also remains.

Thinking about the resurgence and survival of Indigenous peoples, lands, lives, and laws in relation to cities therefore lends new insights to questions about identity, representation, and recognition. These have become key battlegrounds for all social groups in contemporary cities. Such terms have strong resonance in many contexts where settler states create mechanisms for recognising Indigenous difference, protecting Indigenous cultures, sometimes returning lands and establishing distinct forms of Indigenous political representation. For Indigenous peoples, it means their claims have to be reconciled and accommodated *within* settler-state frameworks, feeding what many have referred to as a 'liberal politics of recognition' (Coulthard 2014; see also Moreton-Robinson 2015; Watson 2015; Simpson 2014b; Tully 1995; Povinelli 1998). Here, the claims that Indigenous people take to settler states about land, identity, cultural distinctiveness, and protections for all these dimensions tend to become incorporated into mainstream and settler frameworks, without ever fundamentally shifting the entrenched colonial relations of power that enable continued settler dominance. Indigenous peoples' claims are frequently reduced to 'identity and culture', a move that many Indigenous people have noted is the contemporary way settler societies ignore and deny the more fundamental question of sovereignty and especially land rights.

This is well demonstrated by the proliferation within urban planning and other place governance processes of inclusion and participation—what might be named as the collaborative or deliberative turn in public policy. Here, Indigenous peoples come to be 'seen' in policy terms largely when there are questions of culture, identity, or heritage at stake. Positioned as one ethnic group among many in multicultural settler societies, the reality of Indigenous peoples as sovereign peoples, with distinct laws and customs and as the holders of First Law (see Turner and Neale 2015; Watson 2015), is obscured. Deeper and more fundamental questions of the legitimacy of settler state power and ownership of land can be ignored and denied under the noisy work of consultation and participation. A number of areas of research have critically examined contemporary governance practices for the way they work to reassert settler control and contain Indigenous claims. Of special importance is the way that contemporary governance processes tend to reduce Indigenous interests to that of a 'stakeholder'—one voice among many to be heard in a policy process. Being a 'stakeholder' strips Indigenous people of their status as *sovereigns* in the Indigenous-state relationship, and re-coordinates the power to control what is on the policy table for discussion on the terms of the settler state.

Grappling in critical terms with these contemporary realities thus demands examination of the underlying conditions of Indigenous cities. While every urban expression and manifestation in a settler state 'belongs' to the First People of that place, simply because those people have never ceded the land on which those cities are built, at the same time and paradoxically, Indigenous people have very little 'ownership'. Indigenous people do not control vast swathes of land in cities, and are rarely if ever accorded status as sovereigns in equal governing relationships with settler state urban authorities. This paradox illuminates the persistent dynamics that are always at work in Indigenous cities: land and dispossession, culture and identity, representation and recognition, as well as agency and resurgence. Critically considering these dimensions will help bring new questions to the centre of urban analysis, theory and practice.

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Economic Cities

3

Thomas Sigler, Glen Searle, and Kirsten Martinus

Abstract

This chapter explores the economy of cities in greater detail. First, it gives a summary of the growth and development of cities over time with respect to their economic function. One of the most important trends over the past century has been rapid urbanisation tied to industrialisation. In some parts of the world, there has been subsequent deindustrialisation. Next, this chapter focusses on the spatial implications of economic change in cities. As urban economies shift over time, so do the characteristics of the built environment, including employment nodes and residential housing. Suburbanisation driven by increasing car ownership has been an important process, but has occurred unevenly in different contexts. The chapter concludes by considering how cities have changed in the recent past, and how economic functions tied to the information age continue to transform cities and urban spatial structure.

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3.1 Understanding Economic Cities

Economic processes play a key role in shaping cities, and cities play a key role in shaping the economy. This chapter focuses on the distribution of economic activity within cities and between cities. It begins with a brief summary of how economic processes have evolved in cities, then focuses on how urban form has mirrored economic shifts over time. These processes unfold at many scales, and as we show—cities are increasingly affected by global phenomena.

The growth and development of cities in many ways parallels the trajectory of the world's economy, with today's large-scale urbanisation (>50% of global population) being relatively recent in the history of human settlement.

Pre-modern cities were mainly small and dispersed. For the majority of urban history, such settlements might best be described as 'agricultural villages', with no more than a few thousand residents, and an economic base tied largely to food production and exchange. The earliest cities are thought to have emerged in Anatolia in what is today Turkey, though evidence of early urbanisation has been found throughout North Africa (Egypt, Sudan), Southwest Asia (Iraq, Syria), and South Asia (Pakistan, India). Though traces of human inhabitance have been found dating to much earlier than this, they were generally linked to hunter-gatherers who were nomadic and semi-nomadic rather than sedentary.

Cities date back approximately 9500 years to the time of the Neolithic revolution (Childe 1950). However, no city exceeded one million in population until approximately 2000 years ago, when the growth of major empires led to the development of cities such as Alexandria (today in Egypt), Baghdad (Iraq), Beijing (China), Chang'an (Xian, China), Constantinople (Istanbul, Turkey), and Rome (Italy). These cities emerged as major imperial hubs at various points during the first millennium CE. These cities' power relied to some degree on imperial or monarchical rule, where everything from trade to military strategy to social organisation was determined by an absolute ruler, rather than democratically as in many cities today. Each would also have been tied to an *urban system* comprised of a network of smaller cities linked by trade. Critical to the development of these cities was an agricultural surplus, allowing ordinary citizens to transition away from subsistence agriculture into increasingly sophisticated occupations. Therefore, whereas the vast majority of people would have worked in agriculturally oriented professions in early cities, urbanisation over time produced a small but significant class of 'citizens' engaged in non-agricultural livelihoods.

Urban System
An *Urban system* is a region of the world comprised of multiple cities that are interconnected in some significant way. In pre-modern times, this may have referred to a grouping of cities within trade network, empire, or local production area (e.g. Mesopotamia, Indus Valley). In more recent times, this often refers to a national-scale hierarchy of cities connected through various financial, commercial, social, and political systems.

Gradually, city economies expanded to include artisans engaged in small-scale industries (e.g. metalworking, pottery, leatherworking) and merchants who bought and sold these wares both within and beyond the cities. Artisans made products for local populations such as textiles, clothing and utensils, as well as more specialised goods for trade with other cities that drew on local raw materials, traditions, and expertise. In addition to specialised goods, valuable resources only found in limited locations added to the growth in inter-city trading, including spices (e.g. saffron, cardamom), salt, gems (e.g. amber, pearls), and precious metals (e.g. gold, silver). Some of the largest and most powerful cities were centred on inter-city trade, for example Venice, which also traded in its own specialised glassware. The growth of specialised industries meant that the economy of pre-modern cities gradually expanded beyond the city walls within which it had previously been concentrated in.

From the sixteenth century onward, the European city model that had developed over the course of several millennia was expanded overseas through colonial conquest throughout Africa, the Americas, Southeast Asia, and Oceania (See discussion in Chap. 2). Colonial cities were established as administrative centres and *entrepôts* primarily by European superpowers between the sixteenth and early twentieth centuries. To some degree, this replicated the expansionary imperialist model that the Roman Empire and others had used to establish new colonies around the Mediterranean in previous eras. This included widespread colonisation in South America by the Portuguese and Spanish, in North America, Africa, Southeast Asia, and the Caribbean by the Dutch, Spanish, English, and French.

Entrepôt
An *entrepôt* is a city whose primary economic function is defined by an intermediary role. Derived from a French word meaning 'warehouse', an entrepôt sits between two systems and often benefits from trade or communication between them.

The main implication for urbanisation was the establishment of many cities around the world for colonial administrative and commercial purposes. For example, Sydney and Melbourne, Australia, were colonised in 1788 and 1835, respectively, to serve the interests of the British Crown, just as cities such as Havana, Cuba, and San Juan, Puerto Rico, were built as Spanish colonial port cities. Many cities were contested by other colonial powers over time, with New York going from Dutch to British to American jurisdiction while Malacca was a city successively contested by the Portuguese, Dutch, British, and Malayan sultans, before ultimately becoming a Malaysian city. Indigenous populations were gradually incorporated into colonial cities' economic activities, though conquest often was by means of violence. Colonial cities were often slave ports, meaning that they produced great wealth for imperial powers at the expense of human exploitation and death. In colonial cities, Indigenous residents and slaves often lived outside of formal city boundaries, or in inferior living quarters within cities, and most often could not fully particulate in civic or economic life (Fig. 3.1).

Fig. 3.1 Colonial settlement in Malacca, 1641 (Pedro Barreto de Resende, 1641. British Library © Public Domain)

The next major expansion of cities across the world was largely tied to the industrial revolution. By the 1820s, London had become the world's largest city, and would remain the largest until it was surpassed by New York around a century later. London's growth and expansion were directly tied to the industrial revolution, which was focused on the rapid growth of manufacturing through mass production in factories. The industrial revolution was initially tied to the capacity of the steam engine to generate large amounts of energy allowing production to be machine-based, and later to innovations in electric power generation.

The industrial revolution is linked to urban expansion for a number of reasons. First, increasingly large factories required ever-larger workforces. Rural-to-urban migration was characteristic of this period, as workers were drawn to cities by the prospect of jobs. In England, the enclosure movement led to public land being privatised through purchase by small landholders, which increased agricultural productivity but created a surplus rural labour supply. For this reason, the *urbanisation rate*, defined as the proportion of a country's population that is urban, first reached 50% in Britain in the 1870s. Second, industrialisation led to the expansion of various infrastructures that further enabled urban growth. Innovations such as street lighting (initially gas lamps and later electrified) enhanced safety after dark, and elevators and steel-frame construction techniques allowed much taller buildings to be built. This facilitated a new social *division of labour* in cities that included the working class, the 'petit bourgeoisie' comprised of small business owners, and a new consumerist class often referred to as the middle class (Fig. 3.2).

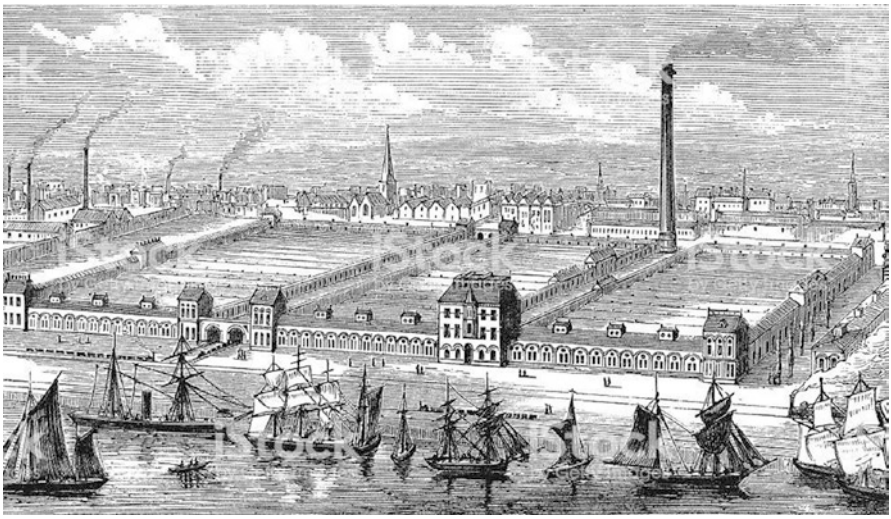

Fig. 3.2 The industrial city of Barrow-in-Furness, Cumbria, England (Wedwood, Watt & Co./ W.P. Bennett & Co, 1873, Credit nicoolay © istockphoto)

Urbanisation Rate
The *Urbanisation rate* is the proportion of a country's population living in urban areas. The definition of urban differs from one country to another, however, and can include certain thresholds of absolute population size, population density, or political status. The urbanisation rate of countries ranges from just above 10% in parts of Central and West Africa, to 100% (Singapore, Kuwait).

Division of Labour
The *Division of labour* is a way of segmenting workers or economies by the type of task they perform. Given the complexity of global capitalist production, there is a strong geographical element to the division of labour in that certain tasks (e.g. manufacturing, farming, product design) are commonly performed in some countries or regions, but not in others.

Industrialisation also led to the expansion of intra- and inter-urban railways, and later the automobile and an extensive road system, which allowed cities to expand outward as workers could commute from distant suburbs and surrounding towns. The industrial revolution was accompanied by advances in science and related medical and hygienic technologies, as well as sewerage and sanitation, which led to improvements in human health and therefore decreasing mortality related to infectious diseases. In turn, this allowed cities such as London to become denser and

Fig. 3.3 Bird's-eye view of Melbourne in 1897 (Wood Engraving after a photo by Charles Rudd, ZU_09 © istockphoto)

more populous. London's expansion was followed by other cities in Britain, and soon by cities throughout Europe. Urbanisation in East Asia in the latter half of the twentieth century followed much the same trajectory, with industrialisation attracting workers to growing cities.

Third and finally, there was a gradual increase in the number of service sector jobs in cities. Jobs in an expanding public sector included more professionals working for the government: clerks, city managers, planners, police officers, teachers, typists, and so on. Expansion of the private sector as economies expanded also required more professionals such as accountants, bankers, and merchants, and increasingly sophisticated industrial technologies needed more skilled workers such as machinists and drivers. During this period, the central business district (CBD) became a staple of city structure, consolidating businesses, markets, and public administration in core urban areas because it was the most accessible location for businesses and other employers, and for the labour force. The modern CBD was increasingly characterised by high-rise offices from the late nineteenth century onward, including private firm headquarters and branch offices and public administrative offices. Most CBDs in the twentieth century would have had one or more of the following: central post office and/or telecommunications bureau, railway terminus, offices of major companies, local government offices, specialised retail shops and department stores, and a large central market (Fig. 3.3).

It is worth noting that although urbanisation has occurred in every country, the process has not unfolded uniformly over time. Urbanisation has been almost invariably tied to industrialisation, with more-developed regions urbanising faster than

less-developed regions. Consider that Germany was 50% urbanised soon after 1900, whereas China reached the halfway point only in 2010.

In the Global North (less-developed countries), or in those with lax land use policy, urban economic development over the past century has been tied to mass *suburbanisation*. Both populations and jobs have been gradually shifted from the CBD to suburban areas, with metropolitan planning authorities pursuing *decentralisation* as a means to combat rising inner-city congestion (See also Chap. 4, Planned Cities). This was paralleled with a shift in values privileging home ownership and the suburbanisation of civic life, with concepts such as the 'Australian Dream' and 'American Dream' of a detached home with a private backyard emerging in various forms worldwide. Building homes, fitting them out with new electrical appliances such as refrigerators, and purchasing a family car became economies in their own right during this period. Though mass suburbanisation was prevalent in many Anglo-American contexts, *new towns* were planned on the periphery of older urban areas in other parts of the world. These were guided by planning policies seeking to 'start from scratch' in co-locating residential, commercial, and industrial function. New towns were built in contexts as diverse as Hong Kong, Turkey, and many parts of the former Soviet Union.

Suburbanisation
Suburbanisation is the process of population growth in suburban areas of a city. Suburbanisation is often the result of migration from inner-city areas to suburban areas. This process has been attributed a number of processes, including incentives that favour outer suburban development, urban decline (see definition), and the relocation of jobs and businesses.

Decentralisation
Decentralisation is a process in which populations and economic activities are shifted from city centres to outlying suburbs or beyond to other localities. Decentralisation generally occurs in response to suburbanisation (see definition), often to strike a better jobs-housing balance in suburban areas. However, it can also be motivated by overcrowding in central areas, particularly in cases where old infrastructures cannot cope with urban growth.

New Town
A *New Town* is a purpose-built suburb that attempts to be self-contained in terms of both residential and employment functions. The new town movement originated in the early twentieth century in response to the negative impacts of industrialisation (such as pollution and congestion) in Britain, but has more recently been extended to many countries planning new cities or suburbs adjacent to existing metropolian areas.

Fig. 3.4 The American suburbs, 1950s (Credit: NNehring © istockphoto)

As suburbs evolved through the decades, they became more diverse. From the 1950s onward, retail establishments in the form of shopping malls were built, often with shops and department stores relocating from inner-city CBDs. Employment opportunities soon complemented residential and retail functions, with both factories and offices moving from central locations to suburban lots allowing for large footprints, cheaper space, and better proximity to suburban workforces and clients, aided by greater locational freedom with higher vehicle ownership. The expansion of arterial highways, especially in countries such as the United States and Canada, resulted in even more suburban expansion as greater intra-urban distances could be covered in less time (Fig. 3.4).

From the 1970s onward, continued suburbanisation was complemented by inner-city deindustrialisation as jobs shifted either to suburban industrial estates, or to newly industrialising countries. Old inefficient port and railyard areas were closed, which often left vast tracts of derelict or underutilised land in close proximity to CBDs.

The resulting inner-city population losses led to *urban decline* and even *urban decay* in some cases. This was particularly true in Eastern Europe and Russia, where centrally planned economies have unravelled in favour of market-oriented practices, leading some cities' industries to collapse. The processes can also be observed in the *rustbelt* of the United States and the United Kingdom as CBD offices were often replaced by suburban office parks offering modern office spaces and easier parking. Office park development was supported by suburbanising populations that were increasingly reluctant to commute to inner cities, making CBDs less appealing than suburban workplaces.

Urban Decline
Urban decline is a complex process associated with a loss of economic activity, and the associated population losses and social fall-out. Urban decline often leads reductions in public safety and service provision. As urban decline occurs, it is often the most vulnerable populations that are left behind, including those of lesser economic means, those without formal education, marginalised social groups, and the elderly.

Urban Decay
Urban decay is a step beyond urban decline, in that elements of the city begin to physically deteriorate. This is often the result of long-term neglect or abandonment, taking the form of crumbling buildings and pavement, and so on. An accompanying social process perpetuates decay in that oftentimes crime rates are elevated and both private owners and public custodians fail to maintain urban areas.

Rustbelt
The *Rustbelt* refers to a post-industrial region of a country. The term generally refers to the post-industrial cities of the northeastern United States, spanning approximately from Massachusetts to Wisconsin. In a more limited number of cases it is used to refer to post-industrial regions of China, Russia, or other countries.

Since the 1990s, the distribution of economic activity in cities in the Global North has again changed, with *urban renewal* re-concentrating high-skilled workforces in inner cities and key suburban centres. This has arisen with the emergence of the so-called knowledge economy, in which goods and services have higher knowledge or information content. Thus, despite cost savings derived from locating in the outer suburbs, many companies have decided to re-locate in inner cities, which reinforces a renewed preference of high-income residents for inner-city lifestyles. The in-migration of knowledge economy and creative industry workers to inner-city and middle-ring suburbs is referred to as *gentrification*—a process of social change that involves the transformation of older housing stock and industrial warehouses into affluent neighbourhoods with higher amenity levels (see also Chaps. 4 and 5 to see how planning and heritage has responded to the gentrification phenomena). However, gentrification often displaces lower income residents and disrupts local businesses. Simultaneously, suburbanisation has carried forward in the middle and outer rings of the city, with entirely new urban centres built in suburban areas in contexts as diverse as Gurgaon (India), Cyberjaya (Malaysia), The Woodlands (Houston, Texas), and New Cairo (Egypt) as well as a number of

Fig. 3.5 The Malaysian suburb of Cyberjaya (Credit: faizzaki © istockphoto)

Chinese cities. These are similar to new towns, but aim to be completely self-contained as new urban centres rather than acting as satellite cities (Fig. 3.5).

Urban Renewal
Urban renewal is a state-led process that aims to reinvigorate or revitalise an area that has experienced some level of decline or neglect. Urban renewal is often led by a transformation project such as a major infrastructural investment, or by 're-branding' an area to attract economic or social activities perceived to be beneficial to the area. Urban renewal projects are quite often controversial as they support a particular vision for a city or neighbourhood, and often cause gentrification (see definition in this chapter).

Urbanisation in the Global South has a number of distinguishing characteristics and takes more diverse forms, for example, the emergence cities such as Jakarta (Indonesia), Delhi (India), and São Paulo (Brazil) as megacities within extended metropolitan regions of more than 20 million inhabitants. Rapid urbanisation in East Asia has been perhaps most pronounced, and China now has more than 100 cities with a population of one million inhabitants or more. Much of this has been guided by an export-oriented industrialisation policy, which prioritised the development of factories producing goods for overseas trade.

Fig. 3.6 Ambulant vendor in San Miguel de Allende, Mexico (Credit: MichaelDeLeon © istockphoto)

Cities in the Global South (less-developed countries) also often feature a large proportion of the population working in the *informal economy*, which includes under-regulated occupations and industries that often operate at the economic margins (Fig. 3.6).

Informal Economy
Informal economy is an economic activity or system that occurs parallel to the formal economy. The informal economy is most often unregulated in some way, meaning that it often occurs outside of labour and commerce laws. It is comprised of a diverse range of activities, including domestic work, construction, ambulant vending, home-based manufacturing, among others. Some parts of the informal economy can be illicit or semi-illicit, but most are fundamentally not.

However, the distinction between the Global North and South is not as clear as one may think: Los Angeles, California (USA), is estimated to have more than 50,000 homeless residents, with more than 25% of its labour force paid informally. In many relatively developed cities such as Doha (Qatar), Dubai (UAE), and Hong Kong (China), a large proportion of the work force consists of low-income workers from other countries. Many of these workers are on temporary visas procured by their employers, which require them to return to their home country upon termination of employment (See also Chap. 4, Planned Cities) (Fig. 3.7).

Fig. 3.7 Construction workers in Dubai, United Arab Emirates (Credit: tanukiphoto © istockphoto)

3.2 Key Debates in Economic Cities

The form and structure of cities have also changed in step with the shifting nature of economic activity over time. Before the industrial revolution, most cities were small, and relied on technologies such as horse-drawn carriages to transport goods and people. Furthermore, prior to refrigeration, food for daily use had to be grown in close proximity to human populations. The implication of this was that the interface between cities and their agricultural hinterlands was quite close to the city centre.

With the notable exceptions of large imperial cities, most urban economies prior to industrialisation would have contained a limited range of occupational diversity. This consisted of basic artisans who made simple products for the population of the city and its hinterland, more skilled artisans who made more specialised products (e.g. textiles, fabrics) that could be sold in more distant markets, merchants who traded these products and the agricultural and other produce of the city hinterland, and commercial activities which supported these activities such as banks, coach services and hostelries, plus public functions such as law and other government administration. In colonial cities, most activity was directed towards exporting raw materials from the city hinterland back to the imperial centre (e.g. Britain, France), importing nearly all manufactured goods used locally, and the activities necessary to support these import and export functions. However, their labour regimes were often predicated on the free or indentured labour of slaves or indigenous and

mixed-race populations. Likewise, the land tenure system rested upon colonial notions of territory, meaning in many cases non-European populations were excluded from reaping the benefits of economic activity.

Such pre-industrial cities were very compact, with most workers walking to their workplace. As a result, the structure of most cities was quite simple, with a central core of commercial activity and a surrounding dense residential zone. If there were industries, these were often on the edge of the city or waterfronts due to their noxious emissions and effluent, access to transport, on rivers or canals that provided access to power from water-driven turbines in the early stages of urban development.

Over time, a number of models have been designed to explain the structural characteristics of land uses in cities. A central feature of many of these are bid-rent curves, which seek to explain the progression of land uses from the CBD outward towards suburban areas. Such models assume that each city has one defined centre, and that land values decrease with increasing distance from that point—often referred to as the peak value intersection. While each city is different, this distribution of economic activity has been observed to roughly correspond from one context to another. In 1826, a German economist named Johann Heinrich von Thünen developed one of the first such models for explaining urban and other land uses based on land rents. This bid-rent model can be used to explain the reasons behind the location of perishable agricultural production, such as market gardening and dairy farming. In many places, these operations need to transport their products, such as milk and staple crops, on a daily basis requiring a location which can support the production as well as being in close proximity of cities and transport networks. Consequently the value of that land would not be high for residential purposes, but it would be valued more highly for this type of production.

The industrial revolution changed the spatial structure of cities significantly. Not only did cities need to be rebuilt to accommodate new technologies, but a greater division of labour meant that social class was an increasingly important factor in determining urban structures. As sociologists Park et al. (1925) and others observed, the central city (CBD) came to be largely reserved for commercial and industrial activities. The surrounding zone of transition included a mix of land uses and economic activities, with the working classes of industrial cities often living in dense, centralised residential areas characterised by apartment buildings, tenement dwellings, or cottages, depending on the context. More modern suburban-type residential areas were located beyond the transition zone in outer suburbs.

Updates on the concentric zone models proposed by early twentieth-century theorists sought to account for the fact that land at a certain distance from the centre is not uniformly attractive to residents or industries and commercial activities. Hoyt's (1939) sectoral model of the city recognises that wholesaling and manufacturing uses usually occupied different linear corridors (which he called sectors) than residential uses. Hoyt's model recognises that in cities, residential areas of different status tend to be found in different locations, with high-class residential areas radiating outward from areas with the highest amenity. Harris and Ullman's (1945) urban realms model also recognised the increasing segregation of land uses and social classes within the modern city. Their model began to account for the fact that

the CBD was losing its dominant role in determining city structure. The urban realms model introduced the idea that the city was composed of multiple nuclei, showing a second, outlying business district, as well as several separate zones for manufacturing.

As suburbanisation accelerated in the mid-twentieth century, economists and geographers furthered their conceptualisation of cities. Models by Alonso (1964) and Muth (1969) incorporated new assumptions into their bid-rent curves. Notably, the growth of the consumer class meant that the retail sector commanded the highest rents, thereby occupying prime real estate in CBDs. Offices commanded lower rents than retail, but higher rents than residential spaces. The suburban transition behind the evolution of city models was compounded by Fordist assembly-line production techniques that made low-density housing more affordable, meaning that working-class families could increasingly move from urban to suburban dwellings. This of course varied from one context to another, with the roles of zoning and planning as critical to regulating suburban growth.

The late twentieth century in much of the world was marked by mass car ownership, resulting in dispersed, low-density cities, often characterised as sprawl (see Chap. 7). Sprawling cities occupied vast amounts of territory and physical expansion was no longer directly tied to population growth. In 1957, French geographer Jean Gottman coined the term 'megalopolis' to describe the continuous 500 mile long metropolitan area emerging between Boston and Washington DC. Sprawl characterises a diversity of cities around the world, ranging from Brisbane (Australia) to Atlanta (USA) to Johannesburg (South Africa). Even cities whose inner cities are dense and compact are experiencing car-oriented sprawl, including Kuala Lumpur (Malaysia) and Dammam (Saudi Arabia). The implication of sprawl was the economic activities came to be far more dispersed and far less centralised towards the end of the twentieth century.

If the expansion of cities since the industrial revolution can be called 'modernist' expansion, then the past decades have been characterised by some as 'post-modernist'. Whereas modernist urban expansion is defined by a positivist orientation in scientific advancement and progress, and a rationally ordered urban structure, post-modernism indicates a relatively unstructured urban form, with architectural motifs guided by representation and dominance of form over function. The so-called Los Angeles School (Dear and Flusty 1998) was the most vocal advocate of post-modern urban development, arguing that there was little or no structure in the way economic activities were distributed across space, with little more than chance accounting for land use patterns. Los Angeles became the paradigmatic case as the majority of its development has been guided by car-oriented sprawl.

Another set of contemporary theorists have identified that cities no longer adhere to a traditional CBD-suburb structure. This is attributed to a combination of factors that have over time driven economic activity to outer suburbs in a number of cases. Garreau (1991) identified these suburban economic nodes as 'edge cities', referring to suburbanised mixed-use centres containing retail, office space, hotels, and convention space at the intersection of major highways. Kasarda and Lindsay's (2011) *aerotropolis* advances many of the same concepts, with the major difference being

that he saw airports as central to connecting people and companies in the contemporary economy. Though numerous other models have emerged over time, making generalisations is difficult from one context to the next. 'Amorphous' urban models such as the galactic metropolis describe the large, sprawling city-regions that today characterise the world's largest cities.

Aerotropolis
Aerotropolis is an urban sub-region whose economic activities and infrastructures are based around a major airport hub. The concept was devised by John Kasarda to reflect the fact that connectivity is critical to sustaining an economically vibrant city. Based on the observation, and theory, that cities should increasingly position their business centres around airports, Kasarda suggested that planners situate office parks, convention centres, recreational facilities, and other elements to best connect locals with visitors.

3.2.1 Shifting Urban Economies

When we discuss the economy of cities, it is important to also consider the changing nature of economic activity, which is generally categorised into occupations (e.g. lawyers, musicians, nurses) and industry sectors (e.g. forestry, manufacturing). This section will focus on the differences between industry sectors and what this means for the form of a city—now and into its future.

The industry sector to a large degree determines the distribution of economic activity within and between cities. Traditionally, industry sectors have been crudely divided into primary, secondary, tertiary, and quaternary sectors. Primary sectors include extractive industries such as agriculture, fishing, forestry, mining, and so forth. These are mostly non-urban activities, requiring large territorial footprints and mainly low-skilled manual workforces. Secondary sectors are industries that value-add to the primary sectors of the economy, requiring moderately large tracts of land and access to a low-skilled manual workforce. Examples include food processing and electronics manufacturing. Secondary industries are found throughout the city as they require access to transportation infrastructures as well as large workforces. The tertiary sector is the basic service sector of the economy, including retail, transport, warehousing, or recreational services. Tertiary sector activities can more easily shift the cost of land to consumers, with firms often located in the city centre or middle ring in close proximity to transport nodes and customers. Fourth and finally, the quaternary sector consists of higher-order services, such as education, legal services, and producer services (e.g. banking, law, and advertising). These are highly specialised services that require access to skilled labour. Quaternary sector activities often locate in city centres, or in specialised precincts and activity centres.

Whilst this description of industry location and place may still hold true, the picture has become much more complex with industries no longer fitting neatly into

these four sectors. Indeed, if we think of manufacturing, in many countries there is an increasingly high-technology and high-skilled component with the movement towards robotics, artificial intelligence, and so on. Furthermore, the 'value-add' component of manufacturing can be divided into low-technology (e.g. basic food processing), medium-technology (e.g. chemicals), and high-technology (e.g. aviation, space, bio-medicine). Where these activities take place within a city will depend upon their different needs to access knowledge, transport infrastructure, land as well as their interactions with other businesses.

The complex nature of the global economy means that different elements of the same industry will have locational requirements that differ both within and between cities. In some cases, there is a high need for face-to-face interactions. This includes firms and organisations involved in various producer services as well as many parts of the creative sectors (arts, design, media, marketing). The tendency towards co-location is referred to as agglomeration (Glaeser 2008) within the city, with different or complementary industries clustering to produce a strategic advantage. For example, although mining is fundamentally a rural activity, mining companies will often locate their headquarters at the centre of a major city such as Perth, Australia, or Edmonton, Canada. This gives them access to business services (e.g. software developers, consultants, lawyers), and proximity to political decision-makers and other mining company offices. Conversely, the actual extractive operations themselves may be located far away from any town in a remote area such in the Pilbara region of Western Australia or the Peace River region of Alberta. To service these areas, these firms' warehousing and heavy machinery may be located at the edge of nearby cities where there is good access to transport infrastructures and connections, while the research and development (R&D) component of the mining sector may be located near major universities, or around innovation hubs located in the centre of a city. The same complex industrial urban landscape can be mapped out for all industry sectors. Thus we can no longer associate industries with one part of a city—we have to think about the advantages of 'place' within a city for the different parts of industry.

The distribution of economic activity between cities can also be considered on a global scale. One interpretation of this complex system is known as Global Production Networks (Coe et al. 2004; Henderson et al. 2002), which stresses networked production processes involving governments, institutions, and firms. Multinational firms have been key agents shaping these cross-national industry relations between cities, choosing to locate various firm functions in different cities according to firm strategic advantage. Part of this can be related to the New International Division of Labour—through which some countries have advantages in low-cost low-skilled workers and others in high-skilled knowledge workers.

Consider the case of the high-tech aircraft manufacturer, Boeing. The company has global operations across 65 countries—part of which is managed by under the one of the three business units of Boeing International: Boeing Commercial Airplanes, Boeing Defence, Space & Security and Boeing Global Services, operating in 18 regions across the world. The decision-making on where to locate each

global office or subsidiary depends on the strategic advantage offered by each city; some cities will provide good locations to source component parts or products, whilst others provide highly specialised knowledge workers, or a history in aviation and space R&D. Each office in the Boeing global network performs a specific set of tasks within the firm's global operations. Furthermore, there are geopolitical considerations, as Boeing is an American company that in part produces aircraft for the defence industries.

As knowledge workers are seen as key drivers of productivity at Boeing and other firms in high-tech industries, cities have taken steps to enhance their global status and liveability to attract them. On the one hand, consultants on various projects can for the most part telecommute or work virtually from an office, house, or cafe anywhere. Face-to-face meetings are still important, but can be organised around specific tasks or projects rather than requiring daily attention. On the other hand, the increasing need for innovation, creativity, and knowledge exchange for economic competitiveness makes new ideas and knowledge ever-more valuable, and this happens most efficiently in central city areas where knowledge workers and businesses can interact to the greatest extent. The push to make cities globally competitive and attractive means governments around the world are intervening more to shape city economies and urban infrastructure and form.

Thus what attracts Boeing and other multinational corporations to a particular city-region is known as its competitive advantage—its distinct mix of research and development institutions, universities, culture and the arts to attract workers (such as opera, casinos, stadiums), business services, transportation and communications infrastructure, and so on. The cities which are most attractive to the majority of multinational firms are known as *global cities*—these are the cities in which companies are afforded access to their main competitors and collaborators (Taylor 2001). In other words, locating in a global city increases a firm's global connectivity (Sassen 1991). Global connectivity is a key strategic asset for firms in the twenty-first century, as it represents power and influence in consumer markets and political circles. How cities connect across the world in different ways, across different industries, is known as the world city network. This has been formally mapped by the *Globalization and World Cities Research Network*, an academic group that classifies cities according to global importance in the network of advanced producer services as well as other industries (GaWC 2018).

Global Cities

Global cities are those cities whose economic power exceeds what may be expected based on their population size alone. Global cities generally contain a cluster of high-order services (e.g. banks, consultancies, law firms) as well as large infrastructures (e.g. international airports) and cultural amenities (e.g. museums, theatres). Some scholars refer to global cities as a conceptual way to think about cities rather than as discrete places.

3.3 Critical Economic Cities

The economy of cities is dynamic. Economic activities are distributed unevenly both within and between cities. As occupations and industry sectors are in constant flux, cities must adapt accordingly. However, the built environment is often slower to change than is required, which is why understanding the relationship between cities and their economies is essential. This chapter concludes by stressing three key processes affecting the economy of cities. Each of these has had an impact on cities and will continue to affect everyday life in urban environments.

First, globalisation has integrated global industries into the fabric of cities more than ever. The implication of this is that a small number of global cities have emerged as leaders in each respective industry, such as New York and London in banking, and San Francisco and Berlin in software. Globalisation has also led to greater competition between these cities. Mayors now appoint marketing managers, consultants, and strategic advisors to attract people and businesses to their city, and adapt their urban policies to attract 'creative' knowledge economy workers (Florida 2002). City, state, and regional governments often provide generous subsidies to large corporations to retain them, and create new 'lifestyle' infrastructures for their employees. Until recently large parts of the world were largely immune from these processes, as central economic planning in China and the former Soviet Union mitigated inter-local competition. Today, however, even cities in these regions are highly competitive and integrated, with cities such as Shanghai and Shenzhen emerging as Chinese technology hubs.

Second, the emergence of information technology as a dominant industry has meant that economic processes are subject to even more rapid change. Just as we witnessed with the transformation of manufacturing, various components of the product development process are segmented internationally. Cities such as Manila (Philippines) and Bangalore (India) are home to large numbers of call centres and back office processing facilities, while investments in digital fibre have breathed new economic life into places such as Chattanooga (USA). Elsewhere, the emergence of small, nimble firms has led many to abandon the traditional office structure, opting instead to work remotely (i.e. teleworking) or from a shared co-working space. The viability of this as a long-term solution is subject to reconsideration in light of the COVID-19 pandemic. This means that the distribution of economic activities may no longer follow a bid-rent curve, as lifestyle, public health & hygiene, and personal preference outweighs the need for co-location in many industries.

Third and finally, cities are already being affected by large-scale disruption to existing systems. The sharing economy allows for assets to be divided and shared using digital applications. Thus, while this may undermine existing economic models, it also creates the possibility for urban residents to better utilise the existing built environment. Related to this, the gig economy has formalised piecemeal work, meaning that workers (e.g. drivers, removalists/movers) are paid per task rather than with a steady wage. In some ways, this liberates the built environment from constraints imposed by outdated regulation (e.g. outdated planning rules), but in other ways it causes new problems for regulators on how to address rapid change.

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Planned Cities

4

Adrienne Keane and Paul Jones

Abstract

The practice of planning cities has come about to create better outcomes for people. Planning comprises two facets – the reasons to plan and the methods of planning – and is known for its interventionist approaches to addressing complex problems. This includes utilising policies, plans and controls over the use of land. Planning in its conservative form is criticised for not responding to the critical issues of equality, liveability and sustainability of cities. The chapter captures these challenges and outlines the key areas of change for planning's purpose and practices for better cities. In particular, the emphasis is on the rejection of a single, top-down plan that is focused on what a city should be, to bottom-up or community-driven planning decisions; reframing planning to be concerned with the public interest over benefits to a minority; and planning at different spatial scales to enable locally driven responsiveness required to meet sustainability goals.

4.1 Understanding Planned Cities

This chapter has been written by two practicing urban planners who now work as academics. Drawing from history, academic research and practical experience, the evolution of city planning is explained, leading to an understanding of what planning is today. It is demonstrated in both theory and practice that planning is both substantive (that is, the reasons for and the outcomes of planning) and operational (that is, the doing or methods of planning). It will become clear that planning is a common methodology, which operates across different development domains

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comprising places, spaces and people. However, as much as planning is a methodology based on formal normative processes, planning can be informal – a process of resident and community-driven adaptive 'everyday' urbanism. Informality is widespread and associated with less economically developed and poorer countries of the Global South, which includes countries in Africa, Latin America, the Middle East and parts of developing Asia. It also occurs in "well-planned" cities in the Global North, which includes the more developed and affluent countries and regions such as the United States, Europe, Canada, Australia, New Zealand and developed parts of Asia. This chapter is also written to complement the other chapters in this book, particularly design, heritage, economic, public and green cities.

Planning has a broadsheet of purposes. In short, planning is an intervention that responds to needs and problems with policies, plans and controls that are applied with the ambition that these will be effective measures to create better outcomes over the short, medium and long terms. Understanding planning and cities is important because cities around the world are facing enormous challenges and changes. Persistent urban growth issues include changes in family patterns and demographics, the take up of peri-urban lands for suburban development, increasing numbers of urban residents living in informal settlements and slums, and the challenge of providing adequate levels of urban services and infrastructure. Put simply, they consume major natural resources and have significant social, economic and environmental impacts. Directly connected to these challenges are the more recent trends in the changing nature of urban governance, finance and smart cities, as well as climate change, extreme weather events, social exclusion, spatial injustice, rising inequality and poverty, and an upsurge in international migration and the refugee crisis (UN-Habitat 2016a). More recently in 2020, cities and its inhabitants have had to adjust to the far reaching consequences of the global COVID-19 pandemic (Jones 2020).

In the twenty-first century, the key debates in planning for cities are echoed in the role of contemporary planning seeking to make better places by avoiding negative outcomes generated from development; ensuring resources are equitably shared; that urban development is socially fair; and to inform those that could be affected by development (Gurran 2011). Planning has become a sophisticated and, at times, a complex methodology. To understand the key debates around planning cities, a short history of modern planning and the theories used to explain it are now discussed.

At the least sophisticated yet vital level, planning has emerged from decisions over the use and development of land – which lands should be used for what purposes, and the impacts and consequences of such use and its development at varying spatial scales. This is easy to recognise over the millennia where villages, towns and cities have developed around issues of agriculture and food security, defence, and the need to satisfy the cultural-socio-spiritual needs of the people. From the Greek and Roman empires, to the replanning of London after the Great Fire of 1666 by Wren and Evelyn, or Baron Haussmann's remodelling of medieval Paris in the late nineteenth century, modern planning has its genesis in transformative change occurring in both rural and importantly urban areas (Kostof 1991). The history of planning strongly mirrors the growth of towns and cities, and in this setting the modern planning of cities has its roots in dealing with the adverse impacts emanating from the agrarian and industrial revolutions in England and Europe in the eighteenth and nineteenth centuries.

The technological revolution emerging in the period of the 1700s to the mid-1800s led to the provision of new employment opportunities, which was to be a catalyst for mass migration from rural to urban areas. Technologies produced often hazardous industrial land uses whilst job seekers and their demand for housing produced the ad hoc and disordered layout of growing towns and cities. These together resulted in major impacts on the health of people, especially the growing urban poor and disadvantaged, and the environment. Issues such as dire housing, the lack of sanitation and water, pollution, growth in urban slums and adverse health such as cholera outbreaks became major issues of public concern, one result being that new utopian models emerged for the planning of the city (Hall 2014).

New liberalism or social liberalism was a direct reaction to the consequences of the industrial revolution. The first step by liberalists was to advocate that workers had the right to be paid for the work that they did – a substantial rights issue given that workers may have only been receiving food and lodgings for their work. This extended to pressure on governments to do something to improve quality of life for city dwellers. Governments began implementing policies of intervention to regulate the economy, support civil and political rights, and clean-up the cities (Hall 2014).

Some industrialists also contributed to city form and operations by financing and building model villages reflecting the best in physical infrastructure; 'green' landscapes and planned housing with social and community facilities were created. Amongst the first was in Britain by Robert Owen who advocated for the better conditions of his factory workers including building homes and schools for his workers and restricting the employment of underage children at the cotton mills in New Lanark in Scotland in the early 1800s (Siméon 2017). George Cadbury set up Bournville model village near Birmingham to provide better housing for the working class in 1879. This included housing for his employees working at the nearby now famous Cadbury chocolate factory as well as other working-class residents in Birmingham (Bailey and Bryson 2007). The design of model villages varied. Some were based on a series of small superblocks, some with rear gardens and vegetable allotments. Strong community facilities and architectural and landscape features reflected the prominent urban design thinking of that era. Whichever design was built, the ambition was to achieve development that was socially fair and to make better places. (See Chap. 5, Designing Cities).

Post-industrial revolution, planning is not yet seen as a specific profession or practice. However, these responses to deteriorating quality of life in cities shows two things. Firstly, that responses to problems and decisions on which methods to use to fix the problems were made by government and by big businesses. This is important to note because planning in its current form is undertaken by many actors and not just professional planners. The second element to this reflection on history is that responses to problems in cities are based on design (whether policy or spatial) and development (changes to land and building things).

Inspired by the planned model villages, architects and emerging urban planning and design thinkers devised utopian visions for cities. These visions continued to address liveability but were different in that the visionaries were not necessarily the developers (big businesses) or in policy-setting positions in government. Various ideals of planned cities emerged such as Daniel Burnham's City Beautiful Movement (1890s), Ebenezer Howard's Garden City (1902), Le Corbusier's Radiant City (1933) and Clarence Perry's Neighbourhood Unit (1924) (LeGates and Stout 2011). Each vision was different from the other, including scale (citywide or neighbourhood or a combination) and physical composition (layout; separation of uses; density; e.g., tall buildings together with houses with gardens creating suburbs; form; open space and services). They also included purpose (live near work; aesthetic outcome; create social interaction and support) as well as direction on management and governance of the city (who would plan and manage). As these idealists aspired to implement their vision at varying scales within the city such as the construction of whole new towns or suburbs or simply new housing blocks and row housing, it became evident that whatever ideology or theories underpinned the decisions on what and how to build, these decisions always resulted in determining what happened to land. Alfasi and Portugali (2007), in their observation of utopian models, said "…each model in its turn offered a certain organization of urban space, based on assumptions relating the nature of cities and human activity" (Alfasi and Portugali 2007, p.165). The work of utopians was always accompanied by extensive design plans and manifestos encapsulating the methods of how to bring about the change. These methods, and the practice of creating and documenting methods, are embedded in current planning approaches and have become accepted key parts of modern planning processes. These forms of qualitative planning theory viewed the procedural dimensions of planning (the method of planning) as a conduit to achieve their normative models of a desirable city.

A key challenge with utopian vision or rational thought is that plans for perfection do not take variabilities into account. Cities are subject to constant change and in the twentieth century, people took to cars. This phenomenon is arguably the most significant influence on the shape and density of many cities around the world. The mass production of the automobile and its rapid uptake came at the same time when planners were planning suburbs to address the negative impacts arising from the overcrowding of inner-city areas including slums. Planners added new freeways to link new suburbs and city centres where employment was concentrated. 'Suburban sprawl', as we now know it, also facilitated the opening of new rail lines to support residents commuting from the suburbs expanding the footprint of cities beyond traditional centres. Similarly, technological changes, advances in engineering and new methods of building construction enabled major changes to the urban fabric, structure and form contained in utopian visions such as the advent of the skyscraper.

These plans reflected the theory and practice of the times. Designing suburbs included implementing designs. At lot level, this included detached and

semi-detached housing providing front and rear open space, and the provision of garages to accommodate the car. At block level, this included regulating size (i.e., the number of houses or lots per block), wide verges fronting the street and incorporating paved footpaths and tree planting, and the provision of street lighting. At suburb level, this included the separation of new housing well away from industry, and reticulated services including sewerage and drainage. As a result, town planning became a recognised activity of city and local governments, emerging as a profession initially driven by architects and to a lesser degree engineers and backed up by its own educational programs specialising in urban and regional planning (Jones 2018).

As the twentieth century progressed, planning for cities continued to address the need for a modern order. This mantra meant 'fixing' and 'correcting' the physical and spatial disorder emanating from the various ways cities were growing and changing shape. It was often assumed that material and physical chaos was underpinned and caused by social disorder and must be rectified, and as such a new physical order for the city was argued as being necessary to ensure certainty and stability, including development in accordance with legally approved plans and policies. Through a top down linear planning order, a sense of permanency was enforced through similar types of public infrastructure and services, plus social harmony and stability. Planning advocated implementation of new visions of order, which at its most basic level implied hierarchical control, geometric uniformity and regularity, agreed aesthetic beauty, and repetition of consistent physical elements and patterns. Whether in new suburban greenfield estates, middle ring or inner-city housing areas, the need for planned orderly development was reinforced by formalization as expressed in uniform regulated housing styles and subdivisions often underpinned by a hierarchy of street types (highways, boulevards, roads, streets, lanes) and plots of similar and repetitive sizes (Jones 2019).

As we have just laid out, rapid changes to cities saw a combination of typical planning responses (allocation of land for specific uses (zoning) or the standardisation of the size of lots of land) as well as design responses. For a fascinating and well set out explanation of the influential models in urban design, we refer you to the Designed Cities chapter. To understand the economic drivers of these changes, we refer you to the Economic Cities chapter, which illuminates the forces of change to city form because of the activities that occur within and those that impact the city beyond its boundaries.

The preceding paragraphs provide an overview of the who, how and why of early planning. It would be acceptable to think that planning was reduced to reactive measures to control adverse conditions while trying to improve the lives of people. Planning did so by making plans that controlled land and people. Because plans were often made at large scales, they were reductionist and often missed the complexity and diversity of cities, including the needs of different individuals and groups. However, that approach has been challenged for over 50 years and, through the lens of short-term history, we demonstrate that the key debates emerging in this time are not yet resolved.

4.2 Key Debates in Planned Cities

In the 1960s and 1970s, there was a backlash from civil society. There were growing concerns about the lack of control over development and destruction of environmental and heritage values. This led many communities questioning the process and outcomes of modern city planning. The earlier rational decisions (tall tower blocks for government-supported housing, segregation of communities, lack of human scale, suburban sprawl) became measures of poor planning. There was a growing demand to address the questions of what planning was for, how it was done and who should be involved in planning.

In this setting and considering the emergence of civil and women's rights, as well as the recognition of ownership and use of Indigenous lands, it was not surprising that many advocated a change in approach to the planning and management of cities. Academics, practitioners and individuals have made substantial contributions to help us understand and frame the challenges for planning cities. Researchers such as David Harvey (2003) explored and developed concepts such as 'right to the city' by considering that cities were often shaped by access to resources where that access is dominated by people of power, such as government planners, businesses and the wealthy. Harvey contended that everyone had the right to shape the city, to be part of the process of urbanisation and to share a city's resources (Harvey 2003). In this way, cities would not fragment along the lines of the haves and have nots. Individual advocates, such as the New York resident Jane Jacobs, stood against the phenomena of development at all costs, particularly infrastructure development that would destroy existing and functioning neighbourhoods. Jacob's best-known action was leading a community campaign that defeated the proposal for a multi-lane, elevated freeway that would have cut across the island of Manhattan, New York (Kohler 2016).

Suburbia was challenged by design movements such as New Urbanism, which promoted higher density low-scale living and connected neighbourhoods and workplaces with reduced car dependency. At the same time, urban design principles developed to enable sustainable place making. These design principles advocated smart growth, physically compact, walkable, human scale neighbourhoods which were well connected via transit-oriented development. In the 1980s, the concept of sustainable development slowly became a major mantra of planning for cities, as city planning embraced notions of sustainable, functional, compact and just cities (See Chap. 5 to explore the urban design aspects).

Other theorists and practitioners were also considering the way that planning was done. Planning as a process was called out as being exclusive to the benefit of those already wealthy or in the majority, reflecting Harvey's views (Fainstein 2010). Leonie Sandercock challenged the status quo by pointing out the cultural diversity of cities and questioned how one culture could determine the outcome of so many others (Sandercock 1998). At the same time, the need for participatory planning, including citizen or community engagement, was advocated by Sherry Arnstein, John Forrester, David Davidoff and others (Taylor 1998). While the thinking and views about how to include people into planning decisions differed, they all agreed on the foundational notion that all people should be empowered and given the

opportunity to be included in decision-making for cities. (See Chap. 8, for an exploration of these complex and important issues.)

At this point in the timeline of planned cities, the evolution of planning appears to shift again. The purpose of planning appears the same – to plan for the use of land for positive outcomes for people. However, the role of planning and of planners undergoes a monumental shift in the 1980s and 1990s due to the adoption of neoliberal ideologies by many city governments, which saw a push for economic growth often at the expense of 'good planning'. Planning in the new millennium is strongly anchored within economic rationalist systems (see also Chap. 3). As reflected in the narrative of this chapter, the underlying principles of planning, such as those seen in physical and social determinism, have been buffeted and attacked. Despite planning's adoption and practice to enable community engagement, address resource allocation and social justice through land use and the provision of infrastructure, neo-liberal practices shifted planning away from comprehensive detail to aspirational goals. Governments delegated policy implementation to the private sector. Infrastructure provision such as transport, roads, water and sewerage often were either sold or contracted away from government responsibility. The private sector became the largest developer of cities, employing their own planners, and with that, the associated decision-making capability of the shape and form of cities changed. Planners working for the city or local authorities were increasingly assigned to the back seat, managing aspirational plans with little power to influence the city outcomes, such as regulating significant development or ensuring essential social infrastructure. Community engagement is still undertaken but perceived by the community to be disingenuous as development continues without apparent consideration of community views.

As this chapter has outlined, planning theory and methods are focused on the doing of planning, but now with aspirational goals to improve people's lives. Modern planning theory is, in essence, the theory of the city, having evolved to explain city planning as basically procedural, such as the use of laws and rules to manage and shape the process of planning and decision-making. As articulated by Alfasi and Portugali (2007) in their review of the role of planning, planning theory emphasizes "…the role of the many (f)actors that shape the built environment rather than the resultant properties of the built environment itself." (Alfasi and Portugali 2007, p.164). It is important to note their use of "(f)actors" as this recognises that planning is not done by planners alone and that there is a myriad of influences and influencers on city outcomes, as the rest of the chapters in this book will attest.

Before we move on to critical studies in planning, it is timely to define planning and summarise its key actions.

> "Urban and territorial planning can be defined as a decision-making process aimed at realizing economic, social, cultural and environmental goals through the development of spatial visions, strategies and plans and the application of a set of policy principles, tools, institutional and participatory mechanisms and regulatory procedures" (UN-Habitat 2016b, p. 61).

Table 4.1 Strategic Planning – Key Tasks and Activities

Typical normative questions	Key tasks and activities
Where are we?	Understand the current state of the city (environment, economic, social, cultural); identify problems to solve; use methods to gather data (scientific investigation, stakeholder consultation; specialist advisors such as urban designers, economists, ecologists).
Where are we going?	Establish vision for city for the next 20–25 years through a political process; by engaging with public and private actors (e.g., community)
How do we get there?	Strategic plan outlines what needs to happen. Typical actions: Link vision with objectives and actions along a timeline; use a map to illustrate changes: set development controls. Integrate strategic plan with other key policies of government, e.g., infrastructure.
Have we arrived?	Targets and performance measurements. Time – Short, medium and long term targets. Quantifiable outcomes, e.g., number of dwellings. Qualitative outcomes, e.g., well-being, security, people's views. This then feeds into the next cycle starting with "where are we?"

When viewed globally in different contexts, planning is an intervention that uses strategic planning and development control as tools to achieve its aims and principles. Strategic planning is the process whereby a vision for a city's future is articulated through policies and plans. Development control is one of the mechanisms to achieve policy aims. The process is carried out by governments and requires cooperation between public and private actors. Strategic planning is not a science but has four fundamental questions to guide it. These will appear very familiar because it is the basis of all types of planning and similar to those in urban design (See Chap. 5). Table 4.1 presents the questions and summarises the typical activities of strategic planning, illustrating the cyclical nature of strategic planning as it is a continuous and evolutionary process. Strategic planning is a task that is never complete but an organic process which is responsive to change. It does echo the normative rationalistic approach of the beginnings of modern planning and assumes that plan-making is a step-by-step process with a fixed end state as the target. However, in practice, the cyclical or iterative nature of planning means that the end state is never reached. Rather it is revised or rephrased, and the process starts again. As the process is embedded in governance frameworks, it occurs notwithstanding the uncertainty and complexity of the variables that comprise the city including its stakeholders, institutions, rules and regulations, and the multiple development aspirations and goals they represent.

4.3 Critical Studies in Planned Cities

Planning is a complex task (Myers and Banerjee 2005), and it is difficult to distinguish between the processes of planning decisions (and their outcomes) and the roles and responsibilities of planners. Explaining one's job as a planner can be

challenging as, generally, people have a broad view of planning but not the tasks and roles that planners undertake in everyday practice. Not surprisingly, planners are often held to account for the state of transport, "ugly" development, loss of old but valuable buildings, pace of development, destruction of trees, growing population, pollution, disease, famine and climate change.

The Global Planners Network, for example, argues that common principles underpinning planning and the role of planners include the promotion of sustainable development, integrating planning with other city drivers, collaboration with partners, develop appropriate planning activities and tools, is pro-poor and inclusive, and it recognises the importance and value of ethnic and cultural diversity (Global Planners Network 2019). It is challenging to apply these principles given that city planning in the twenty-first century is being undertaken at a time of transformative changes to development practices, modes of production, consumption patterns, demographic structures, as well as education, health conditions and refugee crises, the latter crossing multiple geographical jurisdictions. These drivers and consequences of development have dramatically changed the way in which cities are shaped, function and how planning systems respond to current urban growth challenges (UN-Habitat 2016a). Silva (2016) contends that these complexities, the perpetual change in cities and the competing needs of many, can result in planning being either paralysed or reactive (rather than planned) to meet city needs.

A critical failure of modern city management is the lack of integration of decision-making. Governments often operate across many jurisdictions and institutions whereby planning is undertaken by one agency but the provision of infrastructure could be undertaken by another. In a good example of horizontal integration, the two agencies should be working together and towards common and shared outcomes. However, often in practice, this does not occur. For instance, land can be rezoned for housing by the planning department but the provision of utilities (such as water and electricity) or adequate public transport or schools have yet to be provided by the infrastructure department. This siloisation makes it difficult, if not impossible at times, to ensure the timely delivery of the key components that make up the city such as housing, health, schools, transport and public space. Integration also occurs vertically such as between regional (city) governments and subsidiary local governments or councils. Planning is ineffective when these two layers of government are not working together and have contrary strategic planning priorities.

Integration is also difficult to achieve when faced with the complexity of the problem that planning is trying to solve. For instance, if the problem is to improve mobility of people across the city, multiple governments (regional and local), their relevant agencies (planning, transport, finance) and the community (residents, business, advocacy groups) are required to work together. Given the fact that any plans need to work at different scales (spatial and temporal) and be delivered within a political process (including political cycles and different political ideologies of decision-makers), it is not too much of a surprise that effective integration is rarely if ever achieved. There is mismatch between the demand and provision of key city components that meets people's needs and finding the 'shifting' balance and

equilibrium between current and future needs. As such, getting 'ahead of the game' and attaining quality and timely planning outcomes are challenged (Rode 2017).

The failure of integration is problematic and is partly explained by the structure of formal governance frameworks, how they are operationalised and the reality that planning is a political process involving the (unequal) sharing of resources and power. As such, not all residents and groups in the city both private and public are equally involved in decision-making and not all residents and groups equally share in the allocation of resources needed to meet the many aspirational goals of planning (Jones 2017). (See also Chaps. 8 and 14).

A good example is the challenge of taking global goals and expecting that they would be readily applied at local scale. For a global goal to be adopted at the local (say, city) level, the government needs to operationalise it. This means that the government needs to put into place or adopt its existing policies, rules and regulations to accommodate the goals and make them applicable for the local conditions and circumstances. In reality, the challenge of moving from 'global to local' is easier said than done. For instance, international agreements between countries aimed at environmental conservation (such as UN treaties or conventions) have been unsuccessful in reaching their aims (Biermann et al. 2012) due to this difficulty. It is not only policies, rules and regulations that can prevent goals being achieved. Failure to implement can be a sign that there is little understanding of the local conditions and what the people may want or how they may live.

The United Nations Development Program (UNDP) has created the Sustainable Development Goals, including the 'urban' SDG 11, which aims to make cities liveable, sustainable and safe (UNDP 2019). This is an extraordinarily ambitious but important goal with major transformative impacts. Suffice to say, that for goals to work, the challenge is to ensure the local views and nuanced development contexts and needs of the many stakeholders must be considered in governance frameworks across varying scales and contexts. If we accept planning as being a process of understanding the growth and complexity of the city, including effective ways to address current and future issues, then understanding contexts and local nuances becomes all important in planning cities. Questioning the condition of planning at city, national and local levels and how best to meet the needs of the city and its residents requires a thorough understanding of the economic, social and political setting of that spatial setting.

The second critical issue is the inequitable distribution of the benefits of urbanisation and its management. There has been an increase in the absolute numbers of urban dwellers from an annual average of 57 million persons between 1990–2000 to 77 million persons between 2010–2015. In 1990, there were approximately 43% or 2.3 billion persons of the world's population living in urban areas and, by 2015, this had risen to 54% or approximately 4 billion persons (UN-Habitat 2016a). Concurrent with this upward urban population increase has been the growth of megacities such as Tokyo, Delhi, Beijing, Mumbai and Shanghai, which the United Nations defines as a metropolitan area with a total population exceeding 10 million people.

In this setting, it is a challenge to planning's aspiration for just and fair cities given that over 25% of the world's urban population live in informal settlements including slums and lack descent housing, land security and provision of basic services and infrastructure such as water, sanitation and open space. The current model of urban development has been viewed as a "result of relentless globalization, the unfettered transformation of cities into sources of private gain, a declining attention to public space and community benefit, and rapid technological change which in the end increases connectivity while it diminishes accountability" (UN-Habitat 2016a p.5). Urbanisation has the potential to transform cities, yet it is clear "cities all over the world are grossly unprepared for the multidimensional challenges associated with urbanization" (UN-Habitat 2016a p.5). Perpetuating current approaches to city management are unsustainable including promoting low-density suburbanidation partly facilitated by continued dependence on car ownership rather than leveraging greater opportunities for public transport and higher housing densities. Socially, this model of urbanisation generates multiple forms of inequality and exclusion, often characterized by gated communities and increasing informality such as informal settlements. Such approaches perpetuate unequal access to urban services and amenities and poor quality of life for many (UN-Habitat 2016a). Unfortunately, this unquestioned model of urban growth and city planning continues to dominate and is reinforced through top down models seeking to 'formalize the informal' and bring unplanned and 'unacceptable growth' under the ambit of formal rules and regulations (Jones 2017). In this setting, imposing a 'one size fits all' model across a diversity of socio-economic and ethnic groups with their varying social, physical and spatial needs and circumstances is not without its challenges. If planning is concerned with seeking certainty and stability whilst allowing for adaptation, then there is a need for planners and policymakers to deepen their understanding of city complexity and assemblage. This includes how self-organisation evolves and co-evolves within different groups and parts of the city so as to meet resident needs (Jones 2019).

Planning has not been able to adequately respond to the new demands of what comprises sustainability, as increasing numbers of city dwellers are excluded from benefits of urbanisation than many other residents of the city have ready and normal access to. As such, the challenge for planning cities and attaining inclusive governance systems where all people share in the benefits of well-planned and organised urbanisation is paramount. Planning systems which facilitate a shift towards more sustainable patterns of urbanisation are needed, seeking to achieve the sharing of benefits such as inclusive, people-centred, and sustainable global development. History shows that such policies should be implementable, sensitive, relevant to the local context and be measurable. Planning must be anchored on participatory and collaborative arrangements and aim to be inclusive and recognise the rights of minorities and vulnerable people (UN-Habitat 2016a). This latter approach challenges current planning arrangements.

Many stakeholders that make and shape the city are diverse and include government and non-government actors working within and across myriad governance

frameworks, small or large, organised or a loose assembly of interested parties guided by written and unwritten legal or illegal rules, regulations and codes. The latter span the formal and informal continuum despite the shortcomings of using this simple binary to explain and highlight the multiplicity of the city. At a global level, this includes global policies such as the Sustainable Developmental Goals (SDGs) and New Urban Agenda and addressing the problematic challenge of balancing global and local needs, current and future.

What we learn from the history of modern planning is that as the nature of the city complexity changes through social, economic and political forces, the planning system containing institutions, policies and legislation are invariably left in a 'catch-up mode'. This critical review of the environment in which planning occurs, the profession of planning seeks to resolve the tension between ensuring the stability of the planning system whilst allowing for expressions of adaptability on the other so that the cities can adequately deal and respond to development pressures. These adaptive measures are expressed in the preparation and revision of new plans, codes and regulations and importantly those that address the complexity of the city. In this setting, complexity-based planning approaches are those that view the city as dynamic, evolving, open, temporal, adaptive and continually emergent (Rosner-Manor et al. 2019). Planners know that planning can adapt, evolve and be more flexible, with top down governance approaches needing to be balanced with an understanding of the diverse needs implied and contained in bottom up approaches. Complexity-based planning approaches challenge the strategic planning predict and work to include foresight of emergent new urban behaviour associated with complex systems and uncertainty. Current tools of planning such as fixed 'one size fits all' codes and regulations weigh planning down. Within this context, the key question for planning cities is how do we measure success and performance at scales, given the increasing focus on liveability?

As urban growth occurs in varying contexts, urban planning should parallel an understanding of the growth and complexity of the city, including effective ways to respond to dealing with current and future issues. At the same time, planning for cities needs to be reflective and articulate what the role of planning is and what planning should be in terms of its contribution to sustainable development. Planning for cities in the twenty-first century emerges as a methodology and process deeply embedded in varying socio-cultural and political-institutional systems. Application of critical planning theory including questioning power relationships, resource sharing, who makes decisions and how, who is impacted or not, what is private and public and the changing notions of public interest must be a central part of planning practice (Sagar 2013). Importantly, decision makers need to ask what the city is and how is it really made and shaped through not only top down plans but working with and concurrently with bottom up approaches that reflects residents 'here and now' needs. This is the real city – not a static masterplan which was the main mode of planning cities in the twentieth century and still prevails in siloed planning systems. Conceptualising the city as a system of systems with multiple stakeholders and parts working or not working together at different scales using different and same governance systems, plans and policies – an assemblage of 'formal and informal'

parts and connections representing many aspirations and plans at scale – entails understanding concepts of self-organisation, adaptation, transformation, co-evolution and complex adaptive assemblage (Jones 2019). Such questioning and realigning our conceptualisations to understand planning for the city as 'it really is' rather than being too preoccupied with planning the city 'as it should be' can potentially result in more effective and inclusive planning processes and outcomes.

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Designing Cities

5

Deena Ridenour and Tooran Alizadeh

Abstract

The design of cities is an intentional act that fundamentally shapes the urban form of our cities, towns and neighbourhoods. This chapter defines the practice of urban design and describes the design process, and how it is implemented through policy and projects. It then explains how the design process is underpinned by foundational design elements and an understanding of the city as a historical construct, constantly evolving and influenced by past urban theories and models. A discussion of current urban design practice and emerging approaches to human-centred and ecological urbanism lead to a conclusion that speculates on the need for new design inventions with more collaborative approaches and interdisciplinary partnerships to address the challenges facing contemporary cities.

5.1 Understanding City Design

The intentional act of design fundamentally shapes the urban form of our cities, towns and neighbourhoods. Urban form directly and indirectly influences people's daily patterns of living, health and well-being, sense of belonging and relationship to the natural environment. City making is not only a product of design, rather, it is also influenced by planning policy and governance, informed by economic cycles, social structures, and ecological systems. Within this amalgam, the practice of urban design defines and guides the physical evolution of the city through three-dimensional forms and the shaping of places, streets and spaces within our urban environment.

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This chapter defines the practice of urban design and describes the design process, and how it is implemented through policy and projects. It then explains how the design process is underpinned by foundational design elements and an understanding of the city as a historical construct, its evolution and the influence of past urban models. This is followed by a discussion of current urban design practice and emerging approaches to human-centred and ecological urbanism. The chapter concludes by speculating that new design inventions with more collaborative approaches and interdisciplinary partnerships are required to address the challenges facing contemporary cities.

5.1.1 What Is Urban Design?

In the first Urban Design Conference at Harvard in 1956, architect Jose Luis Sert called for an urban design practice that puts people at the centre of city making and 'reshapes the city as a whole' (p. 5). He was critiquing the decentralised surbanisation of twentieth century cities as a product of disparate technical expertise and disciplinary approaches and lamented the corresponding demise of human scale and civic life. Sert argued that we 'must be urban minded' and positioned urban design as the common ground and unifying practice that reconceptualised the physical form of the city for people, through creativity and imagination. (Krieger and Saunders 2009). Nearly 50 years on, Sert's speech foreshadowed the contemporary practice of urban design, defined in Matthew Carmona's primer for urban design education and practice, *Public Spaces, Urban Spaces: The Dimensions of Urban Design*, as a 'process of making better places for people'(2003), which shapes the future space and form of the city with a focus on the public realm, its connectivity, spatial definition and activation by buildings (Lang 2017). By creating urban spaces for people in a more urban and connected environment good urban design enables greater choice in daily experiences and supports a diversity of living patterns (Bently 1985) for the comfort, protection and enjoyment of people (Gehl 2013).

Design
Design Design is a creative act for conceiving a new artefact that affects our quality of life (Cross 2011); it defines problems and finds solutions through a reflective process of exploration that results in an specific outcome.

Urban Design
The practice of urban design invents urban futures and the form of settlements with a focus on the public realm, its connectivity, spatial definition and activation (Dovey 2016; Krieger and Saunders 2009; Lang 2017) to enhance public life (Gehl) and make cities a better place to live (Carmona et al. 2003). It operates across scales from groups of buildings on a lot, to the block, precinct, town and city. (Katz 1994; Dovey 2016) It is a collaborative process that finds 'common basis' between multidisciplinary practices of architecture, planning and landscape architecture (Krieger and Saunders 2009, p.114).

To achieve these aims, urban design necessitates a collaborative process that requires design-led negotiation – a process that spans across disciplines and cannot be separated from economic markets and political aspirations (Carmona et al. 2001; Cuthbert 2003; Lang 1994) or ecological processes. In other words, shaping better places requires integrated practice across built environment disciplines, as planning sets the strategic context within which urban propositions are formed and regulates the approval processes for development proposals; landscape architecture brings a deep understanding of ecological systems and public domain design; engineers contribute technical solutions for infrastructure, transport networks, structures and systems; and architects bring invention, but also an understanding of building requirements, client briefs and occupant amenity. Further, social planning, heritage and archaeology, land economics, traffic and transport provide specialist advice that underpins design solutions.

Built Environment
The physical man-made habitat that encompasses human settlement and activity. It is composed of infrastructure, including bridges, viaducts, and dams; services and utilities; public realm, including parks, plazas and streets; and the private realm, including individual lots, buildings and their associated spaces.

In its evolution, urban design has become an established built environment practice, formalised in national design policies and guidelines such as the "Urban Design Compendium" (Llewelyn-Davies 2000), and "The Design Companion for Planning and Placemaking" (Urban Design London 2017) in the United Kingdom; "New Zealand Urban Design Protocol" (NZ Ministry for the Environment 2005), and "Creating Places for People: An Urban Design Protocol for Australian Cities" (Department of Infrastructure and Regional Development 2011). Urban design is typically practiced in professional architecture, landscape architecture and/or planning practices, in the development industry and in local, state and federal government planning agencies. As the value of design and the quality of the urban environment are increasingly linked to the well-being and health of society, urban design skills are becoming relevant in traditionally non-design fields such as in the education and health industries.

5.1.2 The Process of Urban Design

Urban design, like all design, is a creative process that requires invention, experimentation and craft. Design requires action – a boldness to propose physical solutions to real world problems (Krieger and Saunders 2009; Lang 1994; Bacon 1967). What is different from many design processes is that urban design does not necessarily result in a finished product, such as a physical building or a piece of furniture, an end in itself, but creates a framework for guiding or is a catalyst for influencing future design.

Urban design is therefore not a singular act but an inclusive process that is challenged with many voices. The client, who may be a government agency, a private developer or a landowner, commissions a project and establishes the brief, the program and its funding. The project team, comprised of design professionals, works in collaboration with specialists to address multifaceted problems that span across individual disciplines. Professional stakeholders, such as government agencies, institutions, developers, and most importantly the public, inform opportunities and assess design proposals.

The design process we outline in this chapter follows four stages of design: Understand, Synthesise, Explore and Detail. These four stages are described below and depicted in Fig. 5.1. In practice, these stages are not a linear progression but part of an iterative process, that enables solutions to challenge assumptions and negotiate alternatives (Commission for Architecture and the Built Environment 2004; Llewelyn-Davies 2000; Urban Design London 2017). Key considerations for each stage include:

1. **Understand** – The physical context and place characteristics are analysed through mapping, observations and surveys. The policy context outlines the aspirations and regulations of different levels of the government. The social context describes who lives, works or visits the area and their needs now and into the future. This phase evaluates and consolidates the opportunities, the attributes that the design can expand on or leverage for better outcomes; and the constraints, the limitations that are difficult to overcome or unable to be addressed within the project. The analysis findings assist in defining the design problem and refining the project brief.
2. **Synthesise** – In response to the current context and future needs, the project vision and objectives, which are derived from the analysis, describe the project's

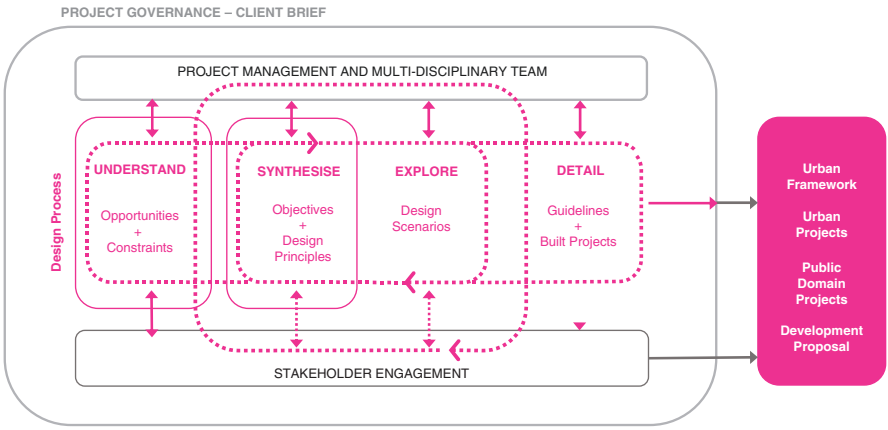

Fig. 5.1 Urban Design Process (Source: Ridenour, author)

goals and explain what the design proposal is intending to achieve. Design principles evolve through the design process as concepts are tested and refined; and establish the rules that guide how the objectives are going to be achieved across the different design elements.

3. **Explore** – Through three-dimensional design, multiple options are explored to brainstorm solutions and demonstrate different physical outcomes for achieving the project objectives. Design options are useful tools to test competing objectives or values of different stakeholders.
4. **Detail** – The final design, developed to a level of detail that demonstrates the proposal, resolves the technical, funding and regulatory requirements; adequately responds to stakeholders; and can be delivered. The design is then either detailed for tendering and construction or translated into a planning or design policy to guide future development and public domain works.

5.1.3 The Products of Urban Design

Urban design projects are documented and delivered in a variety of ways depending on the scale of intervention, the timeframe for delivery, its governance and the complexity of land ownership. Urban design frameworks are place-specific design proposals for large parts of the city and beyond the individual building scale, for example, a centre, precinct, neighbourhood, renewal area or large development sites. They describe a hierarchy of information, which guides urban change from strategic scales, for example, movement and open space networks, to the human scale of local place, its urban spaces and building forms. Urban design frameworks are typically implemented over long timeframes, across complex land ownership arrangements and by multiple actors through planning and design policies. Alternatively, an urban framework may define a singular vision implemented across specific delivery stages by a development entity for a part of the city, such as new suburban neighbourhoods, or large single-ownership renewal sites, or government-led renewal precincts. (Lang 1994).

Urban Design Frameworks
Frameworks Drawings and text-based description of a design proposition for the creation of a new or the evolution of an existing area that describes an overarching future vision; supporting objectives including environments, social and economic objectives; desired future character; and the intended connections, open spaces and building form; and that establishes the principles and priorities to guide future implementation and/or infrastructure delivery. Often informs a statutory planning policies, development proposals and capital works program.

Urban design frameworks describe the structure of a place, how it is organised within the project boundaries, how it connects to the broader city, its movement and open space networks, and its distribution of development intensity and use. Typologies and building envelopes are used to describe the spatial qualities of place and the design elements within the urban structure. Typical typologies may include urban place types, centre or neighbourhood types, street types, open space types, and building types. Specific three-dimensional building envelopes demonstrate the aggregation of types into the urban fabric and define special places that illustrate the desired future urban form and character.

Building Envelopes
A three-dimensional volume that describes the space – length, height and depth – within which a future building could be built. It is used as a design tool to describe and evaluate potential future buildings and their bulk, height and distribution and to represent potential collective outcomes across a project area.

Typology
Typology A classification that describes a group of objects with the same arrangements and attributes. Typologies are useful design tools for describing characteristics and formal arrangements of parts of a city, and can be repeated to predict spatial outcomes, evaluate their performance and guide future detail design proposals. (Moneo 1978; Moudon 1994).

Typically, long implementation timeframes and complex project areas mean that most urban frameworks are implemented in parts, either through stages or as infill development on individual lots. This requires a degree of flexibility to enable site specific design solutions that may not be evident at the urban scale. Urban frameworks, then, provide a hierarchy of information that prioritises the design outcomes. Design principles describe the goals of a design proposal and typically address the spatial definition and functionality of the public realm, the form and use of future development, environmental performance, amenity, safety and comfort. Guidelines are the directions or actions that achieve the principles. They may be performance-based or prescriptive. Performance guidelines establish criteria that a design needs to achieve, for example, a building height that responds to the predominant building forms along a street. Prescriptive guidelines set specific measurable outcomes or standards, for example, a maximum building height of 12 metres.

As urban design has become more established, urban frameworks that describe the physical characteristics of a place and its desired urban form have emerged to challenge conventional land use zoning approaches to planning policy. The structure and content of urban frameworks vary by country and across different levels of government and jurisdictions within a country and in relation to the planning system. The documents have a variety of names depending on their location and governing planning context, such as master plan, precinct plan, structure plan, design

code, development control plan or design guideline (Carmona et al. 2003; Talen 2009; Ben-Joseph 2005; Marshall 2011).

In contrast to an urban framework, an urban project is a transformative built project that acts as a catalyst for urban change beyond its initial construction. It is an urban intervention in the city that is large enough to aggregate both buildings and urban space, but small enough to be constructed as a project. Manuel de Sola-Morales conceives of an urban project as 'urban acupuncture', an insertion that operates at a specific location and facilitates repair and transformation beyond, elsewhere in the broader precinct or city (Sola-Morales et al. 2008). Urban projects often mend the disruptions in the urban fabric by significant infrastructure, such as Chicago's Millennium Parkland's bridging of the rail corridor with new public space and New York City's Highline, which adapts a former elevated rail line into a pedestrian walkway and public space. They may also be in the form of significant new or improved public spaces or streets where the urban structure, place identity or setting is transformed and where future renewal, investment or urban growth is stimulated.

Urban Project
Urban project is an urban intervention in the city that is large enough to aggregate both buildings and urban space, but small enough to be constructed as a project. It is a transformative built project that acts as a catalyst for urban change or renewal beyond its initial construction. Urban projects can be aggregated to create the fabric of the city (Sola-Morales et al. 2008; Cantril and Thalis 2005).

5.2 Key Debates in Designing Cities

5.2.1 Foundations of Design: Elements and Precedents

The city is a palimpsest that traces the activities of a particular society, in a specific location and throughout history – a "continuous typology of elements that together coheres with the past fabric and present interventions to make one comprehensive experience" (Vidler 1998). But the city is also a dynamic continuum that is a product of constant change, influenced by informal actions, planned interventions and individual constructions.

Design Thinking
Human-centred approach to solving problems that utilises an iterative design process called ideation for generating, developing and testing ideas to enable the exploration of multiple pathways to solutions; it aims to empower anyone to design and adapts the design process to traditionally non-design disciplines such as business with the aim of creating new products for the market (Brown 2009).

In his book *Urban Design Thinking: A Conceptual Toolkit*, Kim Dovey argues that urban design is a process of design thinking, not a formula, that utilises design concepts as a means to both understand the city and conceptualise its change (Dovey 2016). It operates at the intersection between the design elements and across a continuum of design scales from the city to the locality to the neighbourhood to the block down to the single lot (Bosselmann 2008; Katz 1994). The design process is not about each individual element or design scale, but how the relationships between each is resolved, and how the parts are aggregated. At each scale, there are different design opportunities and urban elements at play (see Table 5.1). At the urban structure scales, from the city to the neighbourhood, the design focuses on the organisational layout and settlement patterns, networks of movement and landscape systems (Alexander 1965; Salingaros 2005; Marshall 2005; Hillier 1996). At the more tangible and experiential scales, from neighbourhood to the site, the three-dimensional form shapes both the public realm and the area of most changes, the private realm, defined by lots, building types and their associated open spaces in response to landownership, development processes and economic feasibility (Panerai et al. 2004; Smith 2013; Moudon 1994).

Precedents are examples of past models and built places. They provide a necessary knowledge base and useful design tools for illustrating and interrogating design concepts; and complement the urban framework by illustrating the desired future character of the place, its public domain and built form. Precedents are shaped by past theories of city making, which are directly influenced by the needs and the challenges of their time. While recent urban design literature has been critical of past urban ideologies, for example, the debate between the traditional and modernist city (Krieger 1991: Krieger and Saunders 2009), urban morphology, the physical form and structure of a city, is shaped by traces of different design theories collaged over time. Knowledge of past theories and precedents provides a deeper understanding of a place, not to repeat history, but to reveal how best to operate within it. Analysing the intent of a precedent and its performance is necessary to identify its relevance to a design proposal. Some of the key historical precedents that have shaped many of our cities are discussed and summarised below categroised as Rational cities, Symbolic cities, Garden cities, Functional cities, Mobile cities and Transit-oriented cities.

Precedent
Precedents are examples of past models and built places. They provide a necessary knowledge base and useful design tools for illustrating and interrogating design concepts, and complement the urban framework by illustrating the desired future character of the place, its public domain and built form.

5.2.2 Rational Cities

Urban grids have been used as a device for demarcating settlement patterns and their growth throughout history. The grid defines a frame of streets and blocks within which a city grows. As a new town plan, such as the ancient Roman town of Timghad, Algeria, (Fig. 5.2) or a settlement under the Spanish Law of the Indies, the

Table 5.1 Urban scales and relevant design elements (Source: Ridenour, author)

Design Scale	Design Element	Design Influences
City or district 1:10,000 +	Topographic features and watercourses Open space networks Centre type and hierarchy Movement networks – Transport, vehicles, service, cycles, pedestrian Transport nodes Urban infrastructure	Historic settlement patterns Urban ecology – Climate, hydrology, geology, vegetation communities, riparian corridors, coastal and watercourse processes Climate change adaptation Existing and planned distribution and concentration of: Employment Industry Housing Community facilities Recreational and open space needs Educational and health services Shopping – Destination and daily needs Services provision – Electricity, water, telecommunications
Locality 1:5000 to 1:10,000	Landform and views Open space types and catchment Centre form, extent and catchment Corridors Neighbourhoods Precincts/districts Street and block pattern Land use distribution Built form distribution	
Neighbourhood or precinct 1:2000 to 1:5000	Pedestrian permeability and access Public space, use and character Street types, use and character Block size and orientation Building use Building envelopes Landmarks and public buildings	Landownership Development capacity and feasibility Heritage structures, landscapes, elements and archaeology Environmental performance – Energy and water efficiency and targets Solar access Shade and heat island mitigation Tree canopy Stormwater and flooding management Technical codes and regulations Transport access and street functionality Pedestrian connectivity, accessibility and safety Amenity including aural and visual privacy, outlook, daylight and ventilation
Urban block 1:1000 to 1:2000	Streetscape scale and character Lot patterns, sizes and orientation Building footprint and types Public verses private open spaces Vegetation types and landscape character	
Site 1:200 to 1:1000	Site levels and features Open space use and design including tree planting, water management Relationship with neighbours Street interface Building layout and access Building design and architectural expression	

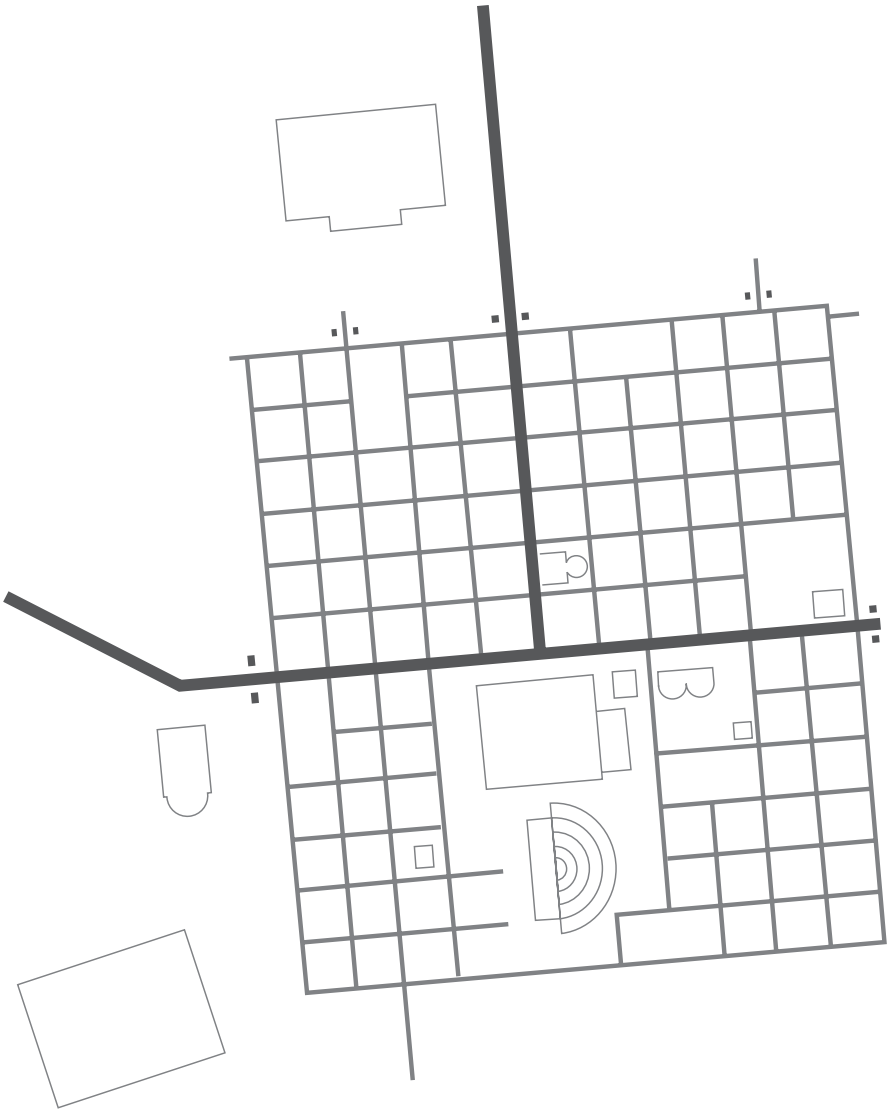

Fig. 5.2 Ancient Roman new town grid layout at Timgad, Algeria (Source: Ridenour, author)

5.2.4 Garden Cities

Garden cities promoted a return to nature as an alternative lifestyle to the nineteenth century industrialised city with its overcrowded slum conditions, industrial pollution, and poor living standards. Influenced by Ebenezer Howard's social city, garden cities reconceptualised the industrial city as a set of satellite towns of limited size, accessed by new transport technology – the commuter railway – and often separated

grid takes on symbolic meaning as an urban object, within which public buildings and spaces are defined. As a system for rapid settlement and urban expansion, such as the United States' one-mile grid, the grid is utilised as a tool of land speculation and colonisation, where indigenous people were displaced and their land sold to new settlers. The resulting urban grid is divided proportionately to distribute land and directly shapes urban form from the suburban quarter acre lot to the urban block, such as New York City's historic tenement housing and wedding-cake building forms (Kostof 1991; Boyer 1983).

What began as a system of urban settlement and expansion across the landscape has become a precedent for street and block patterns that enables connectivity, permeability and choice within the city (Siksna 1997; Marshall 2005). Examples of the diversity of grid patterns include Portland, Oregon, grid with small blocks often supporting a building and high pedestrian permeability; New York City grid which distinguishes between east-west streets and wider north-south boulevards; Savanah, Georgia, grid which includes a larger street grid framing urban squares connected by small streets; and Barcelona grid with its distinctive clipped corners, which supports a diversity of building forms, open spaces and small streets within the larger perimeter block (Fig. 5.3).

5.2.3 Symbolic Cities

The symbolic city reveals religious, cultural, social or civic significance of a place through the formal visual and spatial structure of the city, particularly the public realm. The distinction between public and private spaces are exemplified in Giambattista Nolli's iconic Plan of Rome, the spatial relief of the medieval plaza marked by the church in Camillo Sitte's work (Sitte 1965), or even the sequential views in Gordon Cullen's Townscape (Cullen 1971) (see also https://infographics.uoregon.edu/projects/nolli/).

Georges-Eugene Haussman's Plan for Paris in the mid-nineteenth century is the most famous example of a symbolic city, and is directly influenced by the formal garden design of Versailles. The urban structure frames perspectives and panoramas with axial and radial street patterns and generous boulevards that terminate at public buildings and/or spaces. It is designed to create collective memories and celebrate civic life, leisure and entertainment (Fig. 5.4). The new streets also provide opportunities for retrofitting utilities, introducing new transport infrastructure and improving the amenity and health of residents (Kostof 1991; Firely and Gron 2013). Other examples of symbolic cities include national capitals such as Pierre Charles L'Enfant's Plan for Washington DC; and Walter Burley Griffin and Marion Mahoney Griffin's Plan for Canberra (Kostof 1991). In contemporary cities, land uses such as shopping centres, and large corporate campuses, blur the symbolic city's distinction between public and private, and challenge the legibility and meaning of the urban structure.

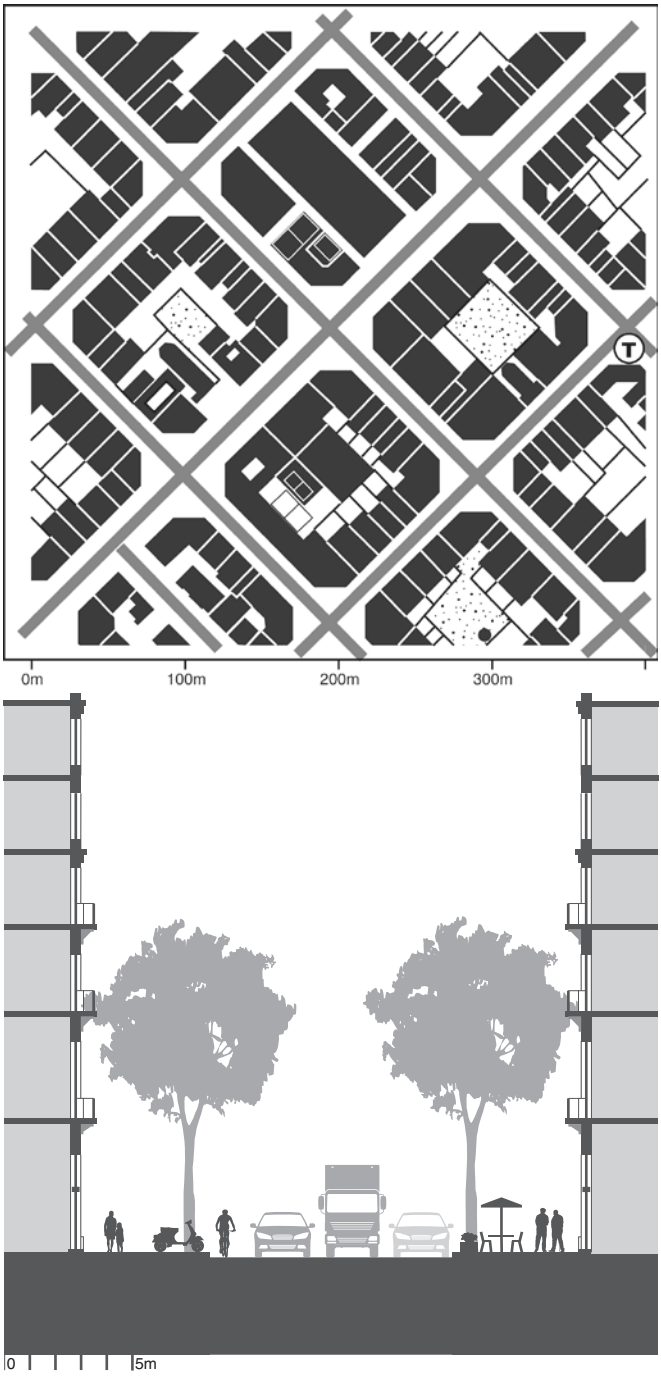

Fig. 5.3 Rational City – Barcelona, Spain (400 m × 400 m) (Source: Ridenour, author)

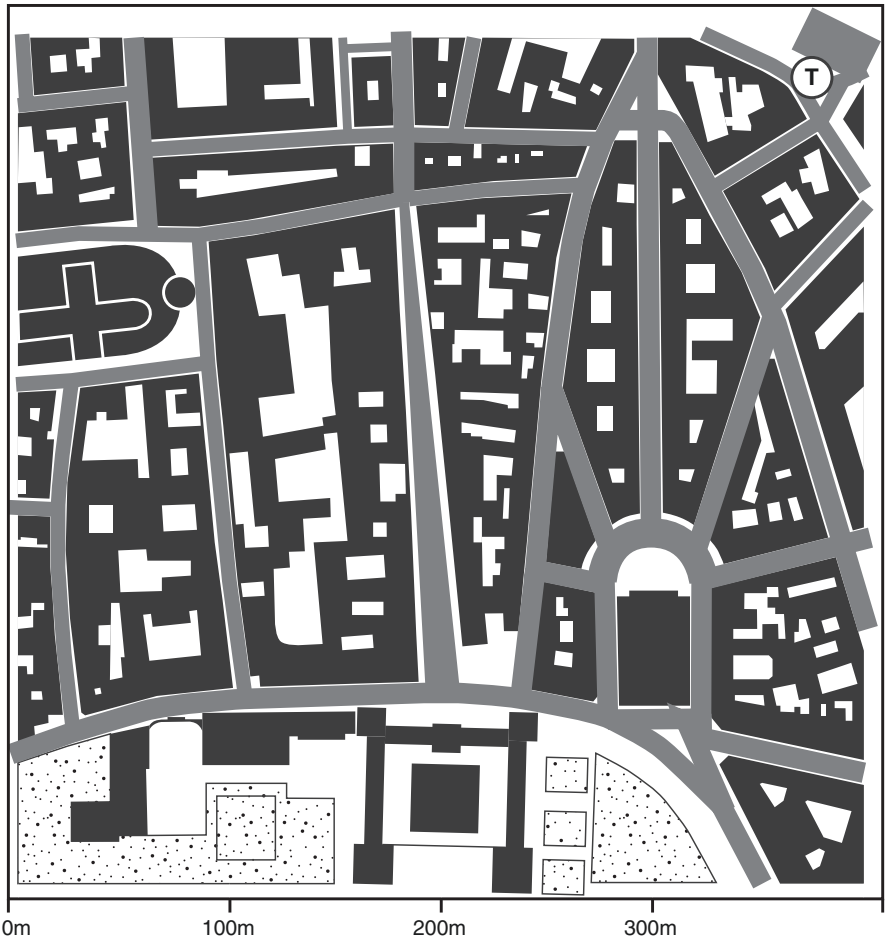

Fig. 5.4 Symbolic City – Paris, France (400 m × 400 m) (Source: Ridenour, author)

from the central city by green belts. Raymond Unwin and Barry Parker's design for Letchworth, England, in 1907 evoked the medieval village with a focus on communal living. As an alternative to the by-law streets with rows of tightly arranged dwellings in the city centre, their vision of a 'superblock' grouped dwellings around the perimeter with a centralised communal open space for the recreational use by all residents (Hall 1996) (Fig. 5.5).

Key features of the garden city in the United States is its landscape setting and walking catchment. Fredrick Law Olmstead, influenced by the picturesque movement in landscape design, promoted an alternative to the urban grid. A curvilinear street pattern highlighted the landscape setting over building form and reinvented streets, which became the standard for American suburbs. Clarence Perry's neighbourhood unit, first realised in Forest Hills Garden in 1909, was organised around a walking radius with the local elementary school at its centre and local shops at the

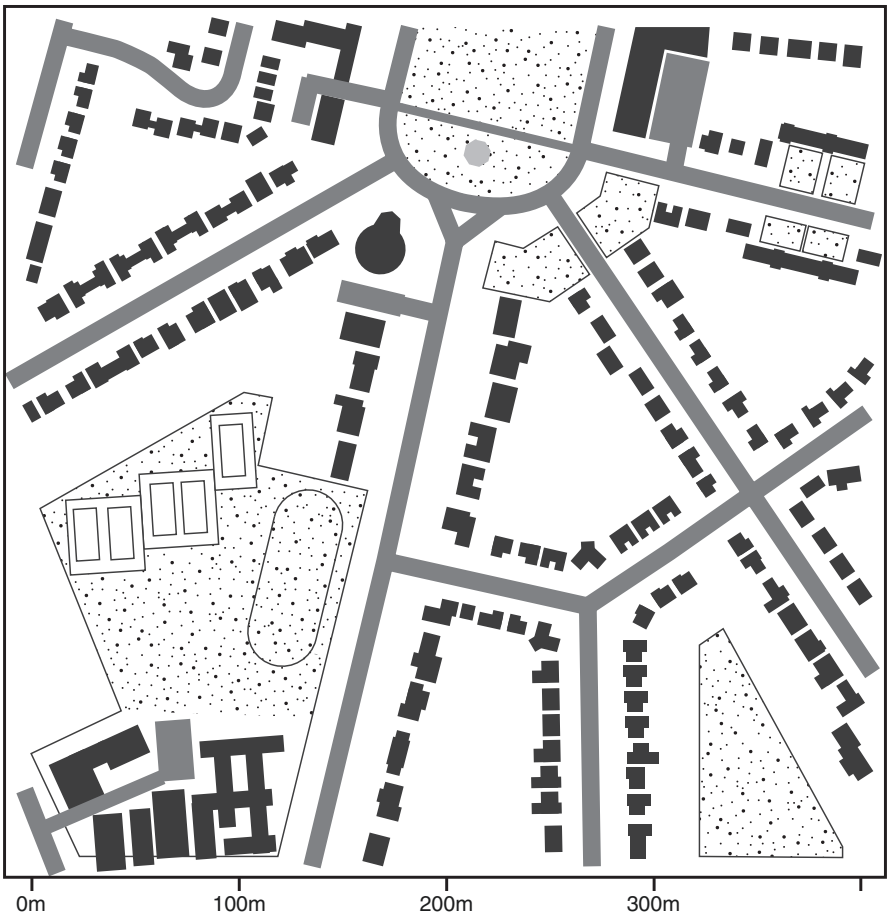

Fig. 5.5 Garden City – Letchworth, England (400 m × 400 m) (Source: Ridenour, author)

rail station shared with future neighbourhoods. Adapted later in Radburn, New Jersey, United States, the walking catchment became an open space network within a superblock, segregating pedestrian and vehicle access (Southworth and Ben-Joseph 2003). With the rapid growth of suburbia, disconnected fragments of garden cities can be found in many cities but are often missing their fundamental structuring elements – the walking catchment to public transport and pedestrian friendly local centres.

5.2.5 Functional Cities

In the early twentieth century, the design of the functional city was proposed as a radical break from the traditional city. Post-World War I, European cities were in

need of reconstruction and upgrading to accommodate the growing demand for cars, to improve overcrowding, and poor living standards within the city, and to house large migrations of people to cities. Le Corbusier and the International Congress of Modern Architecture (CIAM) called for a new urban form and architecture where 'form follows function' to create a more efficient and ordered city.

The modern city, proposed in Le Corbusier's Ville Radieuse of 1935, segregates residential, business and industrial uses within separate geographic zones. (See: http://www.fondationlecorbusier.fr/corbuweb/morpheus.aspx?sysId=13&IrisObjectId=6437&sysLanguage=en-en&itemPos=15&itemSort=en-en_sort_string1&itemCount=15&sysParentName=Home&sysParentId=11.) It reconceptualises urban blocks and streets as towers with pedestrian streets in the air and creates superhighways for the car in parklands between towers. The Dom-Ino house, the basic dwelling unit, is distributed within the tower along the street and conceived of as a machine for living, that provides each inhabitant with direct access to light and air and living standards superior to the traditional city (Fishman 1991). The urban elements of Modernism are found in many cities as individual buildings, in post war urban renewal housing estates, in central business districts and in segregated land uses. The Barbecan in London illustrates how a modernist project reconstructs a historic city post World War II to deliver new housing, a school and performing arts centre connected by elevated 'streets' and open spaces and separated from the ground plane of the surrounding city. (Fig. 5.6) In other projects, the principles are applied more holistically and are fundamental drivers of the city form, such as in Corbusier's Chandigarh, Oscar Niemeyer's Brasilia, in post war reconstructed northern and eastern European cities, or twentieth century growth areas in China.

5.2.6 Mobile Cities

Mass mobility and private car ownership in the middle and late twentieth century significantly influenced the form of the city. The organisation of the city was reformulated to suit the spatial requirements of cars and their supporting infrastructure within a decentralised, low-density city dominated by freeway infrastructure, expanses of car parks, drive through retail, strip malls and single dwellings. It significantly changed the way people experienced the city – they now experienced the city at high speeds and across unprecedented horizontal expanses. The organisation of the city was an outcome of the segregation of city making into different specialisations, traffic planning distinct from land use planning, distinct from architecture. The resulting urban form was not planned in an integrated and strategic way, rather it was produced almost accidentally when the diverse city making specialisations layered across the city. With a focus on individual disparate projects, places such as Irvine, California, and Orlando, Florida, demonstrate how street pattern and building use and intensity were distributed to privilege vehicular over pedestrian mobility. (Figs. 5.7 and 5.8).

In the 1960s and 1970s, architects, who had been largely excluded from this city making process, started to analyse the visual symbolism and spatial structure of the

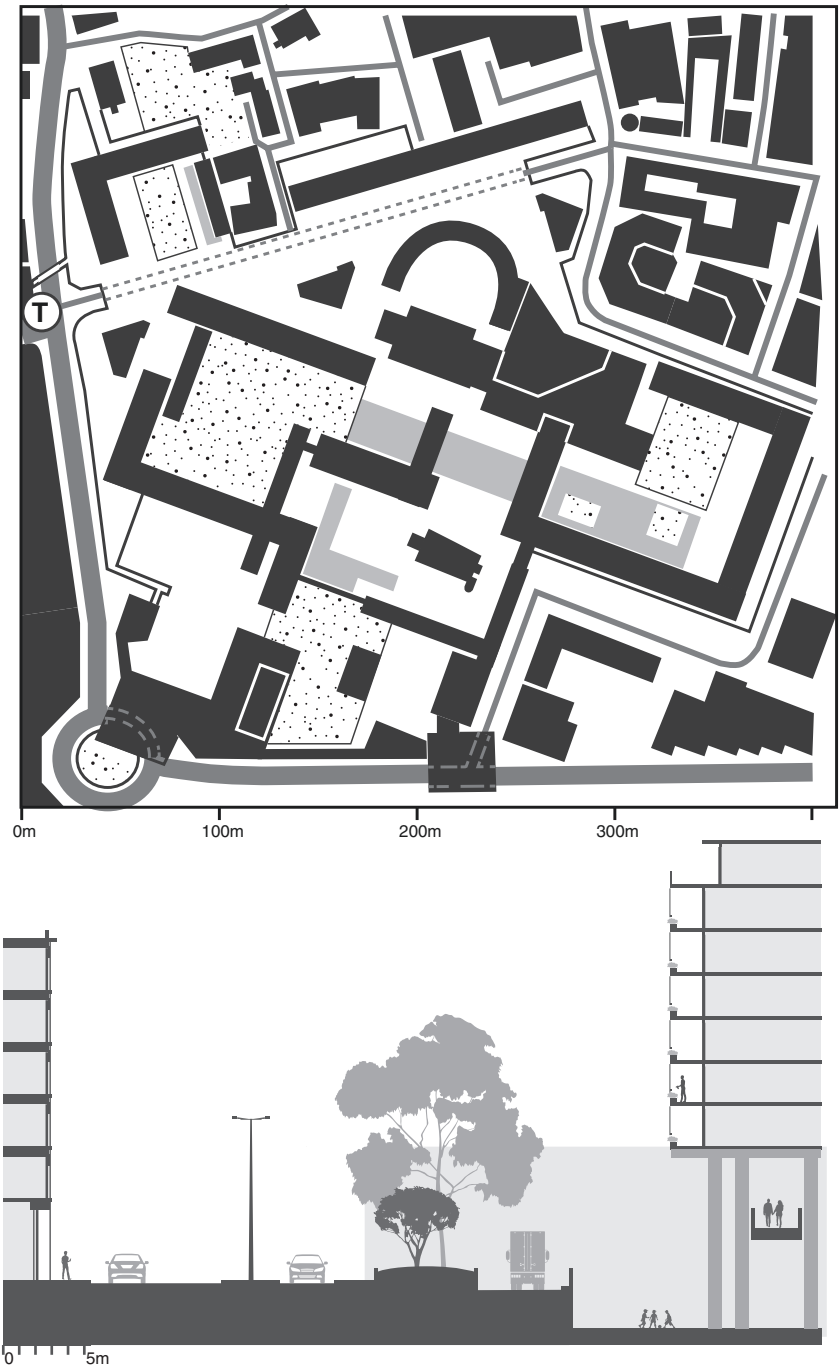

Fig. 5.6 Functional City – Barbecan, London, England (400 m × 400 m) (Source: Ridenour, author)

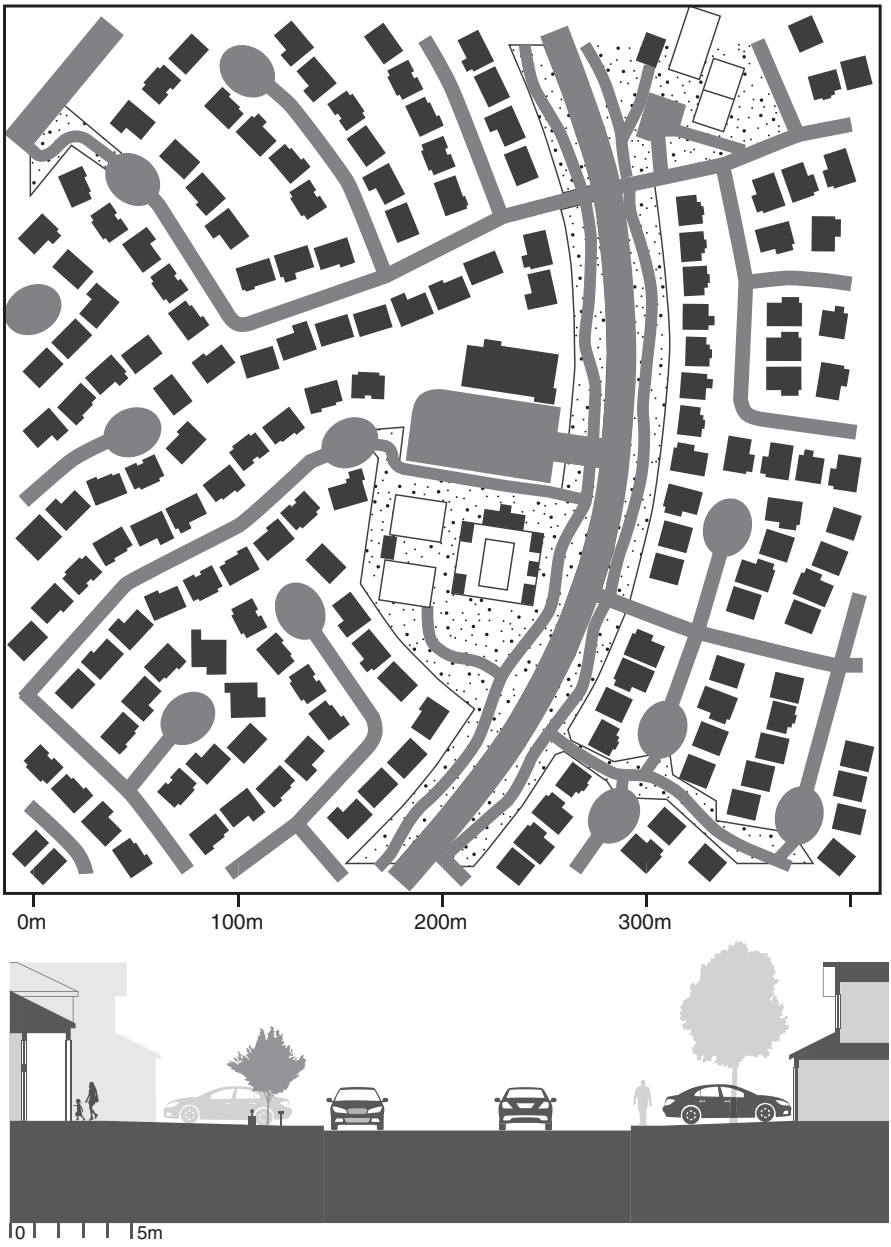

Fig. 5.7 Mobile City – Irvine, California, United States (400 m × 400 m) (Source: Deena Ridenour)

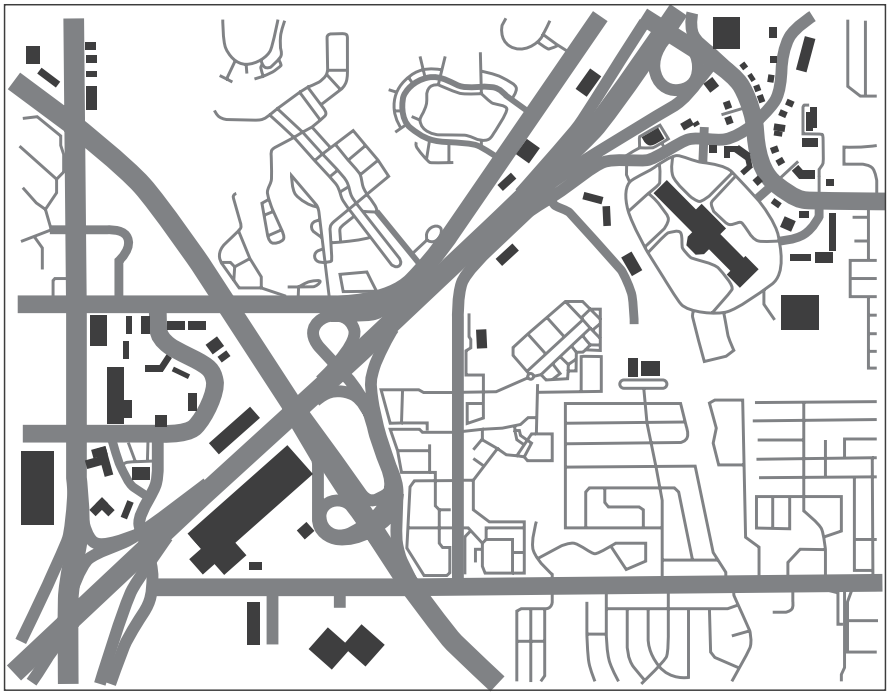

Fig. 5.8 Mobile City – Orlando, Florida, United States (Source: Deena Ridenour)

new city to construct a relevant design response to the new urban form. *The View from The Road* (Appleyard et al. 1964) and *Learning from Las Vegas* (Venturi et al. 1977) call for new design techniques to intervene in a city where image and ornamentation were separate from form. (See also: https://web.archive.org/web/20191214180952/https://99percentinvisible.org/episode/lessons-from-las-vegas/). This break with past models of city making spawned a diversity of new design approaches, such as Candilis Josic Woods' plan for Toulouse le Mirail or Archigram's Plug-in-City, with a focus on networks, superstructures and modular components often in juxtaposition to the existing city. (See: https://web.archive.org/web/20170210200740/http://archigram.westminster.ac.uk/project.php?id=56). Simultaneously, a concern for a loss of human experience and social life in the vehicle-dominated city emerged through the critical writings of Jane Jacobs (Jacobs 1961), Kevin Lynch (Lynch 1960) and William Whyte (Whyte 1980).

5.2.7 Transit-Oriented Cities

Transit oriented city design emerged in the mid-1990s as a reaction to car-dominated cities characterised by urban sprawl, bedroom suburbs, and edge cities (Garreau 1991), characterised by office parks, strip malls, big box retail, and a predominance

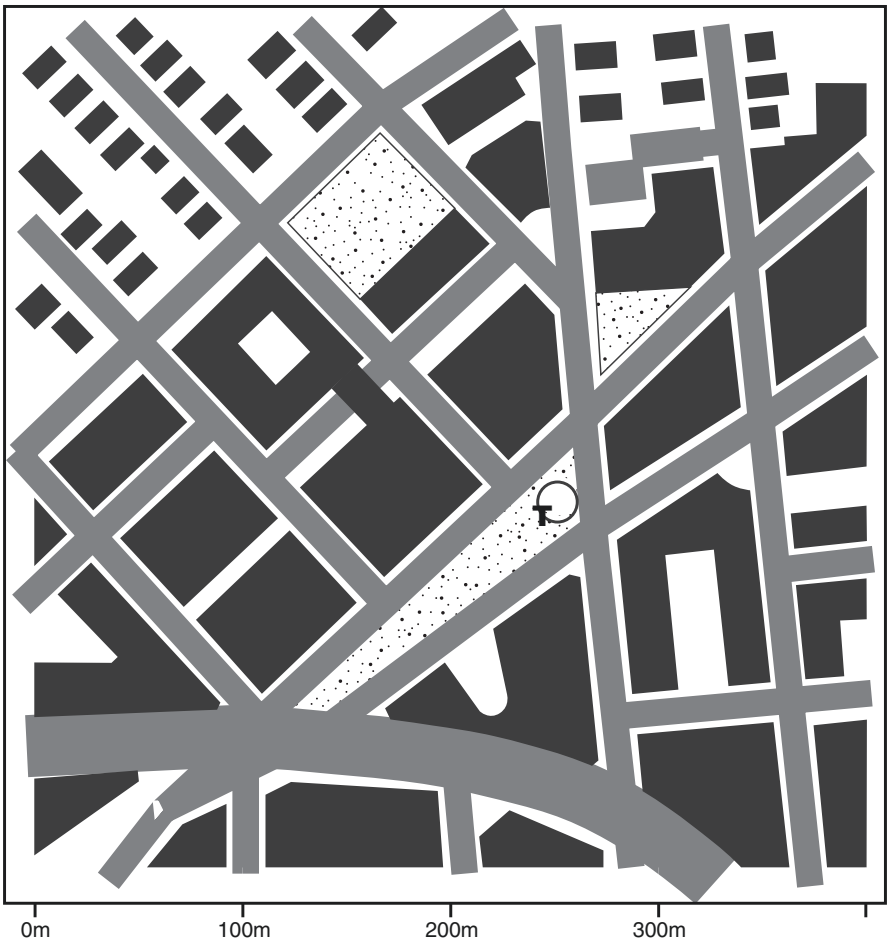

Fig. 5.9 Transit Oriented City – Clarendon, Virginia, United States (Source: Ridenour, author)

of single-family detached dwellings. Transit-oriented design promotes compact cities with a finite extent, defined by green belts, distributed around transport nodes to define walkable, mixed use neighbourhoods as both the physical and social building block of the city (Calthorpe 1993). It is influenced by traditional American small towns and Clarence Perry's neighbourhood unit. Transit-oriented design is a return to the urban with a focus on the civic realm defined by civic buildings, public spaces, and streets at the centre of daily life. One example is Clarendon in Arlington, Virginia, which has a walkable street grid with the greatest intensity of uses distributed around a central space and train station (Fig. 5.9). The Charter of New Urbanism established design principles that are implemented through form-based codes or smart codes as an alternative to land use zoning (Calthorpe 1993; Katz 1994; Krieger 1991; Krier 2009).

5.3 Critical Urban Design: Future Challenges

With the highest concentrations in history of people living in cities, and an imperative to adapt to a rapidly changing climate, contemporary cities face unprecedented design challenges. The greatest challenge is to change our concept of the city as a manmade construct to an urban habitat for both humans and the planet. This requires adapting existing urban structures and forms, a product of past urban models that reflect different lifestyles and values, to create urban environments that support human needs, cultural values and ecological processes into the future.

Future urban design can reclaim the city for its people and promote public life, social gathering and activities through the design of streets and spaces, which supports a diversity of uses. Urban design solutions can enable and support biodiversity in the urban environment (Houston 2019). Future urban design then may demand collaborative design processes, some of which can be drawn from Indigenous practices, and reflect intergenerational and intercultural values (Ngurra et al. 2019) (See also Chaps. 2 and 14). Designing urban habitats challenges the physical determinism of previous urban models and seeks to create a city that is more responsive to ecological process and inclusive of people's daily life, their enjoyment and comfort. Responsive urban design also recognises that environmental stasis is non-existent with urbanisation, population growth and climate change; rather the world context is continually changing, requiring new solutions in response.

The narrow range of this spectrum continues an established focus on human activity patterns and micro spatial needs. The focus on design for people is evident in the resurgence of interest in the work of Jane Jacobs, William Whyte and Kevin Lynch. Jane Jacob's reflections on the life of streets in New York City in the 1960s advocated for a diverse and active city through a mix of uses, short blocks, generous footpaths, a mix of old and new buildings, and a critical concentration of people (Jacobs 1961). This was reiterated by Appleyard's call for "an urban fabric for an urban life" that promoted a minimum density necessary to encourage proximity between people to foster social interaction and a common experience of place (Appleyard and Jacobs 1987). Kevin Lynch's mapping of the paths, edges, districts, nodes, and landmarks of the city demonstrated how people visually understand the city and its image, and navigate within it (Lynch 1960). Whyte's famous book and film "The Social Life of Small Urban Spaces" documented his observations about how people use public space including where people sit and stand, watch other people, gather or are alone, and enjoy the sun or the shade (Whyte 1980).

Jan Gehl's work expands on this body of work. His approach to "first life, then spaces, then buildings: the other way around never works" advocates for a people-first approach to city design (Gehl 2006). (See Jan Gehl's lecture here: https://www.youtube.com/watch?v=KL_RYm8zs28). He critiques the common practice of planning and designing the city from a "bird's eye view" as lacking understanding of human behaviour. Gehl's Public Space, Public Life Studies (Gehl Architects 2014) for cities across the globe documents, through detailed observations and mapping, people's inhabitation of the public realm. Qualitative criteria are used to assess the performance and adequacy of public space. These include protection

from traffic, crime and unpleasant sensory experience; comfort, to enable a diversity of activities such as walking, staying, sitting, seeing, talking, listening, playing and exercising; enjoyment to respond to human scale environment with a pleasant climate and sensory experience. His evidence-based studies provide data that puts the needs of people on equal ground with other evidence-based design considerations such as traffic modelling, open space standards and building codes (Gehl Architects 2014).

Making great places requires design, with people, not just for people. Judging what is a good design outcome for an individual and for society is challenging and subjective and is influenced by an individual's stage of life, gender, socio-cultural background and wealth. Over 50 years ago, Jane Jacobs critiqued the planning process and asserted that "cities have the capability of providing something for everybody, only because, and only when, they are created by everybody" (Jacobs 1961). A more inclusive design process, where people are able to actively influence the design of the city, such as co-design and participatory design processes, empowers people to shape the city. Everyone is capable of design; it is 'something inherent within human cognition; it is a key part of what makes us human' (Cross 2011). Recent calls to placemaking, where design action is carried out by the people, for example, Build a Better Block (Roberts 2012) or Project for Public Places 'Lighter, Quicker, Cheaper' (Project for Public Spaces 2019) challenge the role of government with direct public intervention in the city.

Designing for people also prioritises human health and well-being (See Chap. 13). Research shows that the form of the city has a direct impact on human health. For example, car-oriented environments, which discourage walking and constrain easy access to services and healthy food, lead to sedentary lifestyles, obesity and diabetes. Social isolation in these environments, particularly for the young, infirm and aged, foster mental illness (Barton et al. 2015). Everyone has the right to safe, healthy and inclusive city as championed by Henri Lefebvre (Lefebvre 1996) and codified by the United Nations (United Nations 2017) (See also Chap. 12).

While designing for people is fundamental to creating safe, healthy, liveable cities, it is not mutually exclusive from designing for the environment and its ecological functionality. In "Designing with Nature" Ian McHarg argues that "nature is a single, interacting system and that changes to any part will affect the operation of the whole" (McHarg 1969). This includes humans. Ecological design understands, cares for and manages nature in the city (Douglas and James 2015) and acknowledges that human activity and urban living directly impact humans and the planet (Carson 1964; McKibben 2002; Gore 2014).

The challenge for design is to transform the city to make it both resilient to the changing environment and liveable for people. Design for a changing climate is twofold. Mitigation, to reduce greenhouse gasses in the atmosphere and further climate changes, demands a more efficient use of resources. Low-carbon, sustainable urbanisms require less reliance on cars and fossil fuels; and greater focus on urban forms that prioritise public transport use, promote walkability, concentrate diverse uses; capture carbon and make more energy and water efficient buildings (Washburn 2013; Farr 2012).

Adaptation, to reduce the consequences of climate change, requires greater resilience to ensure the "capacity of individuals, communities, institutions, businesses, and systems within a city to survive, adapt, and grow no matter what kind of chronic stresses and acute shocks they experience." (100 Resilient Cities 2019) Acute habitation shocks are extreme events such as heat waves, blizzards, drought, flood, bushfires and other natural disasters. Terrorism and epidemics can also be shocks. These lead to chronic stresses, such as unemployment, inefficient transport, population migration, urban heat islands and water and food shortages (100 Resilient Cities 2019). Effectively addressing climate change and creating more resilient urbanisms requires knowledge in systems thinking, urban landscapes and resource use within the design process (Walker and Salt 2006).

Design for adaptation is place specific. Frederick Law Olmstead and Charles Elliot understood this at the end of the nineteenth century when they designed the Emerald Necklace in Boston, a precedent for contemporary ecological urbanism. They created a sequence of ponds and woodlands through the city as a green respite from the industrialised city that provided both breathing and recreational space for people and a system for cleaning and draining polluted water (Zapatka 1995). McHarg, who also understood that the urban environment is intertwined with nature and its processes, promoted regional analysis of both natural systems and urban development as a foundation for urban settlement, scenario planning and design (McHarg 1969). Charles Waldheim argued that a systems-based approach is required to define new urbanism models and processes grounded in landscape architecture expertise (Waldheim 2006). Mohsen Mostafavi and Gareth Doherty called for an ecological urbanism, which challenges traditional design methods and architect-led approaches to resolve conflicts between climate, location and urban form. They concluded that design is multi-disciplinary and process-led not form-led, and grounded in flexible principles that can be adapted to specific location through design (Mostafavi and Doherty 2010).

Historic models and assumptions about good city form will be challenged by emerging urbanisms. Examples include the three-dimensional form of vertical cities, such as Hong Kong, New York and Singapore, with their multi-level building uses, open spaces, connections and constructed landscapes (Shelton et al. 2011); the organic urban structure of developing cities, particularly in the Global South, where informal settlement patterns are formalised through both essential infrastructure and people-led redevelopment (Jones 2016); and shrinking cities, such as Berlin and Detroit, where populations have peaked, resulting in disused buildings and dispersed uses with broken connections and social infrastructure (Schlappa and Jv 2016).

A common thread throughout is that an integrated approach to city and ecological design critically challenges current approaches to city structure and form, and breaks down normative dichotomies, such as urban/suburban, public/private, and built/unbuilt. Governance boundaries are exchanged in favour of ecological catchments, geology, vegetation and animal habitats. Major infrastructure interventions protect against extreme events, such as storm surges. Development footprints support space for permeable soils, tree planting and water management, and demand new building types and transport solutions. New micro-climates combat the urban heat island effect to cool the city using transpiration and shade from trees and

lowering surface temperatures with high albedo, light coloured materials. All require streets, public spaces and the spaces between buildings to perform better to connect the city; to provide places for people; and to manage supporting ecological processes (Moughtin and Shirley 2005; Farr 2012). Design innovation is needed, paired with technical solutions, to define future urbanisms; establish measurable outcomes with metrics and targets; address age old problems of human amenity (light and air); and deliver better energy and resource efficiency (See also Chap. 12).

To conclude, the social, economic and environmental challenges of the twenty-first century demand urban models and design solutions that go beyond physical form to address both the needs of people and the complex systems of the urban ecology. The practice of urban design transforms cities through creative invention paired with a deep understanding of place, its urban structure, built form, open spaces and streets. New solutions require design interventions across vast differences in scales from regional, national and even global systems and cycles, down to the detailed human experience of an individual in a neighbourhood, on a street or in a dwelling. The implementation of design visions, objectives and principles demands flexibility to respond to the future evolution of the city and its adaptation, working within historical patterns of urban form. The iterative process brings together specialist design knowledge, multi-disciplinary expertise, stakeholders and the public. Fundamentally, the act of design is to champion public life and to "make better places for people" today and into the future.

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Heritage Cities

6

James Lesh and Cameron Logan

Abstract

Heritage is a force that shapes cities. It refers not only to the significant physical environments we inherit from the past but also the accumulated relationships we have with our cities and the places in them. Attempting to protect places can both shape and hinder the development of cities. Heritage can inspire design creativity and offer meaning and a sense of depth and continuity. However, efforts to protect urban heritage have also caused, or been perceived as a cause of, social segregation, and gentrification as well as environmental degradation connected with tourism. Reflecting broader power, expertise and property dynamics, the people who have influenced regimes of heritage management are often privileged groups. This chapter provides a historical account of the development of the modern conservation movement and its associated heritage apparatus. It identifies various provocations that heritage offers to urban thinking and points to the breadth of influence that heritage has on urban places and processes.

6.1 Understanding Urban Heritage

All cities are historical. Their physical forms, social life and cultural traditions, even their "natural" settings, are the product of human forces that shape and reshape the environment. Understanding those forces is not possible without a historical perspective. But only some cities, or certain sections of them, are recognised as

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"historic cities". Some of those historic cities, towns or districts are "ancient". Others are of more recent origin. What they share, typically, is the recognition that they are culturally valuable and should be passed on to the next generation. The process of recognising the value of something and attempting to protect it is what we usually describe as heritage conservation. When the focus of those efforts is connected directly with the identity of a city rather than an individual building, place or object, it is usually described as urban heritage. Like all urban processes, efforts to define heritage are deeply contested and depend upon competing visions of the value of the environment and what should be passed on to future generations.

Efforts to preserve heritage are common to almost all societies and periods of history (Lowenthal 2015; Glendinning 2013). But preserving historic places, including whole urban areas, using the tools and techniques familiar to us today as those belonging to heritage conservation, is a relatively recent phenomenon. Indigenous people, with deeply patterned modes of dwelling and movement and a highly structured ceremonial life, tend to care for specific sites and their wider environment in a way that foregrounds its collective cultural significance (see Chap. 2). That is, cultural heritage is implicit in patterns of reproducing life in the most general sense and part of the explicit fabric of sacred and ceremonial life. Place protection, care and cultivation are a connected tissue of environmental management. Similarly, other traditionally oriented societies focused around sacred forms of authority developed systems of collective responsibility for places of worship such as temples, churches and mosques. The Christian tithe, in effect a church tax that is partly dedicated to maintaining physical places of worship, is one such system. The Muslim waqf – a payment made by each family in a community for the upkeep of a mosque – likewise, is a way of making the care of religious and communal buildings a shared social and cultural responsibility. These might both be considered as forms of cultural heritage protection (Jokilehto 1999). These are different to Indigenous systems of protection, however, in that they are usually focused on a single building or site.

The legal systems and policy settings in place around the world to protect heritage attempt, mostly with only partial success, to do both of the tasks described above: protect continuity and ensure emotional connection in the environment, and carefully maintain symbolically charged individual monuments or places. What is particular to present-day systems of state sanctioned heritage protection, developed in the twentieth century, is that they have been implemented as explicit policy measures to ameliorate or slow the impact of rapid change instigated by public authorities, private developers and individual property owners.

Large-scale modernisation and urbanisation from the nineteenth century onwards was based on the combination of two technological domains, the constructive and the financial. Readily accessed financing and growth-friendly governments enabled construction at the meta-scale, transforming cities. The development of land-hungry expressways, airports, housing estates and shopping malls led to change at an unprecedented scale. The capacity for such rapid and expansive development also meant unprecedented destruction of existing urban fabric. The activities of New York's powerful Port Authority under the direction of development czar Robert

Moses became infamous globally in the post-World War II decades for its aggressive approach to highway building and urban redevelopment. In Australia, Victoria's Housing Commission and the state's ambitious freeway-building agenda were a distant echo of Moses' approach to city building.

Urban populations, or significant parts of them, experienced this expansive redevelopment and modernisation agenda as disorienting, and consequently it became the source of significant social disquiet in a whole host of European, North American and Australian cities. The so-called "freeway revolts" in North American cities in the late 1950s and early 1960s were among the most widespread forms of citizen resistance. In New York, Philadelphia, Washington D.C, and Baltimore; neighbourhood activists banded together – successfully in several well-known cases – to protest the destructive impact of the redevelopment agenda (Mohl 2004). Ultimately the disquiet about freeways and about the unfettered pattern of destruction more generally drove the development of a modern system of heritage protection. This system, really a set of linked or overlapping systems, was directed not only at protecting special patriotic monuments and sacred places, but also at providing tangible everyday links to the past for the community. Hence the attention to the linked fabric of terrace house neighbourhoods, local shopping areas, parks and other modest public places. New York City passed a robust municipal preservation law in 1964 that enabled the protection of hundreds of individual landmarks as well as an expansive landscape of historic districts. While the French Malraux Act (1962) was specifically directed at the creation of *secteurs sauvegardés,* or conservation areas, and the UK Civic Amenities Act of 1967 performed a similar function through the planning system in that country (Glendinning 2013).

Political advocacy for conservation and monument restoration was already prominent in the nineteenth century (Jokilehto 1999). Key figures in architecture and the arts in France and England such as Emmanuel Viollet-le-Duc, John Ruskin and William Morris debated the proper scope of restoration and argued about how to protect buildings and monuments from the ravages of time and human folly (Miele 2005). Each of these influential leaders of the field regretted the scope of damage that could be done by well-intentioned efforts at progress and improvement, including poorly conceived efforts to protect the monuments of the past by imprudently "restoring" them. Support for monument protection, as it was mostly called in Europe, and government inventories and systems of mandating such protection grew steadily during that century as a result of growing public support. Isolated examples of Old Town conservation also already existed in Europe in the nineteenth century. Nuremberg, which was mostly disparaged as shabby in the eighteenth century, was "rediscovered" in the 1790s and promoted as an example of a surviving traditional townscape. It was subsequently promoted along with other successful examples in the nineteenth century for their supposed capacity to illustrate deeper national patterns of architecture and town building. In this period, conservation of buildings and townscapes mingled with ersatz displays of traditional urban heritage at expositions and world fairs (Glendinning 2013).

The period after World War II (1939-1945), with its expansive programs of urban reconstruction and renewal, was the decisive turning point that led to our

contemporary idea of urban heritage (Klemek 2011). The scope of destruction in this period – either caused by war or initiated by government-backed urban reconstruction – inspired a powerful counter-reaction from citizen activists, architects and other professionals as well as policy makers. The rise of civic and amenity groups declared a vital public interest in heritage protection (Burgmann and Burgmann 2017). Beginning in England in the late nineteenth century, National Trusts were founded in English-speaking and former British colonial countries to conserve natural landscapes and protect historic buildings for architectural and historical reasons. They acquired historic properties and provided public access to them and mounted public education and community campaigns for heritage places. Such organisations acquired new members and new energy in the post-war decades. Activist-driven campaigns like the union-led 'Green Bans' in Djubuguli/Sydney in the early 1970s consciously endowed the heritage movement with a more political and radical edge. The Builders Labourers Federation, a militant labour union, declared a range of demolition and construction projects off-limits for unionised labour, delaying and preventing public and private redevelopment initiatives. Such campaigns created a focus for citizen campaigning and applied pressure on political leaders to act more decisively to protect heritage and the environment.

This upsurge in sentiment for protecting places of cultural significance in the period from 1960–1985 led to what British architectural historians Elaine Harwood and Alan Powers have labelled the "heroic period of conservation" (Harwood and Powers 2004). In that period there was a vast expansion of legal powers aimed at protecting historic places. New laws and procedures were created at all levels of government and the range of places that were deemed worthy of protection expanded rapidly. Where factories, transport infrastructure and mines had formerly been assessed in purely utilitarian terms, i.e., as infrastructure with a practical use, they were now re-evaluated as part of the cultural heritage, i.e., as a feature of the urban landscape with cultural value beyond its functional use as infrastructure. For instance, the Sydney Harbour Bridge is not only a crucial piece of transport infrastructure connecting the Sydney CBD with the Northshore (i.e., its use) but is also imbued with meaning as a globally iconic feature of the harbour, embodying early-twentieth-century modernity for the city. Heritage processes aspire to capture meanings or cultural values as well as practical or functional uses. Likewise, at one time the great country estates and houses belonging to the powerful and famous constituted the vast majority of protected private dwellings. But now humble workers' housing and ordinary ensembles of middle-class terrace houses were considered for heritage protection. Most significantly, new legislation in Britain, France, the United States and elsewhere highlighted the significance of districts, towns and neighbourhoods as the appropriate scope for heritage protection (Kostof 1992). In other words, historic places or the historic environment, rather than simply monuments or buildings, gradually became the focus of efforts to safeguard heritage.

Conserving a building, place or object so that it may be passed on as heritage is never simple. But what defines urban heritage as a specific mode of heritage protection is its scope. Generally speaking, urban heritage refers to the aggregations or ensembles of buildings and open spaces, streets and views, landscapes and public

squares that constitute the environmental or visual identity of an urban place for people. As such, it is not usually possible to protect what we would call urban heritage by simply conserving a single place or property. The expansive ambition of heritage protection in the final decades of the twentieth century, therefore, redefined heritage, and reinvented the possibilities for seeing cities as places of shared cultural ownership and stewardship (Davison and McConville 1991).

The idea of urban heritage did not emerge fully formed in the minds of activists or policy makers in the mid-twentieth century. It was based on concerted work across this period by urbanists, especially architects, urban planners and preservationists. A pivotal document for heritage was the Charter for the Conservation and Restoration of Monuments and Sites, proclaimed at a meeting of experts in Venice in 1964 and usually referred to as the *Venice Charter* (Hardy 2008). The Charter focused on what it called "historic monuments". But as Article One of the charter made clear, it was an expansive definition that could operate at an urban scale where appropriate.

Historic Monument
The concept of an historic monument embraces not only the single architectural work but also the urban or rural setting in which is found the particular evidence of a civilization, a significant development or an historic event. This applies not only to great works but also to more modest works of the past that have acquired cultural significance with the passing of time (ICOMOS 1965).

The group of specialists met again in Warsaw in 1965, where they founded the International Council on Monuments and Sites (ICOMOS) and ratified the *Venice Charter* as the organisation's founding document. The official non-governmental advisor to UNESCO on architectural and urban heritage, ICOMOS would become the world's most important forum for the elaboration of contemporary thinking about professional practice and methods in heritage conservation. Over the coming decades, ICOMOS chapters of heritage experts were established in countries across the world.

UNESCO and ICOMOS provided a series of stipulations about how conservationists should look after urban heritage (Sonkoly 2017). The adoption of scientific, systematic and technical methods for the conservation of heritage was now considered paramount. The 'Venice Charter approach' is prescriptive – it provides clear directions on the 'proper way' to protect places and claimed universal applicability (relevant for any place anywhere in the world). The *Venice Charter* would also provide the theoretical and practical basis for the passage of the UNESCO World Heritage Convention (1972) and the continued inscription of hundreds of cities, sites and landscapes of 'outstanding universal value' across the globe (Vahtikari 2017).

During this period of widespread heritage activism and policy innovation experts agreed to a general set of rules about how heritage should be safeguarded across any urban context via a set of documents and international agreements. By following these rules, they believed, authentic and best-practice heritage conservation would be achieved. Monumental sites which represented or could be ascribed with stories of nationhood and civic pride would generally be protected. For instance, Macquarie

Street in Djubuguli/Sydney, Spring Street in Naarm/Melbourne, or the Parliamentary Triangle in Canberra were designated as culturally significant for holding various historic buildings (Parliament Houses) and important monuments (various statues) to state and nation. Older historic cities, towns and areas, particularly those which were architecturally uniform and visually coherent, valued by architects and citizens alike, would also be increasingly retained for future generations. The global urban conservation movement believed itself victorious. Australasia, Europe and North America entered the age of heritage consensus (Pendlebury 2009).

With the aid of UNESCO and other international and local professional bodies, architectural and planning approaches for managing heritage became commonplace in the urban sphere. Heritage regimes that operated at an urban or landscape scale became much more prominent as governments played a greater role in heritage protection. Heritage grew in importance and became a consideration of land use planning and city management at different scales. Regional and local governments began to include controls to protect heritage whether protecting individual buildings or urban landscapes. A number of urban places were inscribed on the UNESCO World Heritage List in the first decade of its operation. The first historic city listed by UNESCO was Quito, Ecuador, in 1978. Unlike many cities in Latin America, Quito did not demolish its historic urban core in the name of twentieth-century modernisation. Rather than pursue a path of rapid development and modernisation, Quito deliberately conserved its colonial buildings, parks and streets, dating from the sixteenth century onwards and the arrival of Spanish colonists. Alongside Quito, the medieval city of Krakow, Poland, was also added to the World Heritage List at the same time. UNESCO has since acknowledged a whole host of historic urban centres along with key buildings, landscape and monuments that are central to the identity of their respective cities. This has included modern urban landmarks such the Sydney Opera House (1966-1973), (inscribed 2007) and Melbourne's nineteenth-century Royal Exhibition Building (1880) (inscribed 2004). Forces of change, process and modernisation had spurred the conservation movement; however, with victory and consensus has come a changed set of urban circumstances and expectations for urban heritage.

6.2 Key Debates in Urban Heritage

6.2.1 Cities, Change and Authenticity

The pace of change in cities continues to increase. The historic environment is placed under tremendous pressure to accommodate contemporary developmental and growth agendas. Once, it was sufficient simply to demolish historic places to make way for new buildings. Today, not only conservationists but also planners, architects and the community addresses heritage considerations as part of urban development. Heritage has the potential to provide physical and symbolic continuity for the public, but how and the extent to which conservation occurs is always being debated (Tunbridge and Ashworth 1996). Consequently, managing urban heritage becomes

ever more complex, and community expectations about it can be difficult for heritage professionals, architects, planners and consultants to fully grasp and meaningfully address. A cherished corner pub might be transformed into an apartment block, representing a loss of a public amenity but providing necessary housing for a growing population. With cities becoming more diverse and more transitory, communities may not feel as connected to certain kinds of heritage places. In settler societies such as Australia or the United States, a house that had belonged to a prominent colonial figure may be celebrated by a community that benefited from colonialism but seen as oppressive by an Indigenous group (see Chaps. 1 and 2). Competing claims and demands are always placed on historic environments and compromise is more often than not required in producing meaningful heritage outcomes.

Achieving what might be considered as 'authentic', 'best-practice', or simply 'good' outcomes for urban heritage is hotly contested. Once, the stewardship of what we now call urban heritage belonged to a coterie of architects and conservation specialists, who were responsible for identifying and managing places, and whose approach and decisions were to be automatically taken as culturally, perhaps even morally, sound and technically correct. When Eugène Viollet-le-Duc set his sights on protecting Notre Dame Cathedral in Paris in the mid-nineteenth century, he sought to enhance and perfect its architectural properties on behalf of the French state and people. His approach would likely be deemed unacceptable by experts today for being far too interventionist, seeking to perfect the design of an ecclesial complex which had been realised incrementally over centuries. He adopted the latest building technologies as part of creating several new elements including a new spire for the cathedral. Following the 2019 fire, Viollet-le-Duc's enhanced version of Notre Dame will be that to which the building is returned, particularly because many people believe that is an authentic approach to restoring the building. Alternative readings of Viollet-le-Duc's own philosophy of restoration, however, could complicate the ways Notre Dame is conserved to more self-consciously introduce contemporary forms and technologies during re-construction. What heritage authenticity means within urban contexts is always shifting.

Heritage Authenticity
The traditional aim of heritage conservation has been to restore a place back to an earlier state or conserve it as it is. This is done at the discretion of conservation experts by following the rules of international heritage charters and drawing on physical and documentary evidence. But authenticity has been redefined since the 1990s as verifiable not just with respect to fabric but also to use, documentary sources and other evidence.

Despite shifting ideas of what is deemed authentic in the conservation and restoration of buildings, historic places are a limited cultural resource. Once heritage is destroyed, it can never be brought back. A re-creation, reconstruction or facsimile will never quite be the same as what it replaced. European cities such as Nuremberg, Warsaw and Frankfurt have re-built significant sections of their bombed historic centres in the period since World War II. But these will always be copies and imitations,

a uniform re-creation from a particular moment in the life of the city and each building. Historically significant buildings that are regarded as part of the heritage of nations or peoples have also been relocated, sometimes purchased from Europe and transported to settler colonial nations such as the United States, Canada or Australia. For example, the Georgian-era London Bridge was acquired for a river crossing in Arizona. Cloisters from European medieval monasteries have been removed to Philadelphia and Miami. The home of the parents of English explorer and navigator Captain James Cook was moved from Yorkshire in England to Naarm/Melbourne, Australia (a place Cook never went). In each case the building, bridge or architectural ensemble was regarded at the time as connected to the heritage of a region or nation thousands of miles from the places where they had originally been constructed or erected. Today, this strikes us as odd, even inauthentic, highlighting the fact that what we regard as heritage changes over time as do our ideas about what constitutes authentic conservation practice.

Cultural Significance

The values-based approach to heritage of the Australian ICOMOS Charter for Places of Cultural Significance (Australia 2013), better known as the *Burra Charter*, defines 'cultural significance' in Article 1.2 as aesthetic, historic, scientific, social or spiritual value for past, present or future generations.

Cultural significance is embodied in the *place* itself, its *fabric*, *setting*, *use, associations, meanings, records, related places* and *related objects*.

Places may have a range of values for different individuals or groups.

6.2.2 Lists, Inclusivity, Cultural Difference

The contemporary model of identifying heritage and inscribing it on a list is a pervasive and an almost unquestioned tool of heritage protection. But it is not necessarily the best or only way to protect heritage in a way that accords with critical ideas about cultural heritage and the historic environment. Certainly, some advocates of earlier decades believed that a comprehensive heritage list of every place worthy of preservation could be produced, and anything else could simply be demolished at no great loss. Monuments of the past – tied to empire, nation, city and religion – were the traditional remit for heritage lists. A parliament building or cathedral, for instance, would be unproblematically conserved in this reading. Architectural connoisseurship, the protection of the aesthetically finest and remarkable buildings of the past, is no longer the only guide for how heritage is conserved in cities. Since the 'heroic period of conservation', the potential remit of heritage lists has exploded in scope and scale. Residential neighbourhoods, industrial areas, vernacular sites, everyday places can all be considered kinds of urban heritage.

As community expectations and demands of heritage have expanded, and the management of heritage has become systematised, it is now recognised that lists are never able to serve the function of capturing urban heritage in its totality. Being on a heritage list does not guarantee the way that a place is conserved will feel right to

the whole community, nor that the place won't ultimately be demolished. With a stroke of a pen, lists can be changed. With some creativity, heritage listings can be undermined. As heritage is always about and for people, it is always contested and political: it is a claim by people to a place which they believe is important, over property which they are unlikely to have direct ownership, typically involving physical intervention into a built structure or urban landscape. The political, economic and tangible basis for heritage claims can always be investigated.

A familiar building might represent a previous era of urban development and civic and community life. The town halls and municipal chambers of nineteenth-century Victorian-era cities – such as Manchester, Naarm/Melbourne or Tiohtià:ke/Montreal – are often remarkable for their architecture, and also remind us of a heyday of municipal or urban governance. Grand railway stations were built by railway barons and private speculators in the nineteenth and early twentieth centuries in cities such as London, New York and Istanbul as a form of public space and transit nodes for people and goods. A historical legacy is that the criteria used for heritage listing tends to prioritise grand monumental architecture. This is a legacy of systems of designation which perceived heritage as a mode of celebration in service of city and nation. Places were to be physically conserved as much for their architecture as for their important symbolic or historic role in representing and embodying nationhood and expressing civic pride. But such practices privilege the architectural preferences and historical narratives preferred by those with power. The everyday or less exceptional places, those related to less powerful or minority groups, are often overlooked or preserved only in part, as the last section to this chapter explores. In addition, the ways of safeguarding places changes when dealing with, for instance, monumental architecture as compared to a heritage neighbourhood.

6.2.3 Communities and Experts

Contemporary heritage approaches often strive to put the community front-and-centre in heritage management. Yet, we also need to ask who is included and who is excluded from any definition of "the community" and who is nominated to speak for it? When the Australian Government identified the 'national estate' in 1974 as 'the things we want to keep', it proposed a definition for heritage which was deceptively simple. What are 'the things'? Do we always 'want' to keep 'the things'? Or do we sometimes feel obliged as a society to keep certain places? For instance, dark and traumatic heritage places – such as colonial massacre sites or concentration camps – are often conserved for reasons of memorialisation and remembrance. Finally, who is the 'we'? The community is really a set of overlapping groups with differing interests and varying aspirations for the city. For instance, sections of the community, particularly architects and designers, increasingly admire architecture from the latter decades of the twentieth century such as brutalism and postmodernism. Yet, the physical properties of form, material and colour, which characterised these respective architectures, are not necessarily universally admired by a wider cross-section of the public. The sheer ubiquity of, say, late-nineteenth-century terrace housing or early-twentieth-century detached cottages, combined with the fact that each home is typically owned by a different person, makes it difficult to suggest

exactly which residential conservation areas must be kept intact, or precisely how much physical change should be allowed. Even within groups that are relatively homogenous, statistically speaking, opinions differ markedly about what is valuable and why. Such differences are amplified once more notable differences of class and cultural background are also recognised.

One common assumption is that taste and appreciation for certain buildings, places or styles of architecture shift over time, and so it arguably becomes the responsibility of heritage conservation professionals and advocates to be ahead of public opinion in identifying and protecting urban heritage. A general principle exists that within a class of architecture – whether by period, by style, by purpose or by architect – a representative sample of works should be heritage protected. Placing boundaries around these classes as well as responses to a particular class of architecture always poses challenges. Some generations might admire fine nineteenth-century Victorian lace ironwork, fronting uniform terrace houses from street-to-street and suburb-to-suburb. Others could prefer the opulence and grandeur of Art Deco or the clean and functional spaces of mid-century modern architecture. Given that consensus about what should be saved and that which should be demolished rarely occurs, urban heritage will always generate feelings of nostalgia, frustration, sadness and loss; along with happiness and pleasure when important places for particular groups are retained or lost amid waves of urban change.

Heritage professionals are responsible for managing historic environments on behalf of the wider community. However, as in many professions, heritage professionals are not elected and nor are they necessarily representative of the wider community. They are a self-selected group with an interest in heritage. Often, they will only be engaged to conduct a heritage assessment or conserve a place when that place is to be transformed. Heritage professionals work for clients, often the owners of the place who may be seeking to change it. Owners may seek to maximise the economic value of their properties, or simply want flexibility to adapt the layout of an older building for how it might work best for them, while having little concern for the latest heritage and design practices. Some heritage professionals work within government departments and are responsible for administrating heritage laws and policies. The heritage system in many contexts is adversarial, with better-resourced players able to muster arguments to suit their position on the future of the historic environment. Within this heritage system there can be little opportunity for community views to be canvassed. Instead, expert stewardship of urban heritage prevails over a more holistic or collective mode for shaping urban heritage.

6.2.4 Universal Values Versus Local Enjoyment (Tourism)

Access to urban heritage is becoming a challenge. Much urban heritage is not necessarily publicly owned nor publicly accessible. Even when historic cities or areas can theoretically be reached by anybody, these cities and areas may be overwhelmed by the number of visitors to them. Mass tourism is one of the biggest challenges facing urban heritage. As the global middle classes grow in number (Staiff et al. 2013), travel becomes more widespread and affordable, and visiting historic places

becomes increasingly desirable, urban heritage and the local communities to which it belongs can become threatened in the process. Community ties become unbound and social cohesion can be diminished as the economic drivers and social patterns of familiar places are transformed in the interests of serving visitors (Ashworth and Larkham 1994). Old Quebec, for example, is a creation of the post-war era, an assemblage of buildings that were re-constructed to emphasise the city's French lineages for residents of and visitors to that city. At what point might a city or place have to refuse people access to heritage as it becomes unsafe or threatens the quality of life and of the environment connected with the places that people are so anxious to see and experience? What about when the local community itself is dependent on tourism for their economy and livelihoods?

Local communities may find themselves overwhelmed by growing numbers of tourists, unable to navigate or enjoy their own city or traditional neighbourhood. Heritage tourism has the potential to boost a local economy and produce necessary investment. But there is a point at which the costs of tourism outweigh the benefits accrued. A tipping point is arguably being observed across the world and particularly in popular and iconic European cities (Gravari-Barbas and Guinand 2018). In historic centres such as Barcelona and Amsterdam, services targeted at tourists such as hotels, restaurants and souvenir stores have crowded out regular housing, ordinary cafes, and basics such as laundromats and newsstands. The noise and traffic produced by tourists make inner urban neighbourhoods unbearable for locals who are priced out or no longer have a desire to live in the historic districts of their own city. Residents are finding themselves pushed out of the historic cores of cities and shifting to less historical and more suburban areas. Yet it may well have been those residents and their forbears who had made the city what it is today. In Venice and Dubrovnik, moreover, cruise ships are bringing more people and pollution than these fragile waterborne cities can handle. Each morning, thousands of tourists flood into Venice, overwhelming the city. Along with mass air travel, cruise ships are an exceptionally ecologically unfriendly form of transit which cause damage to heritage cities. In these cases, locals are therefore unable to enjoy their cities any longer, particularly during summer peak periods, and critics have argued that the social, economic and environmental costs of tourism are too great and are damaging heritage cities.

Similar problems have beset Asian cities in recent decades (Daly and Winter 2012; Byrne 2014). Many cities have transformed historic warehouse districts into contemporary art precincts or traditional neighbourhood areas into tourist accommodation. During urban regeneration projects, Chinese Hutongs, or historic laneways, are either entirely demolished or heavily restored, and longstanding communities are then required to make way for tourist services. In Singapore, historic areas are roofed and enclosed, and the historic fabric becomes reused for restaurants and hawker stalls, again targeted at tourists. The historic trading port city of Hoi An in Vietnam possibly has the highest concentration of tailors of any city in the world, a number that has burgeoned under the influence of mass tourism. The rapid growth of middle-class tourism in Asia has reshaped heritage cities and places there. In Asia, officially designated urban heritage, in the form of historic districts, villages and gardens, is often set aside from daily life, to be looked at and used for tourism, rather than something that is incorporated into the everyday life of cities.

6.2.5 Gentrification (Social Continuity Versus Renewal)

As with tourism, the increased attraction of heritage can lead to the displacement of existing communities over decades and generations.

> Gentrification refers to specific social and economic processes of displacement, whereby existing residents are unable to live in or access areas of cities that formerly belonged to them.

Heritage and gentrification are bound because it has often been declining inner-city neighbourhoods and former industrial warehouse districts which have been re-appropriated. The gentrification process begins with artists, students and squatters appropriating disused and abandoned spaces, taking advantage of low or no rents and savouring the dilapidated character and age of their surrounds. Then, wealthier groups such as young professionals move into the area, attracted both to the character of the area and its newfound creative credential, eventually not only displacing the older communities but also the newer arrivals.

The rediscovery of the value of inner urban areas began across North America, Australasia and Europe in the 1960s. Once poor and delipidated areas were reimbued with fresh social, economic and aesthetic values ascribed to them. Socially, existing communities end up leaving, and wealthier communities move into these areas. Economically, not only do property prices increase, but hospitality and service establishments change in service of the new clientele. A commodity product like coffee becomes a speciality offering. Aesthetically, houses are restored: interiors repurposed, extensions added, and facades updated to reflect contemporary tastes; factories and warehouses are converted into attractive apartment complexes; posh restaurants and wine bars open alongside boutiques and art galleries. Existing residents who owned their properties or have rent caps may choose to stay, retaining a sense of social diversity, while others will be forced to move to less desirable, less geographically central, and less historical areas.

Heritage is caught in the crosshairs of processes of gentrification because it is historic environments that have often been re-valued and re-appropriated in service of the changing city. So long as the inner-city areas were not demolished as part of earlier modernisation agendas, typical urban morphology means these areas will be among the oldest parts of cities. In other words, following the foundation of a city, the neighbourhoods closest to a city centre would generally have been those which were established first and so contain concentrations of older buildings. Before the establishment of public transport (such as railways and tramways) and roads for private vehicles, people travelled shorter distances between home and work, home and family, home and shops, home and school, and home and church. As a result, older areas were designed to be denser and serve mixed functions including residential, shopping and hospitality and small-scale manufacturing. As sections of the community in North America and Australiasia have sought alternative forms of living than low-density suburbia, inner-city areas which have historical depth, varied functions and are now aesthetically pleasing have become increasingly desirable. But gentrification generates challenges for historic neighbourhoods in the context of redevelopment and

renewal. The cumulative impacts of social and physical change to heritage areas fundamentally changes its nature and feel, irrespective of the quality of conservation work. Communities expect to be involved in and to have access to heritage. Yet people often do not recognise what is important to them until it is no longer available to them.

6.3 Critical Urban Heritage

Heritage is never simply given, something we can discover in a particular city. It is something we do; it is an active intervention in the environment or claim we make upon the legacy of the past. When made successfully, those claims produce or consolidate certain ideas about the environment and the value of the past (Fairclough et al. 2008). As such there is no neutral way of preserving heritage – preserving heritage is a contested and political process. Every historic town or city, heritage area, historic precinct or district is a consequence of an individual or organised group perceiving values connected with an urban place and nominating that place as heritage. A heritage *nomination*, as the word suggests, means, very simply, to name a place as historic, as heritage. Of course, the power to name something as heritage is an unevenly distributed resource. Those with the power to shape the planning and heritage protection system, those who can afford paid legal representation, and those credentialed by institutions as the experts and authorities on heritage generally occupy a privileged position and are able to shape the scope and meaning of what we call heritage and how we manage what we call heritage. It is less clear how others who do not enjoy those privileges can exercise their views. As a consequence, as the power of the heritage conservation movement has grown over the past fifty years, so have critical voices. While heritage advocates have usually depicted their efforts as representing the voice of the people against the power of greedy developers or insensitive governments, critics of urban heritage processes have painted a quite different picture, sometimes accusing neighbourhood preservation groups of elitism and enforcing exclusionary policies and fostering gentrification (Logan 2017).

The sources of criticism aimed at the official heritage system globally have been many and varied during the past few decades. Some critics have taken aim at the core intellectual assumptions of urban heritage, while others have contested the internationally prescribed processes and their implicit cultural biases. In 1992, the American urban and architectural scholar Spiro Kostof highlighted the centrality of change and process rather than fixed images or forms as the fundamental nature of cities. Around the same time, Japanese conservation specialists challenged the focus of the international conservation movement on its apparent obsession with the value of original building fabric and the retention of materials as the ultimate test of cultural authenticity. The Japanese saw an obvious Eurocentrism in this focus on material survival. Criticism such as this has altered the way international conservation organisations deploy the concept of authenticity in the heritage conservation field, opening it up to a greater range of criteria than simply whether the same stones are in place as when a building or place was originally created.

In the 2000s, a growing cohort of heritage-focused archaeologists and critical social scientists have entered the field under the banner of critical heritage studies. Many of its proponents have argued for an increased focus on the diversity of human

experience in relation to heritage places (Smith 2006). One of the ways to achieve this, they argue, is by adopting a more open and less prescriptive or expert-driven approach to managing and interpreting those places. The field of cultural heritage as a whole has taken up this challenge with great seriousness of purpose. But questions remain about how meaningful or achievable this reorientation away from expert stewardship will be. Whose voice is heard in community consultation processes? Are co-design, community participation and non-expert input more than just buzzwords? For such ideas to become meaningful not only will experts have to cede some authority to different voices, but owners and governments will have to design and financially support mechanisms of engagement that go beyond "business-as-usual" process.

Finally, architectural and urban critics have recently lambasted the proliferation of UNESCO world heritage designations in European cities for their apparently deadening impact on the life of those places. Far from protecting places, they charge that UNESCO inscriptions are actually a form of urbanicide – city killing. Like Kostof in the 1990s, more recent critics perceived dynamism and change as the very substance of urban vitality and authentic urban experience and the urban heritage ethic, especially World Heritage inscription as an embalming process, inimical to the process of change that might otherwise unfold.

Experts in the field have responded to this view by challenging the international conservation movement to find more subtle and adaptive urban heritage tools. In recent years, UNESCO has championed a new approach that they call Historic Urban Landscapes (HUL). One of the key proponents Francesco Bandarin has argued that there are two prevailing ideas of urban heritage, one represented by the Italian city of Venice, the other the Indian city of Varanasi. Venice is a magnificent example of protected urban fabric but has a diminishing local population with an increasingly narrow economic base. Varanasi on the other hand is an exemplar of living or intangible heritage. It supports a rich calendar of festivals and is a place of huge significance for Hindus. The physical fabric is thus much less important. But the city is beset by problems of over-development and the pressures that its living heritage place on daily life and sound urban governance are formidable.

For Bandarin and other proponents of the Historic Urban Landscapes approach to urban heritage, the value of both Venice and its fabric and Varanasi and its living heritage must be recognised and managed. But the ultimate challenge is to find ways of linking living culture and the aspirations of people to the shape and fabric of valued urban landscapes. Protecting one should only be canvassed if it can support the other or at least minimise the negative impacts on the other. Striking a balance is vital, but that is much easier to say than it is to achieve.

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Mobile Cities

7

Nina Verzosa and Crystal Legacy

Abstract

This chapter provides a discussion of critical questions surrounding mobile cities. What is a mobile city? How is it formed? Who shapes it and who benefits from it? The chapter starts with a definition of a mobile city, then discusses the three key planning processes that emerged since the mid-twentieth century and how these processes have prevailed or shifted in recent times. The three key planning processes are (1) rational-technical planning, (2) sustainability planning and (3) social justice planning. The chapter explores the role of planners as they redefine the highly contested understanding of public interest while navigating major transportation projects and policies. The chapter concludes by examining what new challenges await planners as the future of urban mobility is shaped by digitally mediated transportation solutions.

7.1 Understanding Mobile Cities

This chapter synthesizes how evolving transportation planning processes shape modern cities. The chapter starts with a discussion of a selection of key processes that have shaped what might be described as transport planning as a practice and as a concept. There are numerous bodies of work detailing the political dimensions of transport planning: mobility (in-)justice (Sheller 2018), ideological and spatial tensions relating to transport and mobility futures (Walks 2015; Martens 2016) and post-politics of the transport institution (Legacy 2016). These diverse ways of

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knowing the transport or mobility 'problem' have been explored across a range of intersecting disciplines that include, for instance, transport studies, urban studies, public administration, geography and sociology.

In this chapter, we engage specifically with ideas about mobility generated from transport planning, a sub-discipline of urban planning. Through this lens, we consider how the practice of transport planning has contributed to the creation of certain kinds of mobile cities, and by extension, different urban experiences for people who live in complex city regions such as those in Australia. Taking Australian cities, namely Naarm/Melbourne and Noongar/Perth as case examples, we explore the role of urban planners as they navigate the complexities of transport planning as they take shape in our cities.

It is necessary to note that the experience of transport and mobility in the Australian cities we examine in this chapter are not universal to all global cities. Australian cities are somewhat unique in that they have an indigenous and colonial history (similar to New Zealand, the United States and Canada); the urban centres of the capital cities are relatively compact compared to their car-dependent and low-density suburbs (similar to many North American cities); and much of the Australian population resides in one of the six large capital cities. Important lessons can be generated by looking at transport planning using Australian cities and regions as case illustrations of the complexity of transport planning both as a public policy issue and as an instrument of government that responds to the mobility needs of people.

In this chapter, we explore three intersecting processes and ways of thinking about transport planning that have helped shape it. They are (1) rational-technocratic planning, (2) sustainable transport planning and (3) social justice in transport planning. We explain these three processes before we turn to a critical discussion about their impacts on mobile cities. We then conclude the chapter by examining the emerging challenges awaiting urban and regional transport planning as the future of urban mobility is shaped by digitally mediated transportation technologies.

7.2 Key Debates in Mobile Cities

7.2.1 What Is a Mobile City? Introducing Three Intersecting Concepts

A mobile city could be described as one that allows its inhabitants to move freely around the city, when, where and how they choose. As described in this section, a mobile city is one centred on the principles of integration, accessibility, fairness, ecological sustainability and spatial equity. It ensures the efficient flow of people and goods is achieved through integrated planning of different land uses and transport modes and systems. Likewise, the activities within cities warrant the investment and maintenance of transportation networks. Hence, transportation is often referred to as a *derived demand* because it is generated indirectly from a demand for opportunities and services offered within and across cities (Martínez 1995).

Delivering quality transport networks cannot be left solely to the market to deliver, although increasingly market actors are playing key roles in the planning and delivery of urban transport infrastructure (Neutze 1995; O'Neill 2017). In the past, a state government would lead the delivery of infrastructure with other agents (i.e., businesses, non-profit, other governments, citizens, etc.) who would assist in designing a transportation network. The government would be planning to support the existing needs of the city and to strategically shape the future city and region. However, transport planning as a government-led practice has shifted in recent decades towards a more networked model whereby transport expertise is contracted out to large consultancies, community participation is highly formalised (Legacy 2017) and the delivery and management of transport infrastructure and systems is fragmented (Dodson 2009). Below we examine three selected *ways of doing* and *ways of understanding* the practices and processes of transport planning. These were selected as they have contributed to large-scale structural shifts in the way transport planning is understood and practiced in cities such as those found in Australia.

7.2.2 Rational-Technical Planning

Transport planning is a technical practice that relies on the use of evidence to form decisions about infrastructure provision and the establishment of transport networks. Shaping this practice has been the application of the neoclassical economic framework in the form of "predict and provide" evidence-based modelling. "Predict and provide" responding to the growing spatial demands of private automobiles at the onset of the twentieth century. In North America and in Australia, the post–World War II economic prosperity along with the mass production of automobiles paved the way for the mainstream use of cars among the burgeoning middle-income households, with automobile ownership exponentially increasing from 8,000 registrations in 1900 to over 40 million in 1950 (Federal Highway Administration 2018). This increase in car volume delivered to cities *traffic congestion*, characterised by bumper to bumper queuing, lower speeds and longer travel times, and prefacing the support for the freeway movement in the mid-twentieth century. The promise of free mobility in the city during the height of the automobile era was starting to come under strain.

For some transport planners, traffic congestion reflects a limitation of an existing resource; simply put, the number of cars exceeds existing roadway capacity. To address this challenge, two pathways are often considered: to curb the demand for driving and increase roadway capacity. But with the market-led automobile boom in the twentieth century gaining momentum, the government response was to support its growth by constructing more roadways. Further justifying this stance is the assumption that individuals are rational beings who make predictable utility-maximizing mobility choices. The latter infers that an increase in disposable income and affordability of cars would lead individuals to choose driving over other alternatives as it offers shorter travel time at a lower cost. However, as

case studies examining the racialisation of space in American cities, and spatial disadvantage in North American and Australian cities would show, access to good quality alternatives to the car, jobs and services was not equally shared by all people in cities (Lipsitz 2007). While individual consumption of cars ostensibly afforded individuals intangible benefits such as freedom, speed and success that improve their perceived social status, which, as argued by Urry (2004), is one of the primary components that contribute to the continued dominance of automobiles, this was not true for all people. Equally, the motorway infrastructure required to service this freedom of mobility also led to the dividing of communities as these large physical structures would create impediments to pedestrian movement (Hamilton-Baillie 2004).

Governments commissioned experts – at first, composed of mostly engineers and architects – to hash out the technical intricacies sealing the role of planners as *technocrats.* In this role, planners adopted the *rational planning model,* a five-step approach (Taylor 1998) in addressing planning issues by (1) identifying the problem, (2) assessing multiple alternatives, (3) deciding about a course of action, (4) implementing the selecting plan, and (5) monitoring and evaluating the impact of the plan. Thus, leading to the establishment of a "science of transportation planning" (Brown 2006). A classic example is the massive roadway projects in New York at the onset of the 1930s, displacing greenways and tearing neighbourhoods apart along the way. Remnants of these projects are still evident today, marked by the concrete jungle that New York has become, and social inequity brought about by years of segregation and neighbourhood disintegration (Roulier 2017). In these projects, the technical experts utilize quantitative techniques in the specification of design and evaluation of alternatives, often culminating with the publication of an actionable technical report and implementation of a plan. Citizens who will be impacted by the plans were often left out in the planning process, typically limited to vote on a solution that has already been vetted and put forward by the "planning experts" (Olmsted et al. 1924) or, worse, omitted in the planning process entirely (Miller 2015). This is an example of the practice of *top-down planning*, the rationale is that the experts know best and that their actions and decisions, regardless of its lack of transparency, could be justified by the projects' estimated economic benefits, which will trickle down across the socio-economic spectrum. This practice displaced the political voice of the public who were driven by concerns around access, equity and fairness surrounding mobility (See also Chap. 8).

The combination of physical determinism and exclusive planning governance in the rational-technocratic planning process offers a myopic, instrumental, economics-focused understanding of public interest that has had long-lasting socio-spatial and environmental impacts. Its legacy, the freeway movement, has resulted to urban sprawl, segregation (Graham 2018) and more traffic congestion (Downs 2005), problems that we continue to encounter in the present day. For an exploration of the changes to urban form and further discussion for the reasons behind it, we recommend Chaps. 3 and 4.

Physical Determinism
Physical determinism refers to the provision of physical infrastructure as either a response to an urban issue or as a means to mould the flow of urban interactions.

7.2.3 Sustainability in Planning

Sustainability planning rose in prominence in the mid-1980s to the early 1990s as a response to the effects of the untenable outward growth of cities resulting in car dependency. The environmental impacts of unfettered travel using the private automobile in terms of land taken up by cars (e.g., parking), energy and resources needed to facilitate that movement in the form of roads, and a growing concern about the greenhouse gas (GHG) emissions generated by the transport sector. The sustainability turn was about placing the impacts to our environment at the forefront in our thinking about the planning of cities.

At the centre of this shift was the integration of land use and transport to manage urban growth in a way that would adhere to the classic definition of sustainability, which encompasses policies and developments that "meet the needs of the present without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development 1987). This tradition served as a juncture between the rational-technocratic and social justice traditions by seeking to design transportation systems in a way that integrates land use with transport. It was also at this time that ideas around collaborative planning (Healey 1997) emerged in response to the limits of expert-led and top-down approaches to planning. Collaborative planning would see urban planners engage with people as an integral part of planning processes presenting as a more inclusive model of planning involving a range of stakeholders and citizens. Inclusive and deliberative planning would form part of what is necessary in planning to support sustainability; ostensibly, it would support responses to the experiences and different ways of knowing the city and mobility. The *pillars of sustainability* (Kennedy et al. 2005) recognise the role that economics and social justice play in pursuing a more sustainable outcome for transport. Hence, shifting the focus from car-centric policies to socially and environmentally conscious transit- and neighbourhood-oriented transportation solutions.

New Urbanism
New urbanism is a planning movement that promotes sustainable living marked by compact and walkable development that facilitates neighbourhood-level social interactions.

Emerging from ideas surrounding sustainability is the concept of new urbanism, a design movement that offers an alternative to car-oriented design advanced in the twentieth century. New urbanist developments are characterized by compact, mixed-use and mixed-income areas (Trudeau 2013) that are walkable and connected through a traditional neighbourhood structure (Grant 2005). Its physical design is not merely seen to satisfy demand but rather to integrate transport and land use to reduce the carbon footprint of motorization by achieving higher levels of density and to move away from detached low-density developments along and around freeways (Newman and Kenworthy 1996). In effect, improving the local environment and supporting less localized automobile dependency. The new urbanism movement has roots in North America but has a large following around the world, including in Australia with examples such as Kelvin Grove Urban Village in Brisbane and Beacon Cove in Naarm/Melbourne. Despite its advantages, it has its limitations, which are highlighted in the Seaside, FL, case study (see Example 7.1).

Example 7.1 New urbanist development in Seaside, FL, USA

The first documented new urbanism development is Seaside, a beachfront community on the Florida panhandle. Seaside's planning and development are unique because it is an 80-acre privately owned land, which allowed the developer to have autonomy over zoning codes (Jacobsen 2012). The founder of Seaside, Robert Davis, commissioned architects/urban planners Andres Duany and Elizabeth Plater-Zyberk to envision a plan for the property. The planning process involved a participatory activity called a charrette where various stakeholders – regulation agencies, impacted residents and interest groups – were invited to learn about the development and were given the opportunity to make recommendations on how to enhance the design and implementation of the plan. Although the Seaside development upholds the design principles it has set and includes an inclusive planning process, there were setbacks in curbing motorized traffic in the area. Seaside itself is designed to reduce car dependency, but the primary mode in and out of the development remains to be a private car. This is due to the lack of diversity in the type of work available in the area, often limited to the service industry. The nearest city, Panama City, is at least 40 minutes away and public transport is not available to connect the two areas. Furthermore, despite efforts for it to be a mixed-income community, Seaside has remained economically and racially homogenous (Marcuse 2000; Grant 2005). ◄

As these Western democratic cities grew, and questions about the limits of this growth mounted, transport planning underwent a sustainability 'turn' in the 1990s led by through the work of Newman and Kenworthy (1999). By examining case study cities from around the world including Asia, Europe, North America and Australia, they were able to show a relationship existing between urban density and high-performing transport systems: the more people concentrated into a part of the city can support the delivery of high-quality and higher frequency transport.

Transit-Oriented Development
Transit-Oriented Development is a system of interconnected mixed-used and high-density developments linked through an accessible public transport system.

But this focus on city design failed to consider the role of urban governance. In drawing the question of governance to the foreground, Paul Mees argued that transport network governance had much to contribute to the production of high-quality public transport systems through the practice of planning transport systems as a network of modes (see Mees 2000, 2010). The examination of cities from regions such as Europe and few from Asia, and a selection of cities from North America such as Toronto, Vancouver and Portland, the mobile city would be understood as one that facilitates integration between transportation modes (which are integrated) with land use planning: this integration is coordinated through transport governance that takes on the strategic and coordinative aspects required to achieve high-level integration with public transport and active transport at the centre of its design (Mees 2010). In Australia, the orthodoxy became one of *transit-oriented development (TOD),* or land-use transport integration (LUTI), which supported the development of activity centre policies (Department of Infrastructure 2002), poly-centric cities (Western Australian Planning Commission 2004), and 20-minute city policies (Victoria State Government 2017). The idea of integration has international purchase, and it has become a key concept in urban planning, particularly in Western countries.

The concept of TOD extends the design principles of new urbanism by connecting several TOD areas to the Central Business District by public transport. TOD has been described as "a compact, mixed-use community, centered around a transit station…[that] connects residents to the rest of the region" (Bernick and Cervero 1997, p. 5) and is characterized by the *5 Ds*: density, diversity (mixed land use), design (emphasis on connected, sustainable modes of transport), destination (accessibility) and distance to transport (Ewing and Cervero 2010). TOD does not occur in a silo, both in its physical design and the planning process involved. A TOD village is designed for non-motorized traffic but is linked with other neighbourhoods and the central business district through efficient public transport. Thus, curbing dependency on private cars (Calthorpe 1993). Unlike new urbanism, which is often market-led, TOD, when government-led, can involve multiple stakeholders – government, citizens and the market. The delicate dynamics among these actors pose challenges surrounding the governance and implementation of an effective TOD. Some of these challenges are featured below in the Noongar/Perth, Western Australia, case study (See Example 7.2).

Example 7.2 Transit-oriented development in Perth, Western Australia

Noongar/Perth, the largest city in Western Australia, has been acknowledged as one of the early adopters of land use transport integration (LUTI) principles with the 1955 Plan, but it was not until the launch of the 'Network City' metropolitan

planning strategy in 2004 that it has been effectively implemented. Curtis (2009) argues that the there are two primary differences between earlier LUTI strategies and the Network City. First is the expansion of government involvement from local to regional. Acknowledging that development is not an isolated issue but rather a network problem, statutory policies should be made regionally with consistent blanket applications across new development for the project to reach its targeted goal. Secondly, strategic planning is collaborative encompassing dialogue and input from impacted citizens. These two qualities of the Network City strategic plan are evident in the Subi Centro TOD project in Subiaco, Noongar/Perth. The Subi Centro development was led by the Subiaco Redevelopment Authority (SRA) whose creation was approved and initially funded by the State Parliament in 1994. The local government of Subiaco deferred to the SRA on the condition that public input be considered in the consultation process. While the project received funding from private agencies, it has been recognized as primarily a state government initiative (Howe et al. 2009). These qualities contributed to the perceived success of the development. However, while the project has resulted in better pedestrian and transit accessibility, the car still remains the main mode of transport by residents (Griffiths and Curtis 2017). The development has also resulted in a spike in land prices (Howe et al. 2009), which is agreeable economically but could have unintended consequences including displacing lower-income groups. ◄

The Seaside and Noongar/Perth examples underscore the dichotomy in the theory and practice of the sustainable planning tradition. On the one hand, ostensibly it provides promising headway in improving accessibility and promoting sustainable modes of transport. On the other hand, it also highlights the importance of governance to secure a reduction in car use, and land use intensification around transport nodes, and enact regulations to protect affordability and to avoid the displacement of more vulnerable peoples. For an exploration of the underlying urban design principles around these mobile city issues, please read Chap. 5.

7.2.4 Social Justice Planning

There was broad embrace of TOD in policy as observed in discussions about ‘activity centres’ and ‘20-minute cities’; however, questions were raised around how the integrating of land use and transport can create sustainable and just cities. In its implementation, displacement of vulnerable inhabitants became a risk requiring careful and thoughtful consideration to provide ongoing support for affordable places and homes (Smith 2002; Dawkins and Moeckel 2016). Concerns about displacement of existing residents broadened the scope for sustainability to engage more directly with issues of spatial equity and justice. For Martens (2016) as well as Curtis (2008) and Curtis and Scheurer (2010) the mobile city needed to be spatially just and ecologically sustainable. The accessible and mobile city is achieved by moving away from mobility as the management of time and space (the time it

takes someone to arrive at their desired destination) towards accessibility, which is about planning cities so that inhabitants are provided with transport choice across a range of mode types (heavy rail, light rail, buses, active transport and cars), and that these modes give access to a range of services, jobs and other destinations.

Social justice planning materializes as an antithesis to the other planning traditions' lower regard for socio-economic inclusiveness. Concerns about the lack of transparency of the transport planning process, which has been seen most acutely in the planning for inner-city toll roads in the Australian cities of Naarm/Melbourne and Djubuguli/Sydney, undermine social justice. This lack of transparency is generated by concerns of protecting commercial and private sector interests, including intellectual property. With the growing use of market-led proposal schemes that allow private sector actors to propose infrastructure projects, it creates an interesting problem that impacts on serving the public interest in planning, as well as ensuring that transport infrastructure is used to serve those who have poor mobility in terms of being to access the city. Unlike the rational-technocratic processes, social justice thinking gives more weight towards a pluralistic cause, recognising also that transport planning is contested, thereby working towards social and spatial equity rather than simply the economic benefits of the few. Instead, planners use their expertise to advocate for the rights of underrepresented or disadvantaged groups (advocacy planning), while in other cases, the planners are immersed within the communities they serve (grassroots planning).

Advocacy Planning
Advocacy planning occurs when trained planners act on behalf of a group of people or locals whose interests are at stake in a proposed planning project.

Top-Down Planning
Top-down planning occurs when trained planners and government agents make policies and decisions to address urban planning issues, typically without consulting the public or concerned citizens.

The concept of *advocacy planning* was first proposed by Paul Davidoff in a 1965 article to counteract purely technocratic planning (Davidoff 1965). Technocrats in a typical *top-down planning* approach assume that the impacts of city and transportation projects are uniform across socio-demographic groups. Advocacy planning corrects this assumption by ensuring that the needs of unrepresented and disadvantaged groups are heard. To accomplish this, trained planners both in the public and private sector are equipped with an understanding of planning techniques and knowledge of the political jurisdictions, and they partner with communities who are impacted by major city and transportation projects but who have neither the resources nor planning acumen to be able to provide input to the decision-making process on their own.

Grassroots Planning
Grassroots planning refers to the mobilization of the public or concerned citizens as a response to a politically charged planning proposal or as a means to directly take charge in addressing a planning-related issue that is afflicting the community.

While advocacy planning still has a dash of technocracy with experts playing a central role albeit, on behalf of underrepresented groups and communities, *grassroots planning* is purely citizen-driven. Grassroots planning is a subset of *bottom-up planning* whereby the call for action and implementation of policies comes from the community itself. A classic example features the saga of two formidable figures in American city planning – Jane Jacobs and Robert Moses. Their feud started in the mid-1950s and lasted for decades. In the end, the Committee to Save the West Village (include state and country) comprised of residents with no previous planning experience and which is led by Jacobs, a resident and journalist by trade, who successfully stopped the construction of the Lower Manhattan Expressway across the Washington Square Park. Similar movements have occurred in Australia in recent years, protesting proposed inner-city motorways (Legacy et al. 2017) and TOD (Zhou 2017) projects that have a tremendous impact on neighbourhood composition and vibrancy.

Social justice planning deviates from the physical determinism of the rational and sustainable planning traditions by shifting the focus on the process and outcome, including the processes by which plans and decisions are made, and the just or injustice of the outcomes those processes and decisions produce. While in concept we can see some evidence of social planning in the rhetoric around 'inclusive cities', for instance, the extent to which we can point to examples in place of social transport planning are left wanting, more work needs to be done! Where there are some examples of progress in the area of placemaking, instead of the mere provision of transportation infrastructure to meet demands for car use or redevelopment, transport planning is being used as a platform to nurture spaces and places for people to be in. Its main goal is to ensure equity in the implementation of transportation projects through an inclusive and sensitive approach that embeds history, culture and future aspirations. The tenets of social justice planning are aspirational, but the feasibility of an inclusive planning process remains at odds with other dominant frameworks of planning governance, continuously challenging the planning and political autonomy of citizens to initiate action.

7.3 Critical Study of Mobile Cities

This section situates the study of mobile cities into a more critical space of engagement. This is done by bringing the planning of transport systems into conversation with question of justice, as discussed above.

Transport planning has evolved since the days of modernist planning in the mid-twentieth century. In recent decades, neoliberal orthodoxy of competition, privatisation, efficiency and austerity governance have underpinned a shift in who is doing the planning of contemporary transport systems. There has been a shift from transport planning and the delivery of transport infrastructure being the sole domain of governments into a more hybridised model where private and public sector actors work in partnership. These partnerships come in many different forms of privatisation ranging from outsourcing the delivery of a service while the assets (rail lines, carriages) remain in government ownership to full privatisation, although this is somewhat rarer in Australian cities (Ashmore et al. 2019).

Neoliberal orthodoxy has also significantly shaped the delivery of transport infrastructure. This is evident in the privatisation of public assets such as public housing, the operation of transport systems, and in the way citizen participation is organised into curated spaces that are highly formal with limits on what form of participation counts (Legacy 2017). This is an area of considerable concern as Australian cities seek to find ways to address population growth and the demands this growth is having on how people move around cities. It is worth noting that recent reports by Infrastructure Victoria (2018) question our current commitment to building new infrastructure. In their report, they challenge us to find ways of making existing infrastructure work more efficiently, a pathway that would see the link between transport and land use made ever stronger.

Despite these calls, the current approach is to build new infrastructure to address current transport challenges, and to generate new jobs. To maximise delivery, governments will employ the public-private partnership (PPPs) model, which is a form of managerial governance designed to draw on the efficiencies generated from within the private sector. PPPs are often used to support the building and financing of infrastructure, as well as its operation. While PPPs have been used as a delivery instrument, increasingly we are seeing public and private partnerships form in the planning for infrastructure, as see in the Victorian case of the West Gate Tunnel, a market-led proposed project that was unsolicited by government (Woodcock et al. 2017). Not only is this model purported to be a more efficient way of delivering complex and large-scale urban transport infrastructure, it also allows for the sharing of risk across these two sectors. Since the building of CityLink in Victoria in the 1990s, public-private partnerships have become widely used, even despite the cost overruns they can generate.

In more recent years, the introduction of market-led proposal schemes in NSW and Victoria have helped to expand the marketisation and privatisation of transport infrastructure into planning. Market-led proposal schemes enable (and invite) private sector actors to come forward with unsolicited transport proposals for government consideration. The government then considers these proposals and if they are deemed unique and of value (although how that value is determined must be brought into question), the proposal will be brought forward, and without testing the idea in the marketplace through a competitive tendering process, the project proponent will be invited to build the project (in partnership with government in the form of a PPP).

The rise of the private sector in the planning and delivery of transport and transport infrastructure is also being observed with the introduction of Uber and other sharing platforms and technologies that are disrupting the transport sector in new and interesting ways (Kent et al. 2017). With the rise of these sharing platforms and the anticipation of automated vehicles, mobility in cities will experience its largest and most significant transformation since the rise of the private automobile (Legacy et al. 2019). This raises significant questions for mobility and only a critical orientation will be able to expose the social, political and democratic impacts of new urban transport on cities and citizens. In particular, the relationship between transport planning and democracy are brought into focus when government decision-making is driven by market rationality rather than justice and ecological sustainability. The marketisation and privatisation of transport planning loses its democratic oversight when the stewards of transport planning must serve industry and shareholder interest above those of people. Ultimately, this raises a crucial question for people thinking about mobile cities, who is transport planning serving? To this end, it is necessary that we also ask who is doing transport planning and what ends (spatial, justice, environmental, economic, political, market) is this planning seeking to serve?

To conclude, cities are mobile places. They are places where people connect and thus require pathways and land use proximities to be created. Cities are also mobile because they are in a constant state of change, never fixed, and moving with changing aspirations for the city.

The mobile city must take into account the complexities of transport planning and be cognisant of the wider challenges to governance and democracy that allow us to meet the challenges these complexities introduce. A truly mobile city is a city made by its people, for people. But this very foundation is now eroding under the pressures of urbanisation, privatisation and advanced neoliberalism that are reshaping who is planning, and who benefits. As the future of urban mobility is likely to be more automated, and perhaps even more shared, how the decisions about this future get made needs to be brought into critical view. As the market continues to introduce new products into the market, and our governance systems increasingly become market-oriented, there is a need for planners to become advocates for social and ecological sustainability.

The three processes and ways of thinking about transport and mobility examined in the chapter – rational-technical, sustainability and social justice – provide a snapshot of how transport planning has evolved in Australia. The other challenge planners face is to be prepared to make the value judgements in the face of technological innovations in transport and mobility, and to engage widely with people about the future city and how this city will meet disparate needs without reproducing transport-generated inequality and injustices currently seen in planning today. But this will not be easy. Contemporary transport governance is designed to manage dissent, and to exclude people from the decisions that determine what infrastructure is prioritized and what parts of the city are most in need. Power and politics, as Flyvbjerg (1998) and many others since have argued, are what plan transport systems, not people. The challenge for the future generation of transport planners and urban scholars is to change this and to assert a more public purpose back into the planning of the mobile city.

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Public Cities

8

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Abstract

In this chapter we explore 'Public Cities', asking who the public is, how publics make claims for and of cities and how we can consider these claims in light of the built environment profession's commitments to justice and participatory governance. In particular, the chapter considers belonging, inclusion and exclusion from both the idea of 'the public' and public spaces themselves, and how these dynamics can be configured along racial, gendered, classed and even species lines. We propose an understanding of 'the public' as multiple, diverse, porous and shifting, and consider what this means for the design and governance of public space. Further, this chapter explores trends currently shaping 'public cities', including neoliberalism, commodification, securitisation, gentrification, neo-colonialism and the policing of public space, and outlines some of the ways that the production, use and governance of the public realm can reveal some of the key conflicts, tensions and possibilities of contemporary urbanism.

8.1 Understanding Public Cities

As built environment professionals, we are part of a range of forces shaping cities: we are involved in building them, maintaining them and managing them – one urban or architectural project at a time. When dealing with cities and urban processes,

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there are two particularly important questions to ask: who shapes cities and who are cities for? In urban studies, these questions are approached in a variety of ways, but it is generally understood that our profession has a role and responsibility towards 'the people', 'the public' and 'the public good' that goes beyond our contractual obligations to an employer or client.

In this chapter, we consider 'the public' in cities – who the public is (or are), public spaces and infrastructure, and the role of the public in producing urban space. The chapter explores the critical edge of these questions, and the power dynamics influencing not only the role of the public in cities, but in the constitution of both the public and the city. In order to understand public cities, we have to understand who the public is, and the way 'the public' (or rather, *publics*, plural) relate to and make claims *for* and *of* space in cities, and how these claims relate to broader questions about belonging, control and justice (also see Chap. 9). Broadly, this section will consider both the nature of the public in cities and the spaces of the city that are 'for' them (us!). Importantly, these are not settled matters; both parts of the term 'public cities' are contested.

Publics
Instead of thinking about 'the public' as singular, static or unified body, the term 'publics' is used to reflect the diversity and contradictions of communities. 'Publics' are multiple, so we have to be specific about who and what we mean by it (for a full discussion, see Bhandari 2006).

In the next section, we talk more about the concept of 'liberalism' and how it relates to how we think about ourselves as individual humans, but *neo*liberalism is worth defining early. In simple terms, 'neoliberalism' is an ideology that applies the logics of 'the market' to non-economic relations, systems and exchanges (Brown 2015). Although the rhetoric of neoliberalism often emphasises small government – the logic being that services typically provided by the government are better outsourced to the market, or privatised and commercialised entirely – in practice neoliberalism transforms the role of governments, but does not necessarily shrink them (Howlett et al. 2011; Brown 2015). Neoliberalism has fundamentally changed and diminished the public realm, so it's important to keep it in mind as we consider Public Cities. (See also Chap. 3).

Liberalism
Liberalism is a branch of philosophy and politics that emphasises individual liberties, and (negative) human rights. Liberalism also emphasises free market economies with a limited role for government regulation, and individual decision-making informed by rationality and self-interest (for a detailed discussion, see Forrester 2019).

8.1.1 Who Is 'the Public'?

So, who is 'the public'? 'The public' is one of those widely used phrases – alongside 'citizens' and 'the community' – that is often used without much reflection. Tonkiss (2005: 24) described 'community' as a shifting concept; "[d]ifficult to define, harder to observe and unvirtuous to reject, the idea of community opens itself to conservative or progressive uses even as it confuses the distinction between them". Public is similarly hard to define. Further, 'public space' also resists a simple, universal definition (Vigneswaran et al. 2017). A common meaning and common understanding of 'community' and 'the public' is often assumed, but it is important to critically reflect on who gets gathered up in a term like 'the public', who is excluded, and what that says about who cities are for. Who are we talking about when we talk about 'the public' in urban studies? Is the public an already constituted, relatively fixed and stable entity? Or is the public created and recreated as we engage with it? And under what terms might we deem it reasonable to exclude individuals from the category of 'the public', from public life and public cities?

When imagining 'the public' and the role of the people in politics and decision-making, 'the demos' is often invoked – the regular people, the citizens of Ancient Greece, who participated in democracy via public forums in public spaces – the *agora* (Sadik-Khan and Solomonow 2017). Public space, then, has long been considered the site in which citizenship is enacted (Vaughan 2016). Indeed, the term 'citizen' derives from *civitas,* Latin for 'city-state'. 'Citizen', as an identity, a system defining and organising belonging, and as a unit or category for political engagement, is etymologically and historically linked to city life (Isin 2008). Of course, romantic accounts of participatory democracy elide the fact that *citizenship* as a category is an exclusionary one; not all are allowed to claim or exercise citizenship in a particular place. For instance, in Ancient Greece women and slaves were not considered citizens and were not able to participate in democracy. There is a long tradition in Western thought (it is not universal) to conceptualise public life as a masculine activity, whereas the private and domestic are seen as feminine (Lyons 2007). It is beyond the scope of this chapter to interrogate the histories and spatial-political implications of the public/masculine versus private/feminine divide, or describe the substantial work by many philosophers, scholars and activists to contest this dichotomy; there are just a couple of key points to remember. Firstly, that the public/private dichotomy (gendered or otherwise), organises society, politics and space in particular ways. For instance, responsibilities and interests in urban governance tend to be divided between the 'public sector', that is, state-run organisations and services, and the 'private sector', which refers to profit-seeking businesses owned by individuals, groups and/or shareholders. Neoliberalism has troubled this divide to some degree by privatising or outsourcing infrastructure and services that used to be the responsibility of the public sector. But the division/dichotomy remains a key structure in urban governance, and has a long lineage. So, it is worth making it visible as a construct that we can trouble or rethink.

Secondly, this understanding of the public realm reminds us that 'the public' is always already about both *inclusion* and *exclusion;* the category only makes sense if there are those who *do not* belong to 'the community' or 'the public'. Public space has long been constructed as the opposite to 'private' space – imagined as open and accessible to all (unlike private spaces, where access is tightly controlled) and providing functions that private spaces may not. But it is not as simple as the formulation of public spaces as 'open' and private spaces as 'closed' might suggest. When we ask ourselves "who is the public", we are also asking a shadow question: *who the public isn't.* Butler argued that "all public assembly is haunted by the police and the prison. And every public square is defined in part by the population that could not possibly arrive there" (Butler 2016: 20) – ominous, perhaps, but important to think on.

The much-invoked Ancient Greece *agora* reminds us of the links between public space, and participation in public life and citizenship. Citizenship is a framework of both inclusion and exclusion and it both confers rights and designates those to whom rights (some, or potentially all) are conditional, withheld, suspended or denied. For instance, in many places long-term residents and incarcerated people do not have full citizenship rights and cannot vote. People belonging to some social groups – particularly people of colour – are more likely than others to be subject to social control and policing for occupying public spaces, their rights to inhabit those spaces more conditional, or more readily suspended (Low 2006; McDowell and Wonders 2009–2010). Public spaces are entangled with questions of citizenship and belonging, they both *reflect* and *reproduce* particular social and political relationships.

With those overarching points in mind, there are perhaps three broad ways to think about 'the public'. Firstly, we can think of 'the public' as an already existing entity, the sum total of all people living within a particular geographic or political scale. In this formulation, we are assuming that there are some common interests and experiences that make this grouping possible and plausible. Secondly, we can think of 'the public' as nothing more than the collective noun for a population of individuals, wherein the individual is the unit of analysis, of politics, of public life. This notion of 'the public' is linked to a neoliberal understanding of politics and public life, and will be discussed in the next section. Thirdly, we can think of 'the public' as a shifting set of coalitions and allegiances, of shared but varied interests – as something that gets 'gathered up' (or that gathers itself up) by particular processes, as something that can be created discursively (as in, through language, stories, and how we talk about 'the public'), through actions (e.g. through gathering together, through collective actions, through participation in particular processes, through having and finding shared experiences), and as something contingent, with porous boundaries. This is where the notion of 'diverse publics' (Young 2000) or what Sandercock (2003) calls 'mongrel cities' is helpful – the idea that there are plural publics, with overlapping and porous borders, some of which may be 'already existing', some of which may be formed as we seek to engage with them, some of which are constituting and re-constituting themselves in constant and unpredictable ways (also see Chap. 9). These diverse, multiple and shifting publics are perhaps hard to conceptualise, but they are even harder to plan for and govern. Further, in making the category of 'public' porous and shifting, we may even open this

category up to the non-human – to animals, plants, fungi, bacteria, even to non-living matter – what's often referred to as the 'more-than-human' world, which we discuss in the last section.

This latter notion of diverse, shifting and multiple publics is, perhaps, a more useful way of thinking about 'the public' in an urban context. Indeed, cities have long been construed as sites of diversity and difference, and of anonymity and invisibility (Sandercock 2003; and Chap. 9). The degree to which any given city actually offers anonymity, and/or the freedom often associated with anonymity, certainly varies, but there is something compelling and resilient in this particular narrative of cities. There are also ongoing debates about the importance of belonging, and the shape of the 'whole' one is seeking belonging to. Chapter 9 explores some of the cultural issues associated with national belonging and nationalism. Plural, diverse, shifting publics may provide opportunities for diverse people to find belonging, rather than feeling 'out of place' in the cities they inhabit. Being part of 'the public' in the city may be partially about being a stranger amongst strangers, and about hoping for encounters – strange and familiar both.

It is essential to interrogate who is meant by any invocation of 'the public' in urban planning, geographical theory, in policy, politics and media. Who gets included in the category of 'public' suggests who the speaker thinks cities are *for*, and the way they imagine that public to be formed – via a shared geography/jurisdiction, a set of individuals, or as something more contingent and pluralistic – and may also be suggestive of the speaker's political and philosophical influences. Further, it is worth asking if the speaker invoking 'the public' is including themselves in that category, or if they are situating themselves outside of it.

8.1.2 Design and Governance of Public Spaces

As noted earlier in the chapter, defining public space is difficult because both constituting words can be variously interpreted (Carmona et al. 2010; Orum and Neal 2010). Indeed the difficulty begins with whether it should be called 'public space' or 'public place'. Urban studies scholars distinguish between 'place' and 'space' in theoretical debates (Madanipour 2003; Dovey 2009). In brief, places are defined as those spaces that carry meanings and identity in individuals' minds whereas spaces are merely physical emptiness. However, space and place are often interchangeably used in urban studies (Madanipour et al. 2001). In this chapter, public space and public place have been used interchangeably while both of them refer to 'place'; public space is, then, defined as a sociable open space, and a destination that is accessible to all members of society free-of-cost. This is, however, an idealistic definition, and it's an ideal carrying a critique: many so-called public spaces are not truly 'public' or for the 'public' as they are not truly free of cost, or accessible to all – we'll pick this thread up again later.

Public space is the result of interactions between physical components (soft or hard landscapes; natural or built environments), human experiences (meanings;

conceptions; images) and uses of the space (individual activities or collective events) (Montgomery 1998). Coming up with definitive criteria for good public spaces is very challenging, perhaps impossible, as public spaces vary in type, function and meaning, and the evaluation of public space is subjective, delineated by the values and backgrounds of the evaluator. However, as Friedmann (2000) points out, this cannot and should not withhold theorising and envisioning good places, especially not in terms of design. The works of Jane Jacobs (1961), Carr et al. (1992), Carmona et al. (2010), Talen (2008) and Gehl (2010) attempted to theorise good or responsive public space design.

Suggested criteria for good public space design include walkability, authenticity, accessibility, diversity, playfulness, eco-friendliness, legibility, comfort, inclusivity, vitality and being well-maintained and managed. Each of these criteria can be debated, extended and reconfigured, but in this chapter we focus on public space governance as an element that can make or break public spaces (Carmona 2014). This shift is partly informed by a line in the literature (Carmona et al. 2010; Zamanifard et al. 2016) arguing that all design critiques of public spaces stem from governance and can be broadly placed into two camps, those who argue that public space is over-managed and those who argue that it is under-managed. This oversimplifies a complex discourse on public spaces but covers a wide range of design issues including but not limited to critiques of lost spaces, neglected spaces, consumption spaces, privatized spaces and so on.

Further, the link drawn between public space design and governance is informed by the fact that in contemporary cities around the world, many public spaces are shaped and governed by a variety of entities through quite complex arrangements (Madanipour 2010). Public space provision is not solely a responsibility of government. Indeed, almost all new public spaces in the post-war American downtowns have been provided by the private sector. In Australia, the UK, Aotearoa/New Zealand, and many European countries, private enterprises are involved in public space delivery or management. Their involvement may range from partnerships with governments to having full responsibility for the design, development and management of the space (such as privately owned public spaces). But the motivations and agendas of stakeholders in public space (the state, the public, and the private sector) are distinct, and often contradictory. Furthering this complexity, there are also intra-group conflicts between stakeholders (such as gender or inter-generational conflicts among users of a space, or competition between businesses).

The added complexity in the design and governance of public spaces opens a debate about the diversity of public spaces in contemporary cities. Recent typologies of public spaces (Carmona and Wunderlich 2012) show an increasing level of diversity of public spaces, some of which seem contradictory, including corporate public spaces, civic public spaces, consumer public spaces, community public spaces, domestic public spaces, in-between public spaces, quasi-public spaces and more. Such typologies clearly demonstrate the plurality of publics, as different types of public spaces are created for particular sub-sections of public and their desires for the space.

When considering this diverse, contradictory typology, it is important to consider who is designing and governing these 'public' spaces, and for whose benefit and enjoyment – and of course, who is losing or excluded as a result. In response, some (Carmona and Wunderlich 2012) argue that different types of public spaces only appeal to certain groups, and this is not necessarily a sign of exclusion, but instead of a diverse society with different needs – a reflection of diverse publics. Others (Mitchell 2014) take a more critical perspective, noting the varied distribution of different types of public spaces across our cities, and warn that consumer spaces and corporate spaces are increasing whilst the space provided for community/civic uses shrinks. From this perspective, the patterns of public space provision, design, and governance play a role in widening inequality, as inner-city public spaces become more corporate/commodified and over-regulated. Indeed, there are serious questions to be asked about the design and governance of public spaces and the ways in which they reinforce social orders.

8.2 Key Debates in Public Cities

8.2.1 Public Versus Private Cities (and Citizens)

As mentioned above, the notion of 'the public' as nothing more than a set of individuals resonates with neoliberal worldviews. 'Liberalism' emphasises the individual – rights residing in the individual, individual autonomy, individualism as a moral good. Liberalism rendered us individual subjects; neoliberalism exaggerates this individuality and commodifies our relations with each other (Fisher 2009; Brown 2015). Wendy Brown calls this configuration of human beings, *"homo economicus"* (Brown 2015: 31) and describes neoliberalism as an attack on the very concept of *demos* – an attack on the idea of a public, and of a body politic.

More concretely, we see the influence of neoliberalism on Australian cities in the erosion of genuinely public space. King George Square in Brisbane, for instance, underwent redesign in 2009 and a significant portion of the space is now al fresco dining. Public footpaths are, in many areas, crowded with outdoor dining attached to cafes – this space now serves fewer functions, and you can only occupy those spaces if money changes hands. Westfield Shopping Centres brand their outdoor dining/entertainment precincts as 'town squares', and indeed in many suburbs they may be the closest thing there is to a public square, and one of the more physically accessible places for people to gather – yet these are not genuinely 'public' spaces. Similarly, many major pedestrian streets across Australia are commercialised 'public' spaces – Queen Street Mall in Brisbane, Pitt Street Mall in Sydney, Rundle Mall in Adelaide are also highly managed, retail/consumption-oriented spaces, where many kinds of civic activity (like street performances, exhibitions, protests, handing out flyers for community events, etc.) are tightly controlled or prohibited, and where looking like an appropriate or desirable 'consumer' may shape how welcome you are (Sandercock 1997; Voyce 2006; Zamanifard et al. 2018, 2019). The use of many commercialised 'public' spaces is managed, surveilled, and policed by private

entities, and they are, of course, designed for consumption rather than enacting citizenship. Indeed, as Vaughan argued, "When space is rendered unto commerce, individuals are stripped of their public and civic role" (Vaughan 2016: 26).

Some would argue that there are benefits to the functions of public space and the public realm being supplied and managed privately, or that privatisation doesn't necessarily preclude the 'publicness' of public space (Carmona and Wunderlich 2012). Benefits might include a greater ability to customise these spaces with particular users in mind, reduced maintenance and management load on over-stretched/underfunded public sectors, more flexibility, greater sanitation, increased accountability for the managers of the space, and tighter security and policing (Carmona 2015; Dovey and Wood 2015; Zhang 2017) – which, for some, might increase perceived safety. Some might argue that al fresco dining attracts more people onto the street, thus making streets more lively, interesting and safe, or that economic benefits outweigh the negative impacts of commodification. Others might suggest that what the public desires from the public realm is changing, and/or that critics of neoliberal urbanisation overstate its influence and harm. Much here depends on your view on the relationship between public spaces/the public realm and participation in public life, and your own ability to feel a sense of safety and belonging in privatised/semi-private/commodified 'public' spaces (an ability likely to be shaped by factors including class and income, ethnicity, race, Indigeneity/settler status, gender, sexuality, culture, and more). For those who believe the link is tenuous/overstated in the modern era, the privatisation/commodification of public spaces is perhaps not particularly troubling. For those who believe the link remains strong, one might be concerned about the implications of these trends for democracy, belonging and justice in cities.

8.2.2 Public Participation and Engagement

In contemporary cities, one of the most pressing tensions is the relationship between the public – however defined – and the production of space. The role of the public in formal planning processes is contested and varied, influenced by ideology and economic and political priorities (Legacy 2016). As discussed, neoliberalism is highly influential in contemporary urban governance (Legacy et al. 2018), which privileges private profit and property. Private developers – rather than the State – are the primary parties determining what is built and when. Through public-private partnerships and asset sales, private companies play a larger role in delivering public infrastructure (Siemiatycki 2009; Legacy et al. 2017).

Neoliberal emphasis on private property and the free market creates hostility towards regulation ('red' and 'green' tape) and a push to expedite development, often by reducing regulation, assessment time frames and public consultation (England 2015). This may mean fewer developments are subject to requirements for public consultation, or that those timeframes are narrowed, or that the ability of the public to appeal decisions is curtailed. In neoliberal urban governance, 'the market' is a powerful factor in what, when and where development occurs, and the extent to which it is deemed successful. The role for publics, then, is to participate less in

urban governance itself and more in the market – to invest, to purchase, or not. As such, one's capacity to influence how cities are built may be heavily influenced by one's capacity to participate in the market.

Whilst planning literature tends to position public involvement as a good thing – something that strengthens the legitimacy and rigour of urban governance, improves the quality of decisions, upholds democratic principles (Creighton 2005; Healey 2006; Brabham 2009) – beyond the influence of neoliberalism there are reasons why one might seek to limit the involvement of the public in urban governance. Most members of the public lack a technical understanding of planning and urban policy, for instance. Individual members of the public may also act in their own self-interest, rather than the interests of the broader community or the strategic needs of the city. The term 'NIMBY' is often used to both label and discredit these kinds of concerns ('not in my backyard' flattens out a range of views, which might include self-interested obstructionism or greed, but could equally reflect sincerely held objections to inappropriate, poorly designed or dangerous developments). Further, public consultation is often expensive, takes time, can be unpredictable, and is difficult to do well. Poor consultation, as well as no consultation at all, can harm relationships between publics and other parties, and can create tensions within communities.

In addition, the content resulting from consultation is not always readily applicable to urban governance. Those assessing developments are not free agents, nor is the process democratic – volume of objections alone is not a reason to reject a development application, nor are many of the reasons people might oppose a development. The public are generally asked to comment on planning issues in and on 'planning' terms – this is not something everyone is able to do. The timing is also difficult – many objections emerge too late, with members of the public complaining that they did not realise the consultation, even the development, were happening until it was too late. Because of all these difficulties, some contend public involvement should be maximised at the design stage of planning schemes, with a limited role for the public on individual developments.

Marxist geographer David Harvey provides us with a counterpoint. He argued that cities are already *commons* – that 'the urban' is always already a collective, public project, the product of the labour, lives, movements, and relations of urban inhabitants. Much as Marxists argue that the value workers produce should be controlled by workers collectively, rather than seized for the private use of the owners of capital, Harvey (2012: 78) posits that cities are a commons "produced by the collective labor expended on and in the city". So understood, cities and its public spaces are collective projects, and it would be fair to manage them collectively.

8.3 Critical Publics

In this final section we explore some critical perspectives on publics and public spaces, including thinking through the terrain of public cities as sites for political contestation (Tonkiss 2005), and rethinking who we gather up in our use of the term 'public' – especially now, in the Anthropocene.

8.3.1 Belonging, Securitisation and Struggle

Questions about public spaces are often linked – conceptually, practically and/or politically – with questions about belonging and safety. Questions about belonging, in turn, are wrapped up with broader questions about identity and place – who belongs where, and when – and who cities and spaces are *for*. These are never politically, historically, socially, economically or culturally neutral questions.

Consider, for instance, the statement 'Always Was, Always Will be Aboriginal Land'. Chanted at rallies, worn on t-shirts, painted on walls, it recognises that First Nations Peoples have a continuing connection to the land we stand on in (so-called) Australia; they have not ceded sovereignty. Aboriginal relationships to Country endure, and settler-colonialism has not extinguished those systems of belonging, care and responsibility (Moreton-Robinson 2018). Further, consider Acknowledgements of Country recognising Traditional Owners (often phrased as 'past', 'present' and 'future/emerging'), indicating enduring relationships to Country, and living cultures with futures. These futures are, at least in part, *urban* futures; urban Indigenous populations are growing, and cities remain Country (Blatman-Thomas 2017; Jones 2017). And yet urban Indigenous Peoples continue to experience displacement, both as a direct result of gentrification and due to changes in policing that are often linked to gentrification and urban renewal projects (Fayyad 2017; Jackson 2017; Latimore 2018). Aboriginal Peoples are disproportionately subject to policing in public spaces (e.g. the use of move on orders and public nuisance citations), and encounters with police are more likely to be dangerous. First Peoples – including children – are more likely than non-Indigenous people to die in custody and in police pursuits (Wahlquist et al. 2018). What does this tell us about place – both as a kind of belonging and as an entity people belong to? What does this tell us about how the structures of settler-colonialism continue to influence belonging and safety – including who gets to be safe, and to imagine futures – in cities?

'Safety' in and of public spaces is a critical and complex issue. Perceptions and feelings of safety vary – we are not all made safe, nor made to feel safe, by the same things (Németh and Hollander 2010). It is worth here distinguishing between 'safety' and 'security' – Marcuse (2006) defines safety as *actually* being protected from harm, whereas *security* is more about perception and the 'trappings' associated with attempts to 'secure' a space. But security measures may not increase your sense of, or actual, safety – bollards designed to prevent vehicle attacks may heighten your sense that the space you're in is a potential terror target, making you feel less safe (Németh and Hollander 2010). Further, these measures may alienate members of marginalised ethnic and religious groups who are constructed as 'dangerous' in public discourse (Coaffee and Rogers 2008). Who is and isn't deemed dangerous is rarely objective or neutral; often security check-points or surveillance systems are racially charged and feed into Islamophobia and/or anti-Blackness, while ignoring potential right-wing terrorism (e.g. the rise of the white supremacists groups in the United States, Australia and Europe).

How can we design spaces to actually increase safety, without heightening feelings of insecurity or marginality? Some securitisation measures work to enclose public spaces by reducing accessibility and movement – e.g. erecting barriers, limiting the number of possible entrances/exits. CCTV cameras and other forms of surveillance may seem like a way to make public spaces safer, but again the question is *for whom*. There is some evidence suggesting that CCTV doesn't prevent crime, merely displaces it (Koskela 2000); further, the act of surveillance isn't neutral, nor are all people subject to surveillance equally. Simone Browne's work, for instance, explores how surveillance has enabled violence against and the oppression of Black people (Browne 2015), and continues to be used for social control.

What might all this mean for *agora* – for citizenship, and public life? Mike Davis argued as far back as 1992 that efforts to secure the city would destroy "any truly democratic urban space", turning us inward to privatised, commodified spaces, extinguishing spontaneity and convivial encounters (Davis 1992: 155). Securitisation has drastically increased in the years since Davis' warning; in the post-9/11 world (enabled by 'smart city' technology – see Sadowski 2020), the nebulous 'war on terror' has been used to further fortify and surveil public spaces (Németh and Hollander 2010). Indeed, securitisation may be interpreted as efforts to protect the city "*from* the public rather than *for* it" (Marcuse 2006: p. 922, emphasis added), and it has been argued that fear of terrorism and general insecurity has been used to erode and partially enclose public spaces, reducing the freedoms, rights and enjoyments of urban inhabitants (Marcuse 2006; Németh and Hollander 2010; Lehr 2019).

Complicating matters still further, uncontrollable public spaces can *protect* democracy. Streets, squares, parks, and more are sites (and sometimes the stakes) of struggle, perhaps especially for those marginalised by mainstream/whitestream/dominant cultures, or excluded from centres of power. Questions of access, distribution, justice, representation, belonging and democracy often play out in public spaces; sometimes peacefully, sometimes violently. The transformative/dangerous potential of public spaces is reflected in the structure of cities – most famously in Haussmann's redesign of Paris, where he created wide boulevards in an (ultimately, failed) effort to prevent people barricading streets in the event of an uprising (Douglas 2007). The public realm in cities is a site of struggle – struggles both *in* and *for* space (Tonkiss 2005; Connolly and Steil 2009), belonging, citizenship and self-determination. Indeed, struggle may actually *make* public places (Iveson 2017; Vigneswaran et al. 2017). As discussed earlier, public spaces are about our capacity to participate in public life – sometimes, this means insurrection.

8.3.2 More-Than-Human Publics

Thus far we have been very anthropocentric; for our last critical topic, let's move beyond humanism and consider making our public 'more-than-human'. Western philosophy has long been preoccupied with human exceptionalism, and with the idea of humans as individual, bounded subjects who are "separate from the earth" (Moreton-Robinson 2018) – alone amongst beings as exclusively conscious and

capable of deliberately exerting their will on the world. But many other ontologies reflect a more-than-human philosophy of being, where humans are part of interwoven, co-constituting, interconnected assemblages of place (land, Country), other living beings, and vibrant matter (Larsen and Johnson 2017; Todd 2016, 2017; Watson 2009). Many Indigenous worldviews have held this or similar perspectives; the 'more-than-human' turn refers to thinking that is 'new' to Western worldviews.

That said, the category of 'human' as recognised in Western thought is not fixed – much as the category of 'citizen' discussed earlier, 'human' has always been produced alongside political, economic, and cultural contexts and goals (Fishel 2017). As previously discussed, all people have not been able to claim this humanity equally. For instance, 'race science' works to deny the humanity of people being colonised or enslaved or otherwise oppressed (it is no coincidence that 'race science' emerged alongside Western colonialism and imperialism) (Mbembe 2003; Fanon 2008). The founding myth of modern Australia – *terra nullius* – represents the colonisers' refusal to recognise the humanity and sovereignty of Aboriginal Peoples (Moreton-Robinson 2018); they saw Aboriginal People, and declared the land empty. 'Human' – just like 'the public' – is not a stable category, and its boundaries are shifted and reconstituted to support particular political goals and ideologies.

More-than-humanism recognises the instability of the category of human, which troubles our imagined 'publics', and represents a provocation for public cities – namely, what would cities look like, how would we govern, produce and live in cities, where the 'public' was recognised as *more-than-human?* Let's start small. Stefanie Fishel describes bodies as lively, crowded. She writes:

> The traditional figure of the human body – as a self-contained and self-regulating organism – is at odds with the body made possible by new technologies understandings. Today, organs and genomic information flow across borders, and bacterial and viral communities, both symbiotic and pathogenic, clearly affect our bodies, and through our bodies, politics (Fishel 2017: 14).

In other words, our bodies are permeable and filled with other bodies, shaped by technology as well as biology. Maybe cyborgs are real – maybe they're already here, and they're us (see Haraway 1991). If your body is technically *bodies*, then perhaps your body is already a more-than-human public? Just as we might think of 'the public' or 'diverse publics' as being a shifting assemblage of different kinds of bodies, working with and against and amongst each other, nourishing and eroding each other, we can think of our own bodies in much the same way.

That's the micro-view on more-than-human publics. The macro-view on more-than-human publics is perhaps a little more familiar and applicable to public cities. There is a tendency, again in Western worldviews, to think of cities as separate from 'nature' – that the concentration of humans and the extent to which the landscape is modified means these places are detached and artificial. But this divide – between humans/nature, cities/environment – is, again, constructed, not universal, and increasingly unstable. The idea that cities are human domains ignores the many, many species living alongside us, troubling and enabling our lives. Cities are

environments, ecosystems – assemblages of organic and inorganic matters (Palamar 2010; Pataki 2015). As argued by Osborne, Carlson and Butler (2019: 438),

> Urban ecological communities are varied, but we all live entangled with vertebrates, invertebrates, plants and fungi, and we hum with microbes. In the authors' city, possums, rats and pythons live in suburban ceilings. With wetland habitat eroding, the white ibis scavenges a life from rubbish bins…Moreton Figs strangle other trees from the top down, and warp foundations, footpaths and plumbing from below; an uncontainable urban existence made possible by the pollinating work of tiny fig wasps.

What would it mean to include ibises, magpies, possums, rats, snakes, fig trees, mangroves, bees, dogs, rivers and bull sharks in our conceptualisation of the 'public' city? To think about the city as an ecosystem, and plan, consult, and design accordingly? How do we listen to fig trees and rivers? And what of *place itself?*

Some argue that place itself has agency (Larsen and Johnson 2017) – a kind of *will* we may or may not be able to reliably understand or track. In some Indigenous cosmologies, this agency may be linked to spirit/s, and ancestral beings (Graham 1999; Larsen and Johnson 2017). Western scholars have also recognised the possibility of agentic place – sometimes, problematically, appropriating Indigenous philosophies without acknowledgement to do so (Latour 2014; Todd 2016). In doing so, these perspectives challenge and unsettle dominant notions of space and place and our capacity to control them, or produce them unilaterally.

Traditional, Western, and colonial approaches to planning and urban governance hinge on the ability of humans to understand, predict and dominate places – to impose our will, visions, plans and desires on space. Space was once viewed merely as kind of vessel or backdrop for our lives. Later, influenced by the work of people like Henri Lefebvre (1991), Doreen Massey (2005) and Fran Tonkiss (2005), the prevailing understanding of space and place in (Western) urban theory changed, now framing space and place as social constructs, produced by social, economic, political and cultural relationships. As Porter (2018: 29) argues, "Space is not a neutral container…[it is] produced through the workings of social processes, economic transactions, cultural norms and values…If space is produced through social relations, then it must be soaked with relations of domination and subordination, solidarity and cooperation. Space is never neutral". So we can conceptualise space as a container or backdrop, or we can see space as a product of social relations. A third way would be to see space as an active participant in those relations; space is not an inert neutral backdrop, but nor is it entirely reducible to human construction/relations. Spaces and places have *agency* (Larsen and Johnson 2017). This is not a new idea, but it is gaining ground in the Anthropocene.

In sum, in more-than-human philosophies, the public city is composed of diverse, shifting, more-than-human publics. The city itself, its spaces and places, is energetic and active and influences what is possible and imaginable. Lefebvre probably did not have more-than-humanism in his mind when he wrote the following, but it takes on new resonance if we recognise the agency of place:

> The street is disorder…This disorder is alive (Lefebvre 2003: 18–19)

8.4 Conclusion

> The consistent reworking of public space via practice and theory is the mark of how contested the notion of public is. Public space is thus resolutely open to the degree that it is clouded by the endless contestations, situations and resituations of what and where is public (Vaughan 2016: 34)

We have argued that public spaces are produced by, and reflect, macro and micro social, political, and economic relations, and that there is something to *place itself* that is not entirely reducible to those relations. We've argued that neoliberalism is affecting the 'publicness' of public spaces, that 'publics' are shaped by the type of public spaces we can access, that access is shaped by social location, and that public spaces are sites of struggle for social and spatial justice. We've argued that there is an openness and contingency to both 'publics' and 'spaces', through which we can defend the promises and possibilities of public space.

The fact that public space is always in flux suggests that with care, creativity, and collaboration, almost anyone can intervene in public space and thus change it, even if only ephemerally. Tactical urbanists stage street parties on the road, creating temporary public squares. Guerrilla gardeners throw seed bombs onto verges and over fences. An Aboriginal flag appears at the intersection of Boundary Street and Vulture Street in Meanjin/Brisbane (Boundary Street once marked the boundary over which Indigenous People were not permitted to cross after dark), a regularly refreshed reminder that the street is unceded Aboriginal land, and Aboriginal People remain in Kurilpa (West End). Performance artists stage a flash mob in Federation Square (Naarm/Melbourne), where they chase and toss out a person in an apple costume – an action *against* the proposed, further commodification of the Square by Apple, and *for* silliness and conviviality in public spaces. Organisers with Food Not Bombs set up weekly street kitchens to feed the homeless, the hungry, and whoever else comes along. Our point here is that although there are powerful forces configuring urban spaces in ways we might consider neo-colonial, alienating, environmentally harmful, exclusionary, and otherwise unjust, public space is never fixed, never finished. It remains shifting and contingent, and thus retains possibilities for creative appropriation and diversion, and struggles for justice.

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Multicultural Cities

9

Jacqueline Nelson and Christina Ho

Abstract

The presence of Aboriginal Australians, colonising settlers and their descendants, migrants from a wide range of countries of origin and refugees seeking asylum in Australia has resulted in cities that have highly diverse populations. This chapter opens with a brief historical overview of key moments that have shaped Australia's multicultural cities. Contested and dynamic understandings of multiculturalism are highlighted. The second part of the chapter looks at the geography of cultural difference in multicultural cities, exploring debates about 'ghettos' and ethnic residential concentration, ethnic tensions over use of space and policy initiatives to enhance urban intercultural relations. The last part of the chapter draws together some critical approaches to multicultural cities, including debates about the politics of difference, 'everyday multiculturalism' and the concept of 'cosmo-multiculturalism'.

9.1 Understanding Multicultural Cities

Cities have always been associated with diversity. As Young (1990: 237) notes, cities are places defined by 'the being together of strangers'. With the growth in the scale and of different forms of international migration, cities are more than ever 'cities of difference' (Fincher and Jacobs 1998). Cities provide countless opportunities for fostering intercultural understanding, as well as presenting challenges to minimise ethnic conflict as 'strangers become neighbours' (Sandercock 2000).

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This chapter opens with a brief historical overview of some key moments that have shaped Australia's multicultural cities. Contested and dynamic understandings of multiculturalism are highlighted. The second part of the chapter looks at the geography of cultural difference in multicultural cities, exploring debates about 'ghettos' and ethnic residential concentration, ethnic tensions over use of space and policy initiatives to enhance urban intercultural relations. The final section of the chapter draws together some contemporary critical approaches to multicultural cities, including debates about the politics of difference, 'everyday multiculturalism' and the concept of 'cosmo-multiculturalism'.

The presence of Aboriginal Australians, colonising settlers and their descendants, migrants from a wide range of countries of origin and refugees seeking asylum in Australia has resulted in cities that have highly diverse populations. An essential starting point for understanding multicultural cities is an examination of the histories of cultural diversity within Australian cities. This is about the presence of people with diverse racial and cultural identities within the city. Secondly, we trace the trajectory of the idea of multiculturalism in Australia, looking at the ever changing conceptual, political and practical approaches to our increasingly multicultural population.

If we are interested in the presence of people with diverse racial and cultural identities, we must begin with the traditional owners of the land on which Australian cities developed. Australia has been a diverse place prior to and since invasion. Australian cities developed as a result of the invasion of Australia and the violent dispossession of various groups of Aboriginal Australians. *Terra Nullius* characterised Australia as 'nobody's land', a dehumanising doctrine that dismissed Aboriginal Australians' presence and custodianship of the land for some 65,000 years previous. Chapter 2 in this volume elucidates the foundational link between colonisation and the very idea of the city, and the impacts for Indigenous Australians.

In 1901, following Federation, the passing of the White Australia Policy or Immigration Restriction Act formally set the colony on a path to build an exclusively White Australian population. Despite this, the presence of cultural diversity remained throughout the White Australia era, visible in the surviving Aboriginal population and the presence of non-White migrants, such as Chinese labour migrants (Kamp 2013). The official dismantling of the White Australia Policy occurred in 1973 under Gough Whitlam's government, and over the 1970s the government shifted its approach to one of multiculturalism. In spite of its official end, the White Australia policy has a deep-seated legacy. The White Australia policy remains both a living memory, and the discourses and frames it established continue to be used in contemporary politics. As will be elaborated below, there remains a strong degree of privilege associated with being White in Australia.

While the policy of multiculturalism has been in place since the 1970s, multiculturalism as both a policy approach and a demographic reality of Australian cities has been contested and dynamic. Multiculturalism is typically used in reference to non-Anglo migrants and refugees, but 'multicultural' also includes those who arrived by boat during the invasion of Australia from 1788. Multiculturalism shaped the development of Australia's first colonial settlements and continues to shape Australian

cities. Understanding the urban implications of multiculturalism is important for a range of built environment professions in settler-societies such as Australia. Understanding and accounting for Aboriginal land dispossession and the migration of diverse groups of people to Australia ought to be core business for urban planners and other built environment professionals.

Multiculturalism and multicultural cities can be understood in numerous ways. We discuss multiple understandings of multiculturalism in this chapter. The first is as a demographic fact and relates to the presence of cultural diversity. This is particularly marked in Australia's two largest cities, Sydney, which roughly refers to the area inhabited by the groups of the Eora Nation, and Naarm/Melbourne. As can be seen in Table 9.1, in 2016, over 60% of Sydneysiders indicated that one or both of their parents were born overseas. A similar proportion (57%) of those residing in Naarm/Melbourne stated that one or both of their parents were born overseas. Being born outside of Australia, or having parents born outside of Australia, is used as an indicator of cultural diversity, as it suggests that a respondent is likely to be a first- or second-generation migrant to Australia. Looking at these indicators of cultural diversity over time using Census data from 2001 to 2016, it is clear that multiculturalism is a demographic fact in Australia's two largest cities, and that multiculturalism in Sydney, or the Eora Nation, and Naarm/Melbourne is growing. Compared to 2001, in 2016 fewer Australians indicated that they were born in Australia or that both their parents were born in Australia, and a greater number indicated that one or both of their parents were born outside of Australia. While Table 9.1 indicates that the numerical presence of Aboriginal and Torres Strait Islander people in Australia's two largest cities is relatively small, the population in both places, and nationally, is growing (Markham and Biddle 2018). The continued presence of Aboriginal and Torres Strait Islanders in Australian cities as the traditional owners and custodians of the land remains of great significance.

If we take the language spoken at home as another indicator of cultural diversity, again, the presence of cultural diversity in Sydney, the Eora Nation, and Naarm/

Table 9.1 Aboriginal and Torres Strait Islanders and indicators of cultural diversity in Sydney and Melbourne, 2001–2016

	Census year	Population	Aboriginal and Torres Strait Islander people	Country of birth: Australia	Both parents born in Australia	One or more parents born overseas
Greater Sydney[a]	2016	4,823,991	1.5%	57.1%	33.1%	60.4%
	2011	4,391,674	1.2%	59.9%	38.7%	61.3%
	2006	4,119,190	1.1%	60.4%	37.8%	53.5%
	2001	3,948,015	1.0%	62.2%	40.4%	52.2%
Greater Melbourne[a]	2016	4,485,211	0.5%	59.8%	36.4%	57.2%
	2011	3,999,982	0.5%	63.8%	42.1%	57.9%
	2006	3,592,591	0.4%	64.2%	41.0%	51.5%
	2001	3,338,704	0.4%	65.7%	42.7%	50.9%

Source: Australian Bureau of Statistics Census 2001, 2006, 2011, 2016

[a]2001 and 2006 data based on Australian Bureau of Statistics (ABS) geographical classification *Statistical Division*, 2011 and 2016 data based on ABS geographical classification *Greater Capital City Statistical Areas*

Table 9.2 Languages other than English in Sydney and Melbourne, 2001–2016

				Five most common languages spoken				
	Census year	Households where non-English language spoken at home	English only spoken at home	1	2	3	4	5
Greater Sydney[a]	2016	35.8%	58.4%	Mandarin	Arabic	Cantonese	Vietnamese	Greek
	2011	32.5%	62.2%	Arabic	Mandarin	Cantonese	Vietnamese	Greek
	2006	29.3%	64.0%	Arabic	Cantonese	Mandarin	Greek	Vietnamese
	2001	27.6%	66.5%	Arabic	Cantonese	Greek	Italian	Vietnamese
Greater Melbourne[a]	2016	32.3%	62.0%	Mandarin	Greek	Italian	Vietnamese	Cantonese
	2011	29.1%	66.3%	Greek	Italian	Mandarin	Vietnamese	Cantonese
	2006	26.3%	68.1%	Italian	Greek	Vietnamese	Cantonese	Mandarin
	2001	25.8%	69.4%	Italian	Greek	Vietnamese	Cantonese	Arabic

Source: Australian Bureau of Statistics Census 2001, 2006, 2011, 2016

[a]2001 and 2006 data based on Australian Bureau of Statistics (ABS) geographical classification *Statistical Division*, 2011 and 2016 data based on ABS geographical classification *Greater Capital City Statistical Areas*

Melbourne is very strong, and has grown between 2001 and 2016 (see Table 9.2). In the 2016 Census, 38% of those living in Sydney, across the Eora Nation, indicated that they spoke a language other than English at home, and similarly 35% of those living in Naarm/Melbourne spoke a non-English language at home.

Census data shows the diverse mix of people living in two of Australia's major cities, which are inhabited by Aboriginal and Torres Strait Islander people, generations of people born in Australia, and those whose families arrived in Australia more recently. The demographic reality of multiculturalism in these places cannot be denied.

In addition to a demographic 'fact', multiculturalism can also be understood as a set of policies and policy orientations (Koleth 2010). As a policy orientation, multiculturalism enjoyed bipartisan support from both major Australian political parties from its official inception in 1973 until the mid-1990s. There was a retreat from multiculturalism in Australia from the mid-1990s under Prime Minister John Howard. The assertion that multiculturalism is in decline has become a familiar narrative in a number of Western liberal democracies (Lentin and Titley 2011). However, unlike Germany and the United Kingdom where the death of multiculturalism was recently proclaimed, in 2011 and again in 2017, the Australian Government reasserted its commitment to multiculturalism (Australian Government 2011, 2017).

However, the tenor and orientation of our commitment to multiculturalism has changed over time. The 2017 multicultural statement, *United, Strong, Successful*, emphasises 'shared values' and mutual obligations and talks about multiculturalism within a framework of national security. This suggests that there are limits to Australia's acceptance of cultural difference, and indicates the Australian government's preference for an assimilatory multiculturalism, where migrants to Australia adopt 'shared values', which really refers to the values of White Australia. The emphasis on 'values' in much public debate has been analysed as 'dog whistling', a

form of coded speech that sounds reasonable on the surface but carries a different message – in this case, a defence of White Australia – to certain subsets of the community (Poynting and Noble 2003). Moreover, framing multiculturalism in terms of national security implies that members of ethnic minorities are potential threats to the community (for more critiques of Australian multicultural policy see Koleth 2010; Joppke 2004; Ho 2013).

More tangibly, cultural diversity increasingly figures in public policy relating to cities, for example, urban planning. Guided by the national policy of multiculturalism, local governments and urban planners have sought to achieve goals such as improving community relations, awareness and understanding; enhancing representation and participation of all cultural groups; and ensuring equitable treatment of all residents, including access to services. These goals are behind measures such as policies and social infrastructures – e.g., libraries and community spaces – which are encouraging social mix in residential housing, establishing ethnic precincts, and planning for public spaces and activities that facilitate intercultural encounters, such as festivals and other cultural events. The success of such policies has been hotly debated, as discussed below.

Ethnic Precincts
Ethnic precincts are places in the city associated with a particular cultural group(s), perhaps the most well-known being Chinatowns. Cultural symbols and culturally specific businesses are prominent in these places, including restaurants, shops and services. Some scholars critique the way cultural difference is commodified in these places (Collins and Kunz 2009).

9.2 Key Debates in Multicultural Cities

What are the key debates that arise from people with highly diverse cultural backgrounds dwelling within close proximity to one another? Do multicultural cities need to be managed in certain ways? How can we ensure that multicultural cities afford all citizens equitable opportunities, regardless of their cultural background? And what role do the built environment professions play in managing multiculturalism in cities? These are the types of questions that academics looking at multicultural cities have grappled with, and in this chapter, we select three academic discussions in this area to focus on.

9.2.1 Policy Approaches to Multicultural Cities

The increasing cultural diversity of cities is now recognised as an important consideration by urban policy makers, although much policy still unconsciously reflects the norms of the dominant culture, and ethnic minority groups are under-represented in decision-making processes (Sandercock 2000). Increasingly, urban planning and

governance have been used to enhance intercultural relations and social cohesion. The following two paragraphs look at two areas in which this has been attempted: the urban design of ethnic precincts and place-marketing; and the social planning of festivals and cultural events.

As local authorities pursue growth and economic development, fostering ethnic precincts has been a key means for promoting domestic and international tourism and local consumption. Precincts such as Chinatown, Little Italy, Little Turkey and Koreatown attract visitors to local restaurants, shops, and services, contributing to ethnic tourism. In some cases, however, the legitimacy and authenticity of such initiatives have been questioned, with criticisms about lack of consultation with ethnic minority communities and use of overly exoticized architecture and iconography (Collins and Kunz 2009). Other critics have noted that the development of commercial precincts for visitors can sometimes contribute to the gentrification of an area, in turn pricing out existing residents and small business owners (Fincher et al. 2014).

Cultural festivals, food fairs, multicultural days, fiestas and arts projects are the most popular initiatives undertaken by social and community planners in Australian local governments to improve intercultural community relations (Dunn et al. 2001). Such events are designed to celebrate the cultural heritage of ethnic minority groups and attract visitors and investment to the area. These types of celebrations of diversity have been a central component of multicultural policy in Australia, and are likely to be effective in promoting inclusive conceptions of national identity. However, critics have questioned whether these initiatives limit multicultural engagement to activities and places that can be marketed to consumers or whether they exoticize, essentialise, or commodify minority cultures for the benefit of the majority (Kymlicka 2010; Poynting and Mason 2008; Fincher et al. 2014). Celebratory initiatives have also been criticised for failing to address racism (Rothenberg 2000; Nelson 2015) and economic and political inequalities (Kymlicka 2010; Marotta 2006), and for constructing 'Whiteness' as the norm from which 'others' differ (Warren and Sue 2011).

Those involved in social planning in Australian cities also should be aware of the legacy and ongoing role of White Australia in regard to our cities' social calendars. For example, Australia continues to 'celebrate' January 26 as Australia Day, despite the fact that Indigenous Australians link this day to the onset of invasion and genocide. Another example of the way social planning in Australia privileges Whiteness is in the way that Christian holidays are celebrated while non-Christian events and holidays largely go unacknowledged (with the exception of Chinese New Year). Whether it is about planning events or managing use of urban space, recognising diversity in urban and social planning processes requires acknowledging that population groups may have different claims on the city. Therefore, urban and social planning processes need to include negotiation and mediation with those directly affected (Sandercock 2000).

9.2.2 Ethnic Segregation and 'Ghettos'

A longstanding *anxiety* about multicultural cities has been a fear of ghettos developing, whereby neighbourhoods are dominated by one ethnic minority group, and interaction across racial lines is limited. Ethnic segregation may be the result of both the movement of an ethnic minority group *into* an area and also White flight *away from* an area perceived to be increasingly dominated by a particular ethnic group (Woldoff 2011). In Europe and North America, so-called ghettos have been associated with high levels of poverty, unemployment and crime. Urban riots in Los Angeles in 1992, Bradford and other cities in the United Kingdom in 2001, and Paris in 2005 were linked to concentrations of ethnic minority communities in disadvantaged neighbourhoods, although the causes of the riots went well beyond the neighbourhood level (Amin 2002).

There is little evidence of the presence of ghettos in Australia. Birrell and Healy (2003) argued that international migration had 'divided' the Eora Nation, Sydney, into a lower-income, migrant-dominated West and South West, and more affluent and aspirational English-speaking populations in the inner city and metropolitan periphery. However, the majority of studies in this area show limited evidence of problematic ethnic residential segregation. Researchers such as Poulsen and Johnston (2000) and Poulsen et al. (2004) have used Census data to show that Australian cities feature an 'intermixing' of ethnic groups, rather than high levels of ethnic segregation. While some migrants have established localised residential clusters that include concentrations of ethno-specific businesses and services, there are no exclusive areas dominated by one ethnic minority group.

The discourse around ghettos is underpinned by an assumption that a concentration of one ethnic minority group in a particular locality within the city is necessarily problematic. As Dunn (1998: 509) notes, it is assumed "that assimilation, and the residential dispersal of minority ethnic groups, is a desired end in itself". In fact, there are many advantages of ethnic residential concentration that urban and social planners should consider. Ethnic residential concentration facilitates the provision of ethno-specific services by government and voluntary agencies, with a critical mass of people within a particular area needing such services making them more viable. This includes bi-lingual service provision, allowing residents, for example, to see a doctor or healthcare professional whom speaks their first language. Ethnic residential concentration also makes it easier for cultural practices and traditions to be maintained, promoting a positive cultural identity amongst those in the area. Urban and social planners can work with and build upon the ethnic concentration of particular areas. Dunn (1998) also identifies the development of small businesses for ethno-specific goods as another positive associated with ethnic residential concentration.

9.2.3 Ethnic Tensions in Cities

Ethnic minorities often change the urban landscape as they establish businesses, places of worship, and other community facilities. Their presence may also be

felt in public spaces such as parks, beaches, streets and the like. In Australia, proposals to establish mosques and Islamic schools have attracted particular controversy, with critics often objecting on the grounds of technical urban planning criteria, e.g., parking, congestion, noise, that disguise deeper cultural concerns about Muslim 'enclaves' and 'takeovers'. Opponents also cast their objections in terms of mosques being 'out of character' or 'incompatible' with the local area, depicting Muslim-Australians as alien and out of place, and implying the absence of a local Muslim population (Dunn 2001, 2005; Al-Natour 2010; Bugg and Gurran 2011). Thus, the urban planning system can be used against migrant communities.

Undoubtedly the most dramatic recent Australian example of ethnic conflict over the use of space was the 2005 Cronulla riots, which saw thousands of Anglo-Australians gather at Kurranulla/Cronulla beach in southern Sydney to protest the use of the beach by Arab-Australians, leading to violent assaults and subsequent counter-riots by Arab-Australians (Noble 2009; Poynting 2006). These riots were the culmination of simmering tensions about young Arab-Australians' 'inappropriate' behaviour at the beach, including accusations of harassment of other beach-users. Like mosque opponents though, concerns at Kurranulla/Cronulla mobilised broader anxieties about the evolution of Australian multiculturalism against a backdrop of global tensions during the 'War on Terror'.

On an everyday level, studies have documented Australians' experiences with racism, particularly in our urban centres. In their survey of residents in the Eora Nation/Sydney, Naarm/Melbourne and Mooro/Goomap/Perth, Dunn et al. (2009: 1) found that cities are 'places of everyday racism', experienced as ethnocentrism, prejudice and ethnic-based hatred. Their results showed that, depending on their background and situation, between a tenth and a third of respondents experienced some form of 'everyday' racism, most commonly in public spaces such as in the street or a shopping area. This followed the Australian Human Rights Commission's inquiry (Human Rights and Equal Opportunity Commission 2004) that found extensive evidence of discrimination, vilification and prejudice against Arab and Muslim Australians. These experiences increased with events such as overseas terrorist attacks and local debates over 'ethnic crime' and asylum seekers. As a result, some Arab and Muslim Australians, particularly women in traditional Islamic dress, had restricted their movements in public and reported being more isolated since 9/11 (see also Dreher 2006; Noble and Poynting 2010; Poynting and Noble 2004; Poynting et al. 2004).

Everyday racism coexists with harmonious everyday mixing across cultures, as explored below in relation to 'everyday multiculturalism'. In culturally diverse neighbourhoods, it is common for individuals to simultaneously hold prejudiced attitudes against particular minority groups, and also report valuing diversity and coexisting effectively with others in urban spaces (Bloch and Dreher 2009; Harris 2013). As a starting point, built environment professionals need to develop some basic racism literacy, or awareness of everyday racism, and recognise the impacts that racism might have on competing claims for urban spaces.

9.3 Critical Multicultural Studies

The final section of this chapter introduces students to some of the contemporary critical approaches to multicultural cities. We outlined two understandings of multiculturalism earlier, firstly as a demographic fact of Australian cities and secondly as a policy approach or set of policy approaches to a culturally diverse polity. The third understanding of multiculturalism is as a concept that sets out *a normative ideal* about society (Koleth 2010). What do mean when we talk about 'multicultural cities'? Is it something more than the mere presence of cultural diversity in the city?

Normative Ideal
A *normative ideal* is a statement about how things *should* be, what ought to be valued. The word normative implies that some kind of evaluation is being made. Multiculturalism as a normative ideal suggests a working towards certain kinds of intercultural relations.

9.3.1 Everyday Multiculturalism

Scholars like Amin (2002) and Wise and Velayutham (2009) argue that much of what happens in multicultural cities takes place well outside the influence of government policy, with productive encounters across difference occurring in a much more mundane and everyday way. Hage (1998) argues that claims about the impact of policy on everyday experiences of integration are exaggerated. Amin (2002: 960) considers progressive interethnic relations as more related to the "vibrant clash of an empowered and democratic public" than "…the product of policy fixes and community cohesion or consensus". Writing about young people's use of urban spaces, Harris (2013: 42) notes that while public debates and policy often focus on the 'poor integration' of various ethnic communities, for many young people, 'interaction across diversity is normal and unremarkable'.

These interactions are captured in the concept of 'everyday multiculturalism'. Amin (2002), Ho (2011), and Wise (2009) have employed the idea of 'micro-publics,' which are spaces like sporting and other types of clubs, schools and workplaces, where productive cross-cultural interactions are most likely to take place. These are the places and spaces that urban and social planners and urban designers have a role in providing. In studying micro-publics, Amin does not intend to privilege the local; rather he acknowledges that both local and top-down processes matter when it comes to living with diversity. Amin (2002: 967) highlights "everyday enactment as the central site of identity and attitude formation". Micro-publics may be most productive when carefully managed by local stakeholders, including teachers, youth workers, coaches at sporting clubs and so on.

Structural barriers to the effectiveness of micro-publics may need attention from policy makers. For example, Ho (2011) documents White flight from

diverse public schools, and argues that the potential of schools as micro-publics will be limited if they do not reflect the full diversity of their geographical communities. In this case, fostering micro-publics requires public policy that addresses the increasing trend of ethnic division between schools. Cross-cultural contact can increase prejudice if not appropriately managed (Barlow et al. 2012), providing further support for the need for appropriate multicultural policy. Policy can play a role in facilitating micro-publics. Beyond the micro-public and the city, leadership and assurances at a national level are important for shoring up the opportunities offered by micro-publics.

Critics of everyday multiculturalism point out that proximity and encounter do not always lead to respect and cohesion (Leigh 2006) and that mundane acts of civility cannot always be scaled up (Valentine 2008). Critics of 'everyday multiculturalism' argue that these discussions underplay the deeper structural and historical forces that shape the conditions for individual interaction, as shown by events like the Kuranulla/Cronulla riots, but also by the much more regular everyday tensions over the use of space. This discussion highlights the need for built environment professionals to consider both the contemporary implications of institutionalised racism and the potential for productive everyday multiculturalism in urban planning and design processes.

9.3.2 Cosmo-Multiculturalism

'Cosmo-multiculturalism' (Hage 1998) describes how cultural difference is constructed for our consumption. Under this framing, cultural diversity is a commodity that benefits the local economy, for example, through ethnic precincts, as examined above. It also offers opportunities for middle-class White individuals to symbolically mark themselves as 'cosmopolitan' and culturally sophisticated, 'capable of appreciating and consuming "high-quality" commodities and cultures, including "ethnic" culture' (Hage 1998: 201).

As explored above, Australian multiculturalism has been critiqued for focusing on celebrating superficial, safe cultural differences rather than recognising structural inequalities, discrimination and racism. Lugones and Price (1995) describe this as 'ornamental multiculturalism', focused on cultural expressions like cuisine, theatre, and art. In contrast, 'structural multiculturalism' can be said to operate when various cultural practices inform societal decision-making. That is, structures of society, be they educational, government, justice systems and so on, reflect the diverse views and values of the citizenry.

Ornamental or cosmo-multiculturalism has been used to describe the culture of gentrified inner-city areas in Australia. The combination of multiculturalism and economic globalisation has led to inner-city areas becoming more cosmopolitan, defined by Turner (2008: 569) in terms of both the growing presence of global cultures in Australia – "outdoor dining, good coffee, for instance" – and a process of cultural sophistication and maturation. However, as gentrification has priced out working-class residents, including migrants, Turner (2008: 573) argues that

inner-city cosmopolitanism has become a form of commercialised display of multiculturalism by and for White elites, a "service, rather than an organic attribute of the local community".

The critique of cosmo-multiculturalism makes visible the role of White consumers as beneficiaries of this form of diversity. As such, it aligns well with the critique of multiculturalism that comes from critical whiteness studies. This critique posits that multiculturalism is inadequate because it fails to disrupt the hegemony of whiteness in Australia. That is, in multiculturalism, cultural diversity is defined in opposition to whiteness. Whiteness is situated outside of 'culture', while all other 'cultures' are included within the category of multiculturalism (Hage 1998; Schech and Haggis 2001). Built environment professionals need to develop an awareness of who benefits from cosmo-multicultural urban change and which groups might be disadvantaged.

9.3.3 Multicultural Cities and the Politics of Difference

A central concern associated with governing multicultural cities has been the treatment of difference. Strong arguments have been made for public policy that affirms rather than suppresses social group difference, as this enables a differentiated, culturally plural contemporary urban life. In a classic work titled *Justice and the Politics of Difference*, Young (1990) argues for a political approach that recognises rather than represses difference. She asserts that if we are to pursue social justice, different individuals and groups must be able to dwell together without necessarily forming a community. According to Young, the notion that different, diverse individuals and groups must come together to form a whole, cohesive unit can be oppressive of difference. Taking the debates about ethnic residential concentration we discussed earlier as an example, a politics of difference approach directs us to consider the positives of ethnic residential concentration. That is, cultural groups ought to be able to maintain their cultural distinctiveness, their language, traditions and practices while dwelling in close proximity to others with different cultural traditions and practices.

Mythologies of unity in multicultural cities mask power differences and oppressive social relations (Panelli and Welch 2005). Common values are likely to reflect the dominant group norms. The irony of this desire for unity, according to Young (1990), is that rather than unifying it creates a dichotomy, whereby there is clear differentiation between individuals inside and outside. Public life need not require citizens to give up their particularities for a mythical 'common good' (Young 1990: 119). A politics of inclusion, in Young's view, should advocate for a heterogeneous public that acknowledges one another's differences, even if they are not understood by other members of the polity. Analysing culturally diverse young people's use of urban spaces, Harris (2013: 35) also argues for a 'model of agonistic democratic politics rather than a politics of community'. At a time when communities are not fixed, homogeneous or bounded, Harris suggests that confrontation at some point is inevitable, so civic politics must be able to facilitate 'open-ended engagement, vibrant opposition and negotiation' (2013: 35).

Secomb (2000) concurs that there must be a place for difference and, more importantly, disagreement and contestation, within community, but disagrees that community should be disposed of altogether (see Panelli and Welch 2005 for a discussion of why the notion of community is attractive). Rather, Secomb (2000) argues that community should not be conceived of as an entity based on "unity, commonality and agreement" (p. 133), but proposes community be interpreted as "an expression of difference and diversity that is made manifest through disagreement and disunity" (p. 134). This literature suggests that *disagreement* may be a key element in accommodating diversity and difference in multicultural cities.

Like Young (1990), who argued that we must allow for differences, even those that we do not understand, Balint (2006, 2010) argues that respect for difference itself is not a necessary goal of multicultural policy. Rather, respecting the *right to hold a particular difference* is an essential element of a multicultural city. This is an important distinction for Balint. Like Secomb (2000) and Young (1990), Balint argues that disagreement, contestation, and even disrespect are important in making space for difference. As Balint states, "The boundaries of the tolerable within a society are always going to be broader than the boundaries of the respectable" (Balint 2005: 8).

Australian multicultural policies have been founded on the importance of harmony, dialogue, and 'finding what we have in common'. However, Balint and others argue that only positive orientations to difference are allowed for (Balint 2010). Respect for difference does not

> ...engage properly with 'difficult' or challenging differences. While many differences in a society are entirely respectable – cuisine being the obvious category here – there will always be those that are not easily respectable despite being within the bounds of what *should* be tolerable. These differences are often, though not always, ideological or religious. (Balint 2010: 135, emphasis in original)

Other scholars have emphasised the role of distance and indifference as powerful forms of recognition within diverse urban environments. Van Leeuwen (2010) describes this as 'side-by-side citizenship', arguing that the typical 'blasé attitude' or indifference of city dwellers enables personal freedom and intercultural tolerance (see also Tonkiss 2003; Fortier 2008). In India, Nandy (2002) has theorised that effective intercultural relations can include keeping one's distance, and even mutual hostility, as long as all residents recognise the right of others to inhabit a shared space. In her work on young people's urban interactions, Harris (2013: 54) notes their 'ethical indifference to diversity'. While conventional 'social cohesion' discourses demand that we actively engage with difference, Harris shows that young people display an 'unpanicked multiculturalism' partly based on a capacity to unproblematically share space and live 'side by side' without necessarily building deep connections with others. The foundation of 'peaceful but distant cohabitation' is an acknowledgement that 'everyone has rights to the civic space that is shared' (Harris 2013: 55).

To conclude, this chapter has provided an overview of the history of multiculturalism in Australian cities, examined some of the pressing current debates facing multicultural cities, and introduced some critical theoretical and conceptual

frameworks that can help us understand multicultural cities in more depth. While public debates and policies around multiculturalism and inter-cultural relations in our cities are often marked by anxiety about certain migrants' lack of integration, ethnic segregation, or ethnic crime or tension, this chapter has shown that on an everyday level, intercultural relations are a normal part of life for urban residents. However, this everyday multiculturalism coexists with everyday racism, which often reflects events and tensions outside of Australia. Everyday racism continues also to be shaped by the legacies and continuing structures of settler-colonialism and the White Australia Policy.

This chapter has also shown that government policies around urban planning are slow in adapting to the reality of growing diversity in our cities, and still implicitly reflect the values and assumptions of the White population. Moreover, governments' reframing of multiculturalism in terms of national security and social cohesion may undermine local intercultural relations by unjustly marking certain minority groups as threats to the community. In practice, the productive sharing of urban space requires not that we all necessarily agree with each other but a recognition that we all have the right to be here, and to have our voices heard. This chapter has raised critical issues for future built environment professionals to grapple with, as our cities continue to grow, and grow in diversity.

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Digital Cities

10

Tooran Alizadeh and Kurt Iveson

Abstract

This chapter focuses on the relatively new concept of 'digital cities', which has attracted an unprecedented level of attraction in the last decade. Unfolding the popularity of digital city practices and promises, the chapter starts with a discussion of ongoing attempts to plan for digital cities. Then, building on the notion of equality in digital city debates, the chapter discusses issues of access to the telecommunication infrastructure that is the backbone of digital cities. The chapter concludes by pointing out some of the hidden environmental and social costs of digital city practices worldwide.

10.1 Understanding Digital Cities

This chapter focuses on the relatively new concept of 'digital cities', which has had an unprecedented level of attraction in the last decade. Unfolding the popularity of digital city practices and promises, the chapter starts with a discussion of ongoing attempts to plan for digital cities. Then, building on the notion of equality in digital city debates, the chapter discusses issues of access to the telecommunication infrastructure that is the backbone of digital cities. The chapter concludes by pointing out some of the hidden environmental and social costs of digital city practices worldwide.

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The concept of 'digital cities' has been gaining increasing attention worldwide (Berst et al. 2014; Neirotti et al. 2014). Despite this popularity, no prevalent or universally acknowledged definition exists for the concept (Alizadeh 2010; Angelidou 2014). Indeed, in the academic and also professional debates terms such as 'digital', 'smart', 'smarter', 'intelligent', 'ubiquitous' and even 'knowledge-based' have been used interchangeably (Cocchia 2014; Pardo et al. 2012; Wolfram 2012). The popularity of the concept is based on a mix of various factors including the availability of substantial public financial resources (such as EU Strategic Energy Technology Plan); the tendency of global corporations (such as Cisco and IBM) to heavily invest in urban digitisation projects (Luque 2014; McNeill 2016; Vanolo 2014); and finally a growing range of complex urban challenges that need advanced technology-enabled solutions (Alizadeh 2017a; Paroutis et al. 2014). The rapid diffusion of digital technology and so-called smart urban governance approaches demand attention and critical analysis.

For the purpose of this chapter, the working definition of digital city is the following: digital cities are all urban settlements that use digital technology to shape the planning of cities across a number of domains, including economy, mobility, environment, living, people and governance.

We start our chapter by surveying some of the key debates in planning for digital cities. We then shift to a discussion about the telecommunication infrastructures that is the backbone of digital cities, focusing especially on their uneven geography and accessibility, and environmental effects.

10.2 Key Debates in Planning for Digital Cities

This section provides a cross-national analysis of attempts made to plan for digital cities in different formats. In doing so, the lack of integration between digital city planning, on the one hand, and strategic planning, on the other hand, is pointed out. More importantly, corporations' involvement in digital city planning and implementation is criticised, with special attention to their influence on city governance and 'reduction of city challenges' (Alizadeh et al. 2017; Hollands 2015a; McNeill 2016). This section concludes by proposing some golden rules on how urban governments and corporations should collaborate to actualize digital cities – with special attention to equality.

10.2.1 Global Trends of Digital Cities

Ten years ago, in 2010, New York was the first city that released a roadmap document to strategically plan for its digital future (Bloomberg et al. 2010). The roadmap document was updated in 2013 (Bloomberg et al. 2013), and started a trend in a few elite cities such as Chicago (City of Chicago 2013) to develop their urban digital strategies, to speed up the pace of change, and to move digital planning from ad hoc to integrated and strategic (Alizadeh 2017c; Bloomberg et al. 2010, 2013). Earlier

digital urban strategies covered issues ranging from business creation and productivity growth to public administration, education, health, environment, citizen engagement and development (Alizadeh 2015b; Alizadeh and Sipe 2015, 2016).

Nevertheless, 10 years later in 2020, planning for 'digital city' is no longer limited to elite metropolitan cities (OECD 2015; World Bank 2015). The terminology used to refer to such planning is, however, quite confusing as varied terms such as digital strategy, digital economy strategy, smart city strategy, intelligent strategy and knowledge-based strategy have been thrown around. It is fair to say that 'smart', or in some context 'smarter', seems to be gaining momentum, at least at this point of time.

It is interesting to see the uptake of smart city projects, initiatives and strategies all around the world. Yet, a closer examination shows there are some favourite regions in terms of digital city take up (Alizadeh 2017a): starting with North America, particularly along the east coast of the United States; and also across the Europe, particularly in Western Europe. Having said this, an ambitious number of smart city projects are being initiated across China and India (Kavta and Yadav 2017). More interestingly, the digital city planning is observed in cities of all sizes. For example, an earlier study (Alizadeh 2017a), focusing on the IBM Smarter Cities Challenge, shows that the 130 cities involved with the global challenge are enormously diverse in terms of population size – the smallest at around 40,000 (Geraldton, Australia; Burlington, BT, USA; Pyeongchang, South Korea) with the largest city being Delhi with 22.6 million people. Indeed, just under 50% of the 130 participating cities are categorized as mid-sized (population between 500,000 and 2,000,000). Regardless of the intentions behind the IBM Challenge, from the policy making perspective, this is an interesting take up pattern as it represents the global distribution of digital city thinking, and the vision that city governments worldwide have for digitally enabled solutions.

10.2.2 Strategic Planning in Digital Cities

Amid widespread digital city planning, there is a call for cities to align their smart and digital initiatives with the complex policy agenda already operating and the priorities already in place, as part of the strategic urban and regional planning (Angelidou 2014; Hodgkinson 2011).

There is no clear consensus in the literature on how to define strategic urban and regional planning. The broad definition of strategic urban and regional planning is clarified with reference to local contexts around the ongoing major issues facing cities and regions, whether climate change, social transformation, economic crisis or technological advancement. An established body of the literature (Bunker and Searle 2009; Searle 2006) discusses the never ending shift in the focus of strategic urban and regional planning as a result of the shift in what matters the most in different cities at any point of the time.

Infrastructure has been one of the founding pillars of strategic urban and regional planning (Saalman 1971). Planners recognize that infrastructure is a powerful driver

of economic growth and social prosperity, and exerts a profound and pervasive influence on cities and regions (Graham and Marvin 2001; Neuman and Smith 2010). The definition and scope of infrastructure and, as a result, the major planning concerns and policy issues associated with it, however, have evolved over time. More recently, there is a new line of research about how cities and regions can/should capitalize on the potentials of telecommunication and more specifically broadband infrastructure (Alizadeh 2017c; Alizadeh et al. 2014, 2015). It builds upon the growing international research on smart cities and digital economy; and explores telecommunication-based opportunities in a range of planning topics including but not limited to participatory planning, public safety, disaster management, economic development, employment growth, sustainable development, transport management and governance, (Heo et al. 2014; Rodríguez-Bolívar 2015; Yau et al. 2014). The aim is to identify the most appropriate domains of implementing smart and digital city initiatives in each unique local context, aligned with the strategic plans in place (Alizadeh 2015b; Alizadeh and Sipe 2015; Alizadeh et al. 2014).

For example, a previous research (Alizadeh and Sipe 2016) examined Vancouver's Digital Strategy (VDS) and questioned the lack of alliance between the VDS and the most significant and trademark strategy of Vancouver – the Greenest City 2020 Action Plan. While Vancouver put the highest priority on the environment, the VDS failed to explicitly include this in its set of priorities; and did not put forward digitally enabled initiatives to support the Greenest Strategy. Two opposing views were identified in response to the lack of alliance. The city officials believed that an operational link at the implementation phase would connect the two technological and environmental strategies. This view, however, was questioned by the digital experts – interviewed as part of the research – who believed that the VDS looked like any other digital strategy and did not necessarily link to the big issues in Vancouver. This is a concern that resonates with the literature on smart cities that warns against the one-size fits all narrative (Kitchin 2015) failing to properly account for the role that various socio-economic, political and spatial variables have in influencing planning approaches and therefore stymied the opportunity to create smart cities in different contexts (Alizadeh 2017c; Nam and Pardo 2011; Neirotti et al. 2014). In the one-size fits all narrative, smart cities concept is relegated from a purpose-driven, spatially cognisant strategy to a panacea for all challenges facing all sized cities.

10.2.3 The Role of Digital Corporations

In the last decade, a critical scholarship has emerged around the role of the global digital corporations in developing concepts of smart and smarter cities (McNeill 2015; Paroutis et al. 2014). A particular focus has been on how firms have tried to influence city governments, while engaging in providing philanthropic services to the local governments. Google's Fiber Cities and IBM's Smarter Cities Challenge, in particular, have been subject to significant scrutiny, both in popular and academic commentary (Halegoua 2014; Söderström et al. 2014; Wiig 2015).

Discussions (Halegoua 2014; Hollands 2015b) about global corporations' involvement with cities are threefold: first, firms are criticized for packaging their smart city initiatives as philanthropic practices, while being in competition for selling their range of products (e.g., consultancy, networks, hardware and devices, chips, software, system solutions) (Kitchin 2015). Second, it is argued that the corporations' approach marginalises participatory and democratic potentials of smart cities (Townsend 2013); and third, firms are accused of simplifying and standardizing the concept of city (McNeill 2015; Söderström et al. 2014).

The Google Fiber experience in the United States, as an eminent case study of digital corporation's involvement with digital city making, is analysed in the following paragraphs. It should be noted that this analysis uses the US spelling of "fiber".

10.2.3.1 Google Fiber

In February 2010, Google challenged cities across the United States (Google Blog 2010b) to compete for being the site of its first attempt at building ultra-high-speed fibre-to-the-premises network (FTTP), up to one hundred times faster than any pre-existing service in the country. Cities interested in hosting Fiber had approximately 1 month to fill out forms, organize campaigns, create Facebook pages, stage elaborate stunts, undergo temporary transformations (such as Topeka, Kansas, changing its name to Google, Kansas), upload YouTube videos, collect signatures and present their demand for Google's services (Halegoua 2014). More than 1100 cities applied (Google Blog 2010a).

In March 2011, Kansas City, Kansas, was selected as the winner of the competition and this selection was expanded to include Kansas City, Missouri. Further details of Fiber service were announced in July 2012 to bring 1 Gbps Internet service to selected residents of Kansas City metropolitan area (Kansas City 2011). In 2013, Google expanded their FTTP network to Austin, Texas, and Provo, Utah; and later in 2014 announced expansion plans to 34 US cities.

Google Fiber was widely acclaimed in its first few years, with Kansas City being anointed as "broadband mecca". The Fiber project was also roundly welcomed as a model for telecommunication deployment for other cities to follow (Chan 2013). The honeymoon phase, however, did not last long for Google Fiber. In August 2015, Google announced its intention to restructure the company, moving into a new umbrella corporation, Alphabet Inc. As part of this restructuring plan, Google Fiber became a subsidiary of Alphabet. This was then followed with numerous media pieces (Kleeman 2016; McLaughlin 2016) suggesting that Google Fiber did not reach its subscription targets (Pressman 2016a); and therefore was under pressure by Alphabet to reduce staff numbers in half, limit the scope of the project (Williams 2017) and change its technological choice – possibly to wireless rather than cable (Pressman 2016b).

Estimates suggest that the Access division of Alphabet, which is responsible for the planning and oversight of Google Fiber, lost nearly $3.6 billion in 2016 (Fiegerman 2016). A huge portion of these losses have been attributed to the efforts associated with Fiber (Levy 2016). Nevertheless, the facts are limited as Alphabet has never released subscription numbers or the size of its investment in any of the

Google Fiber cities (Sisson 2017). All is known is that the construction work for Google Fiber in some of the cities (e.g., San Jose and Portland) has slowed down or stopped (Nicas 2016).

Having said this, spatial analysis of Google Fiber network in Kansas, Austin and Provo (Alizadeh et al. 2017; Grubesic et al. 2018; Helderop et al. 2019) are quite telling. Given the persistence of the digital divide in the United States, especially within urban areas, Google Fiber has managed to manifest an equitable rollout; and to maintain a socio-spatial distribution that favoured neighbourhoods with younger, lower income, minority populations.

Nevertheless, a closer examination (Alizadeh et al. 2017) of urban governance and the Fiber projects highlights massive regulatory concessions and incentives provided to Google during the construction phase in Kansas City, Provo, San Antonio, Huntsville and many other cities. For example, Kansas City provided Google access to all city-owned conduit, fibre, poles, rack space, nodes, buildings, facilities, central office locations and available land. In addition, Kansas City gave Google access to all municipal GIS data and technical information databases; cooperated in publicity and marketing efforts; and provided assistance to Google in obtaining settlement-free interconnections with anchor institutions in the city that had existing network connections. Moreover, Kansas City did not impose any charges for access to the facilities or data, nor did the city require any permit or inspection fees (see the Development Agreement (Kansas City 2011) for more information).

In short, although Google designed and installed the network, much of the administrative cost was absorbed by Kansas City with taxpayers forced to cover most of the indirect costs for the network. It has been argued that Kansas City's support for Google's network went well beyond deregulation and in some instances local efforts were described as 'corporate welfare' (Hamblin 2012).

10.2.3.2 The Golden Rule

As pointed out earlier in the chapter, small- and mid-sized cities reach out to the digital corporations in their digital city planning – especially in the absence of strategic and sustainable support from national governments. There, however, remains a golden question about how much city governments should compromise in their dealings with global digital corporations; and where they need to draw the line. The answer to this question, informed by Google Fiber experience in Kansas City (Alizadeh et al. 2017), has two facets:

First, city governments have to apply check and balances to assure the equity of access to service in their dealings with digital corporations. Specifically, if government (in any publicly funded form or shape) is going to invest or offer subsidies, there is an obligation to ensure that the resulting digital infrastructure and/or services are equitably distributed to all residents. This is especially important for groups typically ravaged by the digital divide.

Second, city governments have to assure equity in their dealings with private sector including but not limited to digital corporations; and avoid bias which could result in unintended consequences in digital market (or general market for that matter). A fair deal means that a city needs to account for conditions such as

open-access rules to avoid the needs for yet another taxpayer-subsidized network to be constructed in future.

10.3 Critical Infrastructure for Digital Cities

It is important to realize that the digital city is only possible if the enabling infrastructure is provided. So, while the things we can do with 'smart' technologies are 'sexy' new objects for study, it is important not to lose sight of the fact that the making of digital cities is also a matter of good old-fashioned urban infrastructure planning (Graham and Marvin 2001). As Zook (2006) has put it, the digital 'space of flows' depends upon physical infrastructures that are firmly located in the 'space of places'. And, as has been the case in other areas of urban infrastructure provision, the provision of this telecommunications infrastructure for the digital city has itself been a matter of contention. Questions of finance, control, access and impacts abound. In this section, we focus on two aspects of digital infrastructure – the provision of broadband access to urban inhabitants and the socio-environmental impacts of digital technologies that are the building blocks of the digital city.

10.3.1 Broadband Access

There is growing interest in broadband technology as the key telecommunication infrastructure, and also as the backbone of digital cities (Grubesic and Mack 2015). Broadband is a generic term for high-speed Internet, delivered by a range of platforms (e.g., cable, fibre, wireless and satellite). The Federal Communications Commission in the United States defines broadband as at least 25 Mbps downstream and 3 Mbps upstream. More importantly, the US Broadband Opportunity Council in 2015 declared that broadband is "taking its place alongside water, sewer and electricity as essential infrastructure for communities" (Middleton 2015).

Since the turn of the century, a growing number of countries including the United Kingdom, Korea, Germany, New Zealand and Australia have undertaken substantial direct government investment in broadband infrastructure. Government involvement is often justified by reference to long-term social equity and economic prosperity implications of the infrastructure, providing access to e-health, e-education, e-business and e-governance among other online services (Alizadeh 2015c; Latulippe et al. 2017).

Nevertheless, inequity of access has been a persistent feature of this fast-growing critical infrastructure in many parts of the world. At a global level, the digital divide is well alive and perhaps widening (Ragnedda and Muschert 2013). The gap is not just limited to the global north versus the global south. Focusing on the OECD (Organisation for Economic Co-Operation and Development) countries, nowhere have the equity gaps been more pronounced than with fibre broadband (OECD 2016). Geographically smaller, densely populated countries such as Japan, South Korea, New Zealand and Latvia lead in the deployment of fibre broadband

infrastructure. In contrast, in larger, more geographically dispersed countries such as the United States, Canada and Australia, fibre adoption lags behind the OECD average.

The emphasis on fibre broadband is very timely, as recent studies warn that calls for the death of wireline systems (Grubesic et al. 2018; Worstall 2013a, b) are premature; the wireless spectrum is heavily constrained; and wireless transmission remains susceptible to environmental interference, reducing its reliability (Grubesic 2017; Vantage Point 2015). As a result, fibre broadband remains the most logical platform for accommodating growing demands for quality telecommunication services.

Below we explore the ups and downs of the National Broadband Network (NBN), which is the publicly funded national telecommunication infrastructure project in Australia. The lessons learned are applicable to many other parts of the world.

10.3.1.1 The NBN

In response to the concerns about the quality of Australia's broadband infrastructure (Barr 2008; Catherine Middleton and Chang 2008), the Australian Federal Labor Government, in 2009, approved the construction of Australia's National Broadband Network (NBN) (NBN Co. Ltd 2010) to facilitate equity across Australia's communities in regard to access to e-government, e-health and e-education particularly in regional and rural areas (Parliament of Australia 2011).

Nevertheless, the roots of government investment in a national broadband network in Australia goes back to 1994, when under an Australian Labor government, concerns were raised in the senate about monopoly power in Australia's telecommunication infrastructure (Schram et al. 2018). Later in 1995, then Prime Minister Paul Keating noted "…that access to the national information infrastructure will be no less a general right than access to water, or public transport or electricity" (Keating 1995). However, before any initiatives commenced, a conservative Coalition government was formed in 1996, which marked the beginning of an 11-year period of a national broadband strategy that prioritised subsidies for market actors to support development in regional and remote areas. By failing to address the initial concerns, in the mid-2000s, Australian telecommunication company, Telstra, held the single largest telecommunications monopoly in any developed economy (Gregory 2017; Ryan 2017).

The federal election in November 2007 saw a return of a Labor government which was elected on a policy platform that promised a national broadband network (NBN). The NBN Co. was announced in April 2009 to provide terrestrial fibre network coverage for 93% of Australian premises by the end of 2020. Fixed wireless and satellite coverage would serve the remaining 7%. Soon after this announcement the early rollout began, first in the island of Tasmania and then on mainland Australia including 60 locations across the nation. Additionally, in March 2012, NBN Co. announced plans for the first stage of the large-scale rollout to connect 3.5 million premises in 1500 communities by mid-2015 (NBN Co. Ltd 2012). The early NBN rollout, however, experienced significant delays, and attracted a great deal of overwhelmingly negative media coverage (Saarinen 2014). Previous research also shows

that the early rollout was politically motivated (Alizadeh and Farid 2017) and socio-economically biased (Alizadeh 2015c). This troublesome start, and the September 2013 federal election result, changed the fate of the NBN.

In 2013, the recently elected Coalition government suspended the large-scale fibre-to-premises NBN rollout to reassess the scale of the project. The Coalition, then, altered the implementation strategy for the NBN (Alizadeh 2017b); replaced approximately 60% of the fibre-to-the-premise (FTTP) rollout with a multi-tech mix of fibre-to-the-node (FTTN) and hybrid fibre coaxial (HFC). FTTN and HFC, as well as the fixed wireless, and satellite are all inferior to FTTP in terms of "…speed and capacity delivery, maintenance costs, reliability, longevity and upgrade costs" (Quigley 2016). This change of direction also resulted in a prolonged state of uncertainty at the local government level (Alizadeh 2015a; Alizadeh and Shearer 2015).

More recently, the Coalition's NBN has faced heavy criticism (Coyne 2016; Tucker 2015, 2016) as it remains behind schedule and over budget, while delivering an inferior product. More importantly, the ongoing secrecy around the NBN makes it difficult to properly assess the progress of the national infrastructure project (Pinnell 2017). Indeed, the first formal evaluation of the Coalition's plan was to come from the NBN Co. to the Federal Coalition government. However, the NBN report was omitted from any public documentation, and repeated freedom of information requests for its release were denied (Schram et al. 2018). The NBN Co. report later leaked to the public, revealing a damning assessment of the Coalition plan. NBN Co. had advised that the proposed FTTN would not deliver the Coalition's policy promise of guaranteed 50Mbps services; and instead it would produce lower revenues, keep prices higher, face resistance from local government, and threaten the ability to provide proper e-government, e-health and other online services across the network (Braue 2013).

In summary, in the Coalition's NBN, the provision of universal high-speed capacity – as envisioned in the original NBN – has been transformed into a patchwork of final speeds and different quality of service (Dias et al. 2014). This leads to growing concerns about equity. A 2017 report from the Joint Standing Committee at the Federal Parliament of Australia on the National Broadband Network echoed these concerns, noting that "The committee is concerned that NBN is delivering a service of quite varied quality with the potential to fall short of a ubiquitous network in which a foundation of reliable, affordable, high-speed internet is available to the vast majority of households and businesses. The uneven nature of the multi-technology mix and the apparent over-use of satellite broadband could exacerbate existing social, economic, and digital inequality" (Commonwealth of Australia 2017).

10.3.2 Environmental and Social Impacts

Just as we need to critically interrogate the uneven geographies of the infrastructures that sustain the digital connectivity of digital cities, so too do we need to examine some of the environmental and ethical dimensions of cities' increasing

digitalisation. Like the cables that run beneath our feet, these environmental and ethical impacts are not immediately obvious in their scope or scale – indeed, the nature of contemporary digital networks and devices tends to obscure such impacts. As we shall see, the making of digital cities depends on vast and complex systems of extraction and production involving environmental transformations and labour that take place at some distance from the urban environments of the digital city itself. Nevertheless, these transformations and labours are deeply connected to the urban process of digital cities (Wachsmuth et al. 2016).

10.3.2.1 Data Centres and Greenhouse Gas Emissions

One of the key environmental issues generated by the rise of the digital city is the environmental footprint of data storage in data centres. Digital data is not immaterial. All the data that is generated by urban informatics systems associated with the digital city, and all the data that is accessed by policy-makers, businesses and citizens seeking to become 'smart', must be stored somewhere. Especially as the digital city evolves in parallel with the growth of 'cloud computing' and the 'internet of things', the storage of data is increasingly shifting from personal and/or enterprise computers to data servers located in dedicated data centres.

The recent growth in the number and capacity of data centres has been spectacular. Industry surveys suggest that there are now over 8 million data centres globally, although absolute numbers may be starting to fall thanks to consolidation (Smolaks 2014; Statista 2019).The world's largest technology companies increasingly operate their own networks of 'hyper-scale' data centres, which house thousands of servers each over tens of thousands of square feet. There are now over 400 of these globally, although they are overwhelmingly concentrated in the United States (Sverdilk 2017).

As Hu (2015) points out, the physical infrastructure required for data storage has tended to receive far less attention in discussions of digital disruption and digitalisation:

> The data center remains among the least studied areas of digital culture, with cloud computing producing a layer of abstraction that masks the physical infrastructure of data storage. Paradoxically, then, data centers exist at the border between the dematerialized space of data and the resolutely physical buildings they occupy.

A first thing to note about these buildings is that their locations do matter – this is not a 'placeless' geography. Importantly, while the global geography of data centres is not exclusively urban, the data storage needs of digital cities tend to be concentrated in urban areas. Why? First, and most obviously, data centres need to be well-connected to the Internet. And, given that major Internet cable infrastructures tend themselves to be grafted onto older telecommunications infrastructures, so too it is for many of the world's key data centres. A well-known example is the data centre located in midtown Manhattan at 32 Avenue of the Americas. This data centre is a retrofit of a building that was home to AT&T's Long-Distance Telecommunications operations, and therefore a dense nodal point for cable routes. So, the concentration of existing telecommunications networks in urban space has

tended to encourage a concentration of data centres in cities too. Second, data centres serving the needs of city-based state, corporate and civil society organisations seek to offer proximity to those organisations as one of their key competitive advantages. Physical proximity to data servers that may require maintenance or upgrades is especially crucial for city-based organisations who purchase their own server space, but also remains important for cloud-computing firms offering services to those organisations. So, not only do we see existing telecommunications infrastructures being retrofitted for data centres and Internet exchanges, we also see the retrofitting and repurposing of buildings such as inner-urban warehouses and factories for data centre construction in cities. A case in point is the concentration of several data centres in Sydney in the inner-urban area of Alexandria, a locality that is close to the Central Business District and a former centre for industry and warehouse operations.

Data centres are resource-intensive. Data servers require a secure and steady supply of energy to run, and they produce a significant amount of heat in the process. As a consequence, there are also associated energy demands for cooling servers and server rooms. Further, they are powered to handle peak demand, and may have relatively low utilisation rates outside of those peaks. A study conducted for the *New York Times* in 2012 (Glanz 2012), which sampled over 20,000 servers across 70 data centres, estimated that only around 6–12% of energy consumed was used for computation, the rest was used to maintain redundancy in case of surges in demand.

While awareness of this issue has been growing for some time, a high-profile report by Greenpeace in 2012 helped to garner wider attention. *'How Clean is Your Cloud'* built on work conducted by Greenpeace on the IT sector more broadly in 2010, which estimated even then that:

> The combined electricity demand of the internet/cloud (data centers and telecommunications network) globally in 2007 was approximately 623bn kWh. If the cloud were a country, it would have the fifth largest electricity demand in the world (Cook 2012).

While energy efficiencies associated with technological advancements seemed to be resulting in a flattening out of energy consumption in the United States by this time, more dramatic growth of data centres outside of the United States since 2010 has meant that energy consumption continues to grow even as servers become more energy-efficient (Shehabi et al. 2016). The question of whether major cloud computing companies are shifting to renewable sources of energy or instead using non-renewable fossil fuels to power their data centres is therefore a question of global environmental significance.

The 2012 Greenpeace report found considerable variation in practice across the sector. While some companies were transparent about their energy use and mix, and were making policy commitments to renewable energy, others refused to share data and were actively lobbying against renewable energy initiatives based on the concern that they would increase their energy costs. Crucially, the efforts of Greenpeace and others drawing attention to this issue have helped to challenge the 'invisibility' of digital infrastructure's environmental footprint – notions of the 'cloud' tend to

obscure the physical reality of fossil fuel extraction and carbon emissions that continue to power the digital city, which are often 'out-of-sight' and 'out-of-mind' for urban inhabitants living at some distance from mines and power plants.

10.3.3 Extraction, Labour and Waste Associated with the Digital City

A further environmental and ethical issue associated with the growth of digital cities concerns the materials and labour required for the computing and sensing devices upon which digitalisation is built.

The global smartphone industry is a case in point. Townsend (2013) refers to the smartphone as a "smart city tool kit" – but what does it take to put one of these devices in the hands of a growing number of the world's urban inhabitants? Close to 1.5 billion new smartphones were shipped from manufacturers in 2018 (Counterpoint Research 2019) – that's approximately one new smartphone for every 4.8 people on the planet. Concerned environmental and labour groups have drawn attention to a wide range of environmental and ethical issues associated with this staggering industrial effort.

First, the mineral inputs of smartphone and computer components are often mined in poorer parts of the world, with hazardous working conditions overseen by mining operations that have been accused of funding military and/or civil conflict. In particular, the extraction of the so-called '3T-G' minerals (tantalum, tin, tungsten and gold) in conflict zones such as the Democratic Republic of Congo has attracted growing global attention and concern (Barume et al. 2016; Frankel 2016).

Second, conditions in the factories that produce smartphones have exposed workers to a series of serious health and safety risks. Smartphone manufacturing is overwhelmingly concentrated in very large factories in East and Southeast Asia. Problems in these factories have included the use of harmful toxic chemicals like benzene and n-hexane, which are known to increase cancer risks (Turk 2017), punitive management, low pay, long hours and cramped living conditions in factory dormitories. These conditions came to global attention in 2010, with the suicides of 13 workers in factories in Shenzhen, China, owned by Foxconn (a supplier to both Apple and Samsung, among others (Qiu 2017).

Third, the e-waste created by old smartphones is a large contribution to the global e-waste issue. As evidenced by the annual sales figures discussed above, major smartphone manufacturers such as Apple, Samsung, Huawei and others are regularly releasing new models – it is in their interest for consumers to keep upgrading their smartphones. Consumer advocates have accused those manufacturers of modelling their business on planned obsolescence. While it is difficult to estimate the contribution of smartphones to global e-waste volumes, it is acknowledged to be a major source of the 41 million tonnes of e-waste that the United Nations Environment Programme believes to be produced annually. It estimates that between 60% and 90% of that waste is illegally traded and/or dumped – and of course, the dumping grounds for this tend to be in poorer countries and regions (Rucevska et al. 2015).

Massive stockpiles of e-waste sustain hazardous livelihoods of waste pickers, and materials that cannot be recovered leach toxins into their environment.

With growing pressure to improve both extraction and labour standards, the complex supply-chain structures of global smartphone manufacturers such as Apple and Samsung could not have been better designed to avoid scrutiny and responsibility. At each stage of the supply chain for most smartphones, operations are conducted by companies contracted to contribute materials, parts or labour. That is, companies like Apple and Samsung do not own the factories that assemble their smartphones, nor the factories that manufacture the parts used in assembly, nor the processing operations that supply the materials, nor the mines that provide raw materials for processing. In response to pressure from activists, consumers and worker advocates, attempts to better regulate supply chains by governments and/or corporations have proven challenging. For instance, some nation-states have now passed their own legislation or signed international accords seeking to eradicate the use of so-called 'conflict minerals' and slave labour.

But as some observers have noted, it has also been challenging to get wealthy consumers in the Global North to engage with these questions of extraction, labour and waste, which (like data centre emissions) are 'out-of-sight' and 'out-of-mind'. Here, the very promises of technological wonder and advancement associated with the rhetoric of 'smart cities', 'smartphones', 'smart homes' actively work to stifle critique:

> For the best part of two decades, anti-sweatshop activists have tried to force consumers in the global North to confront the human costs that lie behind their clothing purchases. Whether the same moral crusade can be applied to information technology products remains to be seen. Apparel never had the air of magical production that sustains the aura of high-tech (Ross 2012).

This chapter focused on the relatively new concept of 'digital cities', which has attracted an unprecedented level of attraction in the last decade. Unfolding the popularity of digital city practices and promises, the chapter started with a discussion of the ongoing attempts to plan for digital cities. It then built on the notion of equality in digital city debates, and elaborated concerns over the inequity of access to the telecommunication infrastructure that is the backbone of digital cities. The chapter concluded by pointing out some of the hidden environmental and social cost of digital city practices worldwide.

Our decision to focus attention on the infrastructures of digital cities, and their socio-ecological dimensions, is informed by a desire to emphasise the materiality of the digital in the face of discussions which persist in bracketing this materiality in their assessments of the pitfalls and potentials of 'smart' technology for urban life. Miller and Maxwell's (2012) point pertaining to the environmental dimensions of digital media pertains to both the network infrastructures and devices that we have discussed in this chapter:

> It is especially hard to break the enchantment that inflames the popular and elite passion for media technologies. We understand that the mere mention of the political-economic

> arrangements that make shiny gadgets possible, or the environmental consequences of their appearance and disappearance, is bad medicine. It's an unwelcome buzz kill— not a cool way to converse about cool stuff.[1]

It is vital that on-going academic and policy discussions of digital cities think about the inequalities and ecological impacts that are being hard-wired into digital urban infrastructures that support any so-called 'smart' urbanisms.

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[1] In Australia, Telstra (the largest telecommunications provider) has for some years advertised their partnership with technology companies like Apple through a series of advertisements equating Internet connectivity to magic.

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Data, Science and Cities

11

Somwrita Sarkar and Reza Farid

Abstract

This chapter focusses on the key role played by big data and data science in evaluating scientific theories of the city, in helping us understand the real time city, and in helping us to plan better functioning cities. A crucial message is that big data on cities and data science are complementary and parallel to urban design and urban planning. While the focus in urban design and planning is on the "making" of cities, the focus in data science is developing the "understanding" of the processes and forms that make up a city. Finally, a scientific understanding should provide the evidence and information base on which planning and design decisions are shaped and enacted.

11.1 Understanding the Science of Cities

This chapter focusses on the key role played by big data and data science in evaluating scientific theories of the city, in helping us understand the real time city, and in helping us to plan better functioning cities. A crucial message is that big data on cities and data science are complementary and parallel to urban design and urban planning. While the focus in urban design and planning is on the "making" of cities, the focus in data science is developing the "understanding" of the processes and forms that make up a city. Finally, a scientific understanding should provide the evidence and information base on which planning and design decisions are shaped and enacted.

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Jane Jacobs famously argued that *cities are problems of organised complexity*, where many parts interact in interconnected ways and vary simultaneously to produce a whole that is more than the sum of the parts (Jacobs 1961, 1969). The availability of big data about each and every aspect of cities, such as their population, built form, transportation systems or economic systems, provides us with the potential to understand this "organised complexity" so that better decisions can be taken to plan for them and manage them (Barthelemy 2016; Batty 2013b).

When we speak of "big data", it would be helpful to understand that big data is characterised primarily by three crucial characteristics: volume, velocity and variety (Batty 2017). *Volume* refers to the size of data. A regular spreadsheet now enables us to work with up to a million rows of data, but consider that Sydney has 5 million people. If the positions of each of these 5 million people were mapped in space at a single instant in time, then two numbers, a latitude and longitude, are generated for each person, which scales to about 10 million numbers. Consider now the concept of *velocity*, or the pace at which data is captured. Our cities are now enabled with millions of sensors, capturing a multitude of data about not only the physical structure of the city but also about people and their behaviours. Extending our simple example, if we now track the positions of these 5 million persons every second for an entire year, then we have about $365 \times 24 \times 60 \times 60 \times 10{,}000{,}000 = 3.1536 \times 10^{14}$ numbers, roughly the order of magnitude of quadrillions! Consider now the concept of *variety*. We could map positions of these 5 million people, and their trajectories of movement in space, by capturing a second by second snapshot of their positions, but we could also capture the positions of their phones, what they are tweeting, the images or photographs they are capturing and posting on social media, their Facebook or Instagram updates, their reviews on products or their opinions on a variety of topics. Overall, this provides us with a great variety of visual, textual or numerate forms in which data can be captured.

Data is, from the technical point of view, measured in "bits and bytes", and the volume of data that is now regularly accepted as "usual sized" big data spans terabytes (TB ~ 10^{12}) and petabytes (PB ~ 10^{15}). But the data sets that are used in understanding cities, to date, span lower orders such as up to gigabytes of data. Even at this lower volume, the principal challenges lie in being able to handle the overwhelming complexity and size of the data. This is where data science is needed to summarise the data, find hidden relationships and use them for predication by employing methods such as graphs, descriptive and correlation statistics, tables, searching, mathematical methods, grouping and inferential statistics (Myatt 2007). Data science is a multi-disciplinary field that employs scientific methods to extract meaning (knowledge) from data (Dhar 2013; Schutt and O'Neil 2013). The usefulness of such knowledge is not defined just by being able to explain the past but also by its predictive power (Dhar 2013).

Thus, *Data Science for Cities* aims to employ data on the physical built form of the urban environment, its transportation and infrastructure systems, and the dynamics of people, movement and their locational behaviours, in order to understand how

cities function. This endeavour is not a new one. The disciplines of urban design, planning, urban economics, and quantitative geography have long sought to employ data to understand how urban growth is occurring, how urban structure takes its shape, how people move in the city, what types of design, planning, and management issues arise, and how data might be used to answer a multitude of questions on all of these fronts (Alonso 1964; Anas et al. 1997; Batty 2005, 2013a, b, 2017; Batty and Longley 1994; Fotheringham et al. 1989; Krugman 1996; Kulish et al. 2011; Makse et al. 1998; vonThunen 1966). However, the principal change that characterizes this older generation research from the current trend in research on cities is data. The availability of data has changed the focus of the research from the long-term changes and growth patterns occurring in cities to the short term: from mapping changes that spans decades or years, the focus has now shifted to mapping changes that can occur in a span of hours or minutes. In other words, big data and data science now permit us to understand the real time city along with the long-term city.

It might be tempting to conclude that because each city is so distinctive in its history, and the top-down and bottom-up forces that shaped it, each city is unique and like no other city in the world. But, here too, there is a contradiction. Each city is indeed unique in its totality, and no two cities can be thought of as completely similar or alike. Nonetheless, intriguingly, the recent availability of big data shows that cities show universalities and regularities in their sizes, shapes and structures, even when they may have extremely disparate historical, economic, technological or political trajectories.

11.1.1 Big Data, Data Science and Cities

Along with *Data Science for Cities*, the discipline of *Science of Cities* investigates and builds scientific explanations and theories for why and how socio-economic and technological processes cause cities to take the physical form, size and shape they do, and why there are observed regularities under such disparate causal processes (Barthelemy 2016; Batty 2013b). It is also concerned with how the physical city in turn shapes the socio-economic processes that are housed within it. Even though each individual city is unique, the scientific lens attempts to understand the universal from the set of unique cities. In addition, in today's age, we have access to a valuable resource that city scientists of yesteryears did not. In past eras, theoretical models were proposed, but there were very restricted or no ways to test these models through empirical data. Today, we increasingly have access to enormously large amounts of data on how the physical structure of the city is changing (buildings, land uses, transport and infrastructure networks) and how people live in the city and use its physical form, how they travel, how they work, play, and access and use the physical spaces of the city (Batty 2017; Negroponte 1995; Townsend 2013). Thus, *data* and *science* are dually connected: the data helps us to test our theories and models, while, symbiotically, the theories and models provide a lens with which to view the data.

Complementary to studying *the history of the city* and *the history of urban planning* is *the history of the science of cities*: the effort to understand cities and the urban process from a scientific lens. The history of trying to understand cities as a scientific phenomenon has developed along with the history of trying to understand the art and science of planning or making or building or designing cities. But, the focus in *science* is different from *design* and *planning*; in design and planning, the focus is on making, on synthesis. In science, the focus is on analysis, on trying to understand how historical, social, economic or technological processes give rise to urban form, and how in turn, urban form shapes these processes. A crucial point to understand here is that data science for cities can only be very loosely employed, or be used only in a very shallow way, if the parallel Science of Cities does not develop models of cities. These models, when combined with data, can then be used as powerful lenses that help us uncover meaningful patterns, and predict short-term future scenarios. Models, when combined with data, also help us to evaluate and conceptualize the messy reality of the city into something understandable and usable, for example, by providing an evidence base for planning or policy formulation.

11.1.2 The Idea of a Model

To begin to do this in the scientific sense, we will first need to understand a key idea in science: a *model*. A model is a representation of reality. A famous saying captures the essence of a model: all models are wrong, but some of them are useful. Think of a map, or a building model – it is a simplified representation of a very intricate, messy and complex reality. Our representation of an atom as a miniature solar system with a nucleus in the centre like the sun and electrons moving around it like planets is one of the first models children are taught. Even though this model is wrong, it paves the way for more complex models that take us closer to the reality of understanding the actual structure of an atom.

Models can be representational (e.g., maps), physical (e.g., building models), conceptual or analogical (e.g., the atom as solar system) or mathematical (e.g. Newton's law of gravitation). Models can also be classified as those that purely characterize or picturize or represent a system, versus those that are functional or procedural in some sense, where a set of processes is encoded to show the emergence of physical form. When a model is tested against actual data and its predictions are proved to be correct, it becomes a law. But, the key essence of a model is that it preserves what we perceive to be the most important information for the task at hand, while discarding other information that may not be relevant for this particular task in focus.

Consider an illustrative example. Suppose that we wish to model how people travel to their daily work in the city, a class of models that is known as *spatial interaction models* (Batty 2013b). One critical piece of information to model will be the effect of distance: in our model, it will be reasonable to assume that people prefer to

live close to where they work. Therefore, our model might have a distance effect built in, where we might say mathematically that the probability of a person going to work to another point in the city decreases as the distance from their home increases. In this model, what we may choose to discard is information on "noise" and "outliers": there will always be some people who, maybe as a lifestyle choice or maybe as an affordability constraint, will live very far away from where they work. But, because the number of such people may be small in a given context, the modeller might choose to discard this information. On the other hand, if affordability issues were critical and in focus, and a large number of people were forced to live very far from where they work, the modeller might choose to build this information into a mathematical rule in the model. Thus, model making is as much art as science, since often the person writing down the mathematical model exercises choices on what to include and what to discard in the model.

Since cities are extremely complex entities with physical, social, economic, technological and a host of processes all occurring together as layers, on many different spatial and temporal scales, throughout history different disciplines have tried to understand and model the city in different ways. Each of these lenses has incorporated the information that it perceived as most relevant and discarded other information that it perceived as irrelevant.

11.2 Key Ideas in the Science of Cities

In this chapter, we see a detailed example of how some of the key techniques from the science of cities and data science, specifically the ideas of networks and flows, help us to understand how urban structure is actually shaping up, and evaluate reality against the future growth plans proposed for the very same urban structure.

The availability of big data has changed the way city science and analytics are performed (Batty 2013a, 2017; Townsend 2013). Almost all of this big data comes from the millions of sensors embedded in the urban environment that track people, systems and processes. In fact, computers are embedded into each and every possible system or object, including humans themselves acting as sensors (e.g., smart phones). Most of these big data sets currently pertain to tracking built form (e.g., remotely sensed imagery to Geographic Information Systems based vector databases), movement- and transport-based data (e.g., Travel Smart Cards (Soltani et al. 2015)), and data on long-term and short-term housing markets (e.g., Airbnb (Alizadeh et al. 2018)). A newer dimension is the idea of using social media data to understand public opinion and how this might inform smart governance (Alizadeh et al. 2019). However, just the availability of raw data is, in and of itself, not useful unless urban science can frame it and use it with a theoretical lens. Below we discuss one example of a major fundamental scientific direction in which the modern science of cities and data science for cities is progressing.

11.2.1 Networks and Flows

The traditional historical view of the city conceptualized it as a collection of *places* and *locations*: a city was made up of places and locations that house residential, social or economic activities. This is evident in all of the traditional historical models such as models of monocentric or polycentric urban structure (Anas et al. 1997; Kulish et al. 2011). But, a fundamental mode-shift has occurred in the modern view of the city where a city is now seen as *a system of networks and flows that connect places and locations*. Batty says in *A New Science of Cities* (Batty 2013b):

> In short, our argument for a new science [of cities] is based on the notion that to understand place, we must understand flows, and to understand flows we must understand networks. In turn, networks suggest relations between people and places, and the central principles of our new science depend on defining relations between the objects that comprise our system of interest.

Just like the spatial organization of places and locations had their own geometry and topology, networks and flows have their own. The city is no more a single-layered system, organized of a set of connected places and locations. Instead, the city is a super-system of several interacting networks and sub-systems, which all co-exist as connected and interacting layers: land uses, buildings, transport networks and traffic flows, flows of goods or ideas or money, economic transactions and a hundred other unclassified relations.

For example, we discuss the crucial question of how to define an employment centre in a city. A historical place or location-based view will argue that one could count the number of workers coming in to work at a particular location in the city, and if this number (or employment density) is larger than some threshold (maybe the average employment density or number for the whole city) then this place is a "centre". However, a network and flows based view could argue differently (Sarkar et al. 2019): a "centre" is a place where the number of people flowing in (those coming to work at this point) is higher than the number of people flowing out (those going elsewhere to work from this point). For example, a major city centre in a capital Australian city such as Sydney or Melbourne is characterized by the quality that many more people who live elsewhere come to the city centre to work, whereas very few people who live within the city centre area go elsewhere to work. Such a network-based reframing could then lead to redefinitions of how a "centre" is conceptualized, which in turn could then lead to a reconceptualization of urban structure itself. Figure 11.1 shows the use of journey to work data from the census used to develop a network-based view of "centres" employing the definition above. If we look at the net inflow into various areas within the metropolitan region (instead of total flow), then it becomes possible to characterize the hierarchical nature of employment centres within a city (in this case, Sydney). The network and data based view reveals that instead of absolute models like monocentric or polycentric, the reality of urban structure is more grey-scaled with elements from multiple "pure" models combined. Further, the role of data is very crucial: using the same set of methods, but using two different data sets (e.g., daily travel logs from Smart

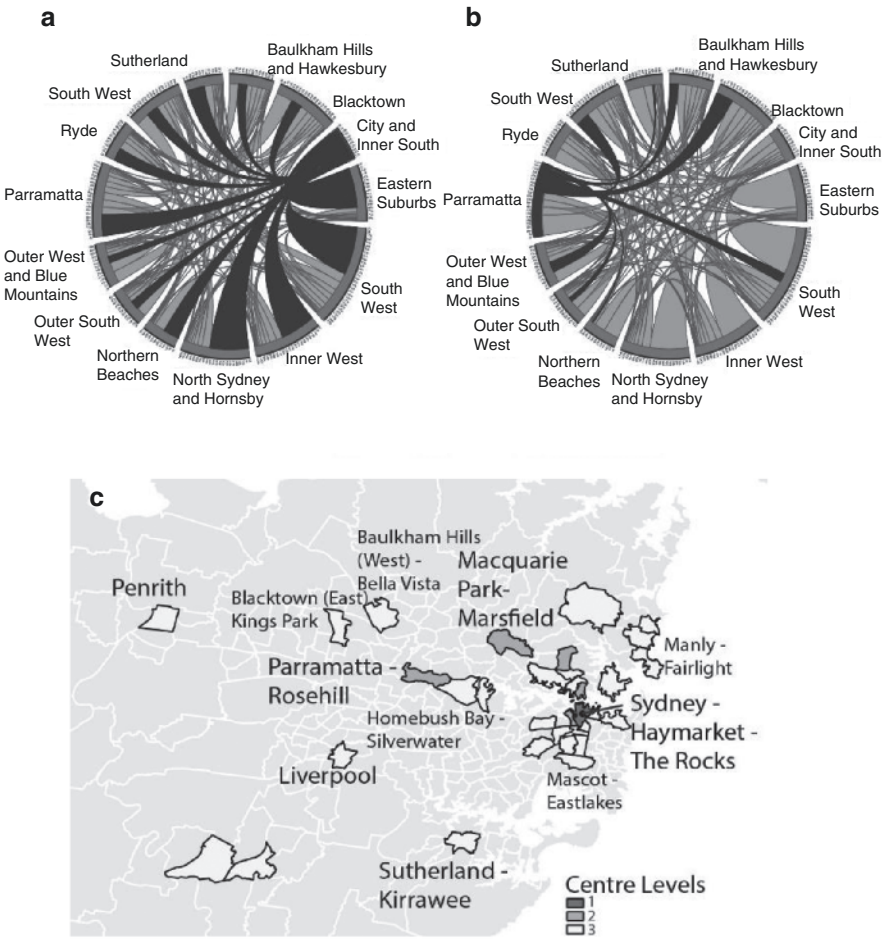

Fig. 11.1 Journey-to-work data from 2016 Census, Australia. Flows entering/exiting three locations in Sydney are shown: (**a**) Sydney CBD and (**b**) Parramatta. Lengths of circle arcs represent the number of people resident in an area. Widths of links at the base show the number of people going from *i* to *j*. A link is coloured black for a focus node *i* when the number of people flowing into *i* from *j* is higher than the number flowing into *j* from *i*. (**c**) Level 1 (dark grey), 2 (medium grey) and 3 (light grey) centres identified in the Sydney GMR. (Figure and caption retrieved from Sarkar et al. 2019)

Cards versus census journey to work), different insights into urban structure can be revealed (Moylan and Sarkar 2019). For example, comparing the long-term census data against short-term Opal Smart Card Data revealed correlated but varying rankings of how different employment centres in Sydney could be ranked. Especially, the Opal Card data shows the importance of the transit-based centres – the areas of employment within Sydney most connected and accessible by the transit network. Thus, the comparison of new data sources against traditional data sources like the

census journey to work can be used for policy and planning evaluation and evidence base building: which employment centres can we detect that emerge as overall important centres of employment but do not emerge as important connected centres via the new Opal Card data source. This showed the areas of high employment where more transit investments are needed, for example.

Networks can primarily take two different forms: (a) static, physical networks (road, rail, communication infrastructures, etc.) and (b) dynamic, flow networks (traffic flows, flows of people, goods, information, or money). Both types of networks can be analysed and modelled using methods, tools and techniques from graph theory, physics, geography, economics and transportation (Barthelemy 2016; Batty 2013b). With newer forms of data becoming available, it is becoming easier to understand how urban structure and transport networks and flows operate dynamically in the short term, and evolve over the long term (Batty 2017; Townsend 2013).

11.3 Critical Data Science: Challenges and Future Directions

Despite the promise and enormous future potentials offered by big data, data science and the science of cities, some key current challenges and issues need to be addressed for ensuring that the promised potential is realized.

Firstly, the issue of data quality and reliability is an important one. With an explosion of new data sources now available, it is equally important to realize that most of these, while being employed in cities research, were not originally generated for this type of research. For example, while social media data from Twitter, Facebook or Instagram are rich data sources for urban research (Alizadeh et al. 2019; Townsend 2013), they were not primarily generated for urban research. This brings in a unique set of challenges. For example, the reliability of exactly which demographic section of society is represented on Twitter or Facebook cannot be ascertained, so the data needs to be used with caution, especially if interpretations and conclusions emerge from it that could potentially affect all sections of society.

Second, the issue of data ethics is an important one. In an urban environment with millions of sensors (the phone we walk around with is the most ubiquitous sensor, for example), the questions of who owns all these massive volumes of personal data, how exactly can it be used and to what ends, are big ones. Currently, large organizations like Google and Facebook own massive amounts of personal data, and this data has enormous monetary value that is employed by organisations who own and trade in this data, to employ it for economic profit making. Further, personal privacy issues arise and clash with the idea of large-scale surveillance, where information and activity are constantly monitored at an individual level, leading to massive volumes of data being generated, but these individuals who actually provide this data never have access to it. Indeed there are a range of questions raised in the critical literature (Witten et al. 2017) concerning with data ethics including but not limited to who is permitted to access the data? For what purpose is the data collected? What kind of conclusions can be legitimately drawn from the data? And last but not least, are the data put to good use? In response to such questions, there is

now a big push for Open Data and Public Data by various local, state and federal governments around the world provide evidence of the push against data privatisation. The City of London and the City of New York, for example, have taken the lead in making large amounts of data freely available to the general public.

Third, the issue of how data is interpreted and used to actually inform urban design, planning and urban policy is an important one. Data is not objective. Instead, how it is processed, what algorithms are applied to understand it, what patterns are revealed, all depend upon a modelling lens that is subjective (even if guised under the objective framework of mathematics and computational methods). Currently, the complexity and size of data far overwhelms the means and ends available to us to actually make use of this data towards answering policy questions that actually matter for wicked and long-standing issues affecting our cities such as poverty, inequality, segregation, the climate, or social justice. For example, recent research finds that larger cities tend to get wealthier and more efficient (Bettencourt et al. 2007), which might push policy in the direction of planning for larger cities. However, using the same datasets and the same approaches, it is also revealed that larger cities are much more unequal in their distributions of income towards different sections of society (Sarkar 2019; Sarkar et al. 2018). This might push policy in exactly the opposite direction – pointing towards the need for smaller- and medium-sized cities, as opposed to larger cities. This is typical in data-driven research: often, the same data sets and the same methods can lead to paradoxical or contradictory observations that might push policy towards two polarised ends.

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Green Cities

12

Adrienne Keane and Peter Davies

Abstract

Green cities is a concept that explains a way to balance the needs of a city and the needs of the natural environment. This chapter demonstrates the interrelatedness between people and nature, that is a coupled human and natural system. The concept of a green city is based on understanding the ecosystem harm caused by urbanisation, and how this is compromising liveability and reconciling the impacts to bring about better ecosystem, people and built outcomes. Key to this is how people understand the urban ecosystem (environment as a public good; ecological literacy) and its role in supporting built and natural systems. The chapter concludes by illustrating how urban ecosystems can be supported through a vast array of actions at different scales – from a suburban garden to a whole city – and the use of technological approaches (green infrastructure).

12.1 Understanding Green Studies

There is no single definition for the term 'green city'. It is a phrase used, in our opinion, to describe responses by government, industry and the community, to address environmental degradation and bring about improvement to the environment and human health in urban areas. Sometimes green cities are depicted as cities of the future with walls and roofs covered in plants, lakes and rivers flowing through

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suburbs and city centres, wildlife coexisting with people, and sustainable energy systems powering buildings and moving people around the city.

There is nothing necessarily wrong with this utopian picture. In fact, it does demonstrate that in the end there are always two basic ingredients that make up cities: people and the environment. Cities are part of the landscape and are highly modified environments. Yet they would not exist without the resources provided by the environment. If we look through the annals of time and review the history of cities, they have all come about because, in one way or another, the environment has provided the enabling foundations for people to settle in a particular location.

Environment
The environment is everything that is around us. It includes biological (biotic) and physical (abiotic) systems, otherwise defined as 'nature', that are key to supporting cities.

The growth in cities and the way we manage them is the cause of direct and adverse impacts on ecological values in and around cities (Grimm et al. 2008; Beatley 2000; Hostetler et al. 2011). The impacts have been enabled by the decision-making processes of governments, industry and individuals. The decisions, in the main, have favoured city expansion and economic growth over a more balanced and sustainable approach. In many cities, it is easy to observe the consequences of these decisions, such as city sprawl, pollution of air, soil and water contamination, infill of water ways, and clearing of land for development resulting in the loss of trees, forests and associated biodiversity. In some cities, where real estate is highly valued for housing, local planning policies implemented to provide housing result in ever decreasing land lot sizes, which in turn results in less green spaces (Dupras et al. 2016; Hall 2010a; Soga et al. 2014).

Collectively these actions decrease the enabling biological (biotic) and physical (abiotic) systems, otherwise defined as 'nature', that are key to supporting cities. 'Nature' is a very broad term. So, in this chapter, we focus on the environment and its ecosystems that operate in and around cities. In this chapter, we assume as a given that city planning and development decisions have prioritised growth at the expense of nature (Peirce 2008; Fragkias et al. 2013; Vitousek et al. 1997). Readers can also refer to Chaps. 3, 4 and 6 for an understanding of the drivers of growth in cities such as agrarian and industrial revolutions.

The decline in the health of the planet's environment often seems dire with climate change, unprecedented species extinction and people being unable to access food or clean water (see the United Nations Sustainable Development Goals webpage for details: https://www.un.org/sustainabledevelopment/). The speed of deterioration is accelerating. This decline continues despite decades of action to assuage the deterioration, from international agreements to reduce carbon emissions or conserve species to local anti-pollution laws; from the formation of national parks to community tree planting projects; and from attempting to embed sustainable development goals into land use plans to modelling visions of green cities. This chapter does not set out to repeat what we already know about environmental decline.

Rather it sets out to explain the interrelatedness of people with the environment in order to demonstrate how cities can be 'green'. It does so by explaining the vital role that the environment plays in sustaining cities and the paradox whereby people have sought to separate themselves from the environment. In order to address the challenge that this paradox presents, the chapter introduces the concepts of urban environmental values as a public good and ecological literacy. It then provides a way to move towards green cities. The chapter looks to explain the role of key stakeholders, such as policy and lawmakers, as well as technology, such as green infrastructure, to support the environment in cities.

12.2 Key Debates in Green Studies

To understand cities, we need to examine the relationships between a city, its people and the environment. People benefit from nature through the services provided by the ecosystem in which we live. The Millennium Ecosystem Assessment (MEA), commissioned by the United Nations in the mid-2000s, evaluated the changes to the world's ecosystems, the consequences for services and the impact on human well-being (The Board of the Millennium Ecosystem Assessment 2005). The MEA found, over the previous 50 years, humans have changed ecosystems more rapidly than in any comparable time in history. While this has contributed to gains in human well-being and economic growth, it has concurrently led to the degradation of many ecosystem services, that in the long term will impact future generations. The MEA identified four categories of ecosystem services: provisioning services (e.g., food, water and natural resource production); regulating services (e.g., water and air filtration, and climate and flood regulation); supporting services (e.g., nutrient cycling and the provision of habitat); and cultural provision (e.g., recreational and health, spiritual, educational and aesthetic benefits). These ecosystem services are interconnected and have a direct impact on human well-being.

Ecosystem is the *interaction* between the biological (biotic) community, which includes all living things, and its physical (abiotic) environment, which are the elements that support living things, such as water, light and soil.

As cities expand in area and in population, they draw more heavily from their local enabling ecosystem services, and that of distant ecosystems, to provide biotic and abiotic services, such as for water, food and clean air. The degree to which a city impacts on its local and regional ecosystems is determined by the demand on natural resources by the populations as well as the supply capacity of the immediate environment. Providing water for cities is a good example. Typically, a small settlement is established near a fresh and reliable water supply. As the settlement grows, so too does the need for water, typically drawing from distant catchments outside the city's boundary, thus expanding the city's water footprint.

When viewed in this way, water supply can be framed as an engineering solution, transporting water from one place to another. However, there are alternatives whereby cities can also serve as their own water supply catchments. This requires the capture and reuse of stormwater and recycling of wastewater to supplement, reduce or even eliminate the need of supply from distant catchments. This integrated or green city approach remains elusive despite the growth of technologies that make this possible (Cazalis et al. 2018). One way to consider green cities is to think about them as sustainably operating within their own ecosystem (Newman and Jennings 2008).

A city's landscape comprises both constructed and natural elements. Defining 'natural' is very difficult in cities. A natural landscape is often described as being in its original, predevelopment state and not purposefully created or modified by people. For older cities, these natural areas can be difficult to identify or define because the landscape has been substantially changed over centuries of people living there. A constructed landscape is a modification to either a natural landscape (e.g., the rerouting of a creek) or built one (e.g., converting a former industrial area to a park). As cities are part of the ecosystem, both landscapes have biodiversity value and may purposively seek to lessen biodiversity loss in urban areas (Wu 2014).

Development and construction do not automatically wipe out biodiversity. Cities do contain a rich array of habitat and species, but the quality and range of species is different to equivalent natural areas. In fact, city development supports some species which adapt and even thrive in these new environments. Constructed landscapes create habitats such as hedgerows, street trees and suburban backyards, which contribute to the provision of ecosystem services. For instance, flowering plants support pollinators such as bees and other insects (supporting horticulture) and trees provide shade for our benefit (Goddard et al. 2010; Hamin 2002; Thompson et al. 2003). Structures such as buildings, gutters or streetlights provide habitat for some plants, birds, insects, mammals, reptiles and amphibians. These are known as urban adapter species and some of these are excellent urban exploiters becoming increasingly prevalent across cities, such as pigeons. Some of these adaptor species are endemic (meaning that they are naturally found in that area) or they can be species that have moved to cities with people, such as non-native rats. Meanwhile, other species will avoid or not be able to survive within these new landscapes; their numbers dwindle or even reach extinction.

The people-nature relationship is also fraught due to actions to separate human lives from nature. The presence of nature is not always welcome by city inhabitants as they strive to eradicate vermin (rats and cockroaches), weeds and venomous species. In some cases, people may develop a fear of nature or be unsupportive of nature as it may appear to cause them extra work or cost money (e.g., upkeep of gardens, clearing leaves from gutters, maintaining trees, preventing developers from clearing land to build). These human reactions influence how we design and manage our cities, from fences around national parks to the removal of trees in backyards. Of course, there are many different scales of people-nature relationships including strong support for the conservation and enhancement of environmental values.

The people-nature tensions often lead to debates as to how the natural environment is or should be considered in the decision-making process in the management and development of cities. Given the extent and trajectory of habitat and species loss in cities, many argue for the protection and conservation of all remnant ecosystems. Policy and regulation responses that recognise adverse impacts on the environment from development span different scales, e.g., from protecting individual trees to suburb-wide tree preservation orders to the declaration of forested lands as national park. Despite these responses, environmental health is in decline. This is because policy and regulation have tended to be static, unable to account for cumulative impact of development over time and at different spatial scales. For example, where proposed development is subject to government approval processes, the assessment process seeks to predict environmental loss and any approval may impose conditions to offset or minimise the foreseen loss. However, rarely does this process revisit previous approvals for the same land where impacts were greater than anticipated. Similarly, assessment of impact on biodiversity is most often at a small scale (such as a housing lot or even a new suburb), but the assessment does not consider the cumulative impact of many similar developments on ecosystems in the catchment. In more recent times, market-driven tools have been developed and applied to protect environmental values, such as trees or certain ecological landscapes. Biobanking, or biodiversity trading schemes, have arisen to find a 'balance' by offering protection to higher-quality natural areas at the expense of lower-quality ones. For instance, a developer can clear a site of trees if the same type of trees elsewhere are guaranteed protection. These approaches are not without controversy as there is insufficient evidence to show that these tools work to conserve environmental values (e.g., why is one stand of trees of greater environmental value than another?) and mostly benefit the developer (Burgin 2008; Calvet et al. 2015).

Understanding the drivers and barriers that impact ecosystems are complex (Liu et al. 2007). It requires a breadth of understanding across the environmental sciences (such as ecology, biology, climate, geomorphology), physical sciences (such as engineering and architecture), and critically the political and social sciences where the cross disciplinary activity of land use planning takes place. It is in the socio-political sphere where environmental policy is created. As outlined in other places in this book (see Chaps. 4 and 14), policy and land use planning occur in complex, multi-layered decision-making frameworks, engaging with a diversity of stakeholders that both influence and are affected by decisions (Walker and Crowley 1999). It follows therefore that any policy directed to advance urban ecology outcomes will never be decided on environmental evidence alone but subject to deliberation and competing interests.

Determining what is best for cities and the environment is difficult and paradoxes exist. Perhaps surprisingly, decisions to enable better environmental outcomes can concurrently have positive and negative impacts when considered through the lens of ecosystem services. For example, street tree planting programs are often designed to support bio-corridors or are implemented to mitigate the urban heat island effect by providing shade. Street trees can be an essential element of "green grids" or urban forests – a strategic planning approach at landscape scale that links green

values (including open space or pockets of vegetation along rivers or streams) across a suburb, locality or city (Xiu et al. 2016). Both examples enhance and support ecosystem services. However, there are times when street trees can be a risk and economic burden to communities. For instance, when they fall or drop branches which damage public or private property or are seen by the community as a fire risk (Kirkpatrick et al. 2013).

In some cases, the provision of more environmental elements into the landscape have economic benefits but social disbenefits. For example, there are direct links between the provision of street trees and the increase in the value of real estate (Siriwardena et al. 2016). Similarly, the transformation of areas, such as the redevelopment of industrial lands into new residential communities with landscaped streets and parks, or modern waterfront development incorporating board walks and high-end landscaping features to provide contemporary, experiential places for users can also result in inequities. While these changes may positively support ecosystem services, economic activity, health and well-being, this form of 'green gentrification' can result in social inequities, placing pressure on housing affordability, and barriers to community land (Checker 2011; Pearsall et al. 2016).

The concept of interrelatedness between cities and the environment is complex, and interrelatedness does not suggest the benefits are uniform for people and the natural environment.

12.3 Critical Green Studies

12.3.1 Urban Environmental Values as a Public Good

Environmental values in cities, such as ecosystem services, can be framed as a public good, a commodity or service provided without the intention of profit and available to all members of a society, or simply something for the benefit of society as a whole (Moss 2008). Public goods are vulnerable to *The Tragedy of the Commons,* a term coined by Garratt Hardin in an article published in *Science* (Hardin 1968). In his article, Hardin explains that people are not good at sharing nor looking after a resource that is common to everyone. To ensure the longevity of a resource, two key changes are required. The first is about attitude or understanding, e.g., consumers of a resource should understand its limitations and adjust their demands accordingly. Secondly, policy intervention must prioritise the sustainability of a resource and enable that through different mechanisms such as rules and design. Our simplification of Hardin's proposition is that a green city requires changes to consumer values and regulation to limit overuse, exploitation and inequality in distribution (Connell and Grafton 2011; Quiggin 2012).

Public goods can be located on privately owned lands, but the ownership of and uses on that land are very influential on the state of ecosystems. Within certain conditions, residents on their own land or government-managed private land make decisions about the 'green' values, e.g., which trees to plant or cut down; to remove lawn and replace with pavers or vice versa; use broad-spectrum pesticides, which

knocks out the "good" insects as well as the not so welcomed. These decisions have immediate and cumulative impacts at the lot level and beyond. Recent trends towards more dense cities with smaller lot sizes have resulted in a reduction and the demise of the backyard (Hall 2010a, b), including the replacement of gardens with courtyards or just more houses. There is no doubt that courtyards, roofs and other impermeable surfaces do offer support for nature, but the populations and diversity of the species living in and on these artificial facades are significantly lower than that which could be sustained on larger lots with room for vegetation (Müller et al. 2013; Williams et al. 2009). On the face of it, one can wonder about the role of rules and policies touted as being in place to enable better environmental outcomes. While they exist in the governance of many cities, they are often at odds with a city's response to city growth policy and plans to meet housing demand and pressures to expand (Kronenberg 2015). These together lead to ecological degradation in both public and private spheres. As changes to land occur as an accumulation, the existing, endemic ecology may be lost or severely impacted, with replacement green values being based on aesthetic landscaping objectives (Hostetler et al. 2011).

Unless there is an embedded and sustained understanding of environmental values as a public good, policies of protection will not counter development pressures. In other words, in practice, cities do not sufficiently value ecosystems and, if this does not change, 'green cities' will not be an outcome.

12.3.2 Ecological Illiteracy and What to Do About It

The problem appears to be that rules and policies designed to protect threatened species and more broadly support biodiversity have a number of embedded characteristics that create inherent policy, scientific and social conflicts (Rohlf 1991). There is a general lack of ecological literacy and more broadly the application of evidenced-based and interdisciplinary science in policy setting and the decision-making processes of government (Hickey et al. 2013). Within the planning profession for instance, projecting the future needs of green spaces (e.g., sports fields, playgrounds, parks) consider factors framed around recreation and public health. However, adverse impacts on biodiversity or ecosystem services are rarely considered (Sandström 2002; Sandström et al. 2006). At the individual level, decisions over personal space are likely to be driven by socio-cultural values (Muhar et al. 2018; Nassauer 1995). For instance, people often make decisions about their garden in regard to what they like (hard surfaces rather than soft ones; manicured areas rather than 'wild') rather than what their garden can contribute to or support the ecosystem in which it is located.

Perhaps underscoring the lack of ecological literacy is the poor understanding of the value of ecosystem services. In general, people may not understand, and therefore do not appreciate, the role of ecosystem services in supporting human health and well-being, the economy, as well as the natural environment (Costanza et al. 2014; Vucetich et al. 2015). This is likely to be reinforced by the way 'successful' city planning is measured. Metrics are most often orientated around the more easily quantifiable targets such as the numbers of houses built and jobs created. However,

these metrics do not account for the "liveability" of a place. Liveability is a measure of what makes a city a great place to live. Cities are considered liveable where people have relatively easy access to transport, shops, services and places to recreate. Liveability is also measured by the health and well-being of the citizens, and the 'beauty' of a place. It is a challenge to measure liveability but it could be one way to capture or report on the benefits of having nature as part of a city.

Measuring successful cities in the same way for years may be due, in part, to the proclivity for people to stick to what they know. In policy terms, decision makers default to past traditions and practices so that the traditional elements of a liveable city (plenty of housing and jobs, sport and culture facilities, good transport) are the aspiration for a 'good' city. This then ignores or understates the benefits of policies that create 'green' cities. This criticism extends to the ecologists operating in city governments who report on the perilous condition of already endangered species and ecological communities. Some argue that they have failed to gain policy traction to significantly address this decline or are using metrics to measure changes in the environment, but that these are not understood by non-scientists including the broader community (Caro 2010; Siddig et al. 2016; Simberloff 1998). Opportunities exist to collect and use data in a more inclusive way, bringing together and improve ecological literacy of scientists, politicians and citizen science programs to report on ecological health (Brown and Williams 2018). Citizen science programs are wide and varied, but some common ones include counting certain species such as microbats or birds (Atlas of Living Australia 2019), calculating tree canopy cover and providing data on air or water quality linked to health outcomes. Accessible and easily understood evidence enables greater appreciation of the contribution and necessity of ecosystem services to people's quality of life, and improved ecological literacy is key to changing priorities in city management and planning.

12.3.3 Moving Towards Green Cities

So far in this chapter, we have identified that decision-making about land is complicated, occurring in the socio-political sphere. Decisions are being made by different stakeholders, whether by city managers or at the individual level by home occupiers. Decisions are being made over different types of lands, including public and private. Decisions are also made without proper informed science and a lack of literacy around ecology (Hickey et al. 2013; Lacey et al. 2018). Decisions about land are being made all the time and the accumulated effect is environmental decline. Now that we know that ecosystem services are a public good, there are three actions that could shift the way that cities are planned and managed to make them greener:

1. Change the way that people view ecosystem services.
2. Make decisions at different spatial scales.
3. Maximise positive environmental outcomes by using green infrastructure.

The rest of this chapter will look at these actions and provide current examples to illustrate and explain them.

12.3.3.1 Action 1: Change the Way That People View Ecosystem Services

Urban environmental values (such as ecosystem services) need to be reframed in such a way that they are considered fundamental to the aspirations of city planners and city dwellers (Antognelli and Vizzari 2017; Wu 2014). Planning of cities can move towards this outcome whereby ecosystem services are linked to the city ambitions of liveability (Parker 2012). There is abundant evidence that ties ecosystem services to these things, including health and well-being (Douglas 2012) and socio-cultural activities: trees provide shade on hot days; parks are great places to play sport or have a picnic, while exercising in nature (e.g., walking alongside a river or through reserves) is linked to improved mental health (Barton and Pretty 2010). Refocussing policies and plans to prioritise liveability and communicating the benefits of ecosystem services to people change the way we develop cities and make the inclusion of 'nature' into design the new norm. This can be achieved by the practice of urban design (see Chap. 5), which seeks to create places for people. A design approach can incorporate existing ecology or create opportunities for ecological values to flourish. In doing so, purposeful design makes places for 'nature' while simultaneously creating places that people want to use. The people may also then appreciate the environmental qualities of that place.

At a city-scale, this can be ambitious given the complexities around decision-making and decision-makers. However, if we look to London, a city of over 8 million people, decision-makers and stakeholders across the city have come together to position London as the first "National Park City". Based on partnerships, the project will see London as *managed and semi-protected through both formal and informal means to enhance the natural capital of its living landscape. A defining feature is the widespread and significant commitment of residents, visitors and decision-makers to allow natural processes to provide a foundation for a better quality of life* (National Park Foundation 2019). The project will involve promoting London's ecology to its community and visitors, looking to tie this to economic and well-being benefits. The project's reframing of the environment is critical to its success and the transition of London to a green city. See: http://www.nationalparkcity.london/.

12.3.3.2 Action 2: Make Decisions at Different Spatial Scales

Decisions made at different spatial scales, whether at the individual residential lot, locality or region, culminate in impacts. As noted earlier, some decisions are made without understanding ecosystems and their services. In our view, there is an interconnected hierarchy between the quality or integrity of existing environmental values and city management responses to them (Davies et al. 2017a, b). We are not advocating for a 'no impact' model. Rather, decision-making offers unique

opportunities to protect, restore, enhance and/or create ecosystems. These four elements form a hierarchy of priorities to guide decision-makers.

At the foundation is the need to *protect* remaining habitats and ecosystems that exist in cities. The traditional approach to protecting remaining habitats has often been limited to declaring these areas parks or reserves. Usually this is to save iconic species and serve other functions such as creating water catchments or recreational/scenic places. Rapid urban growth means that remaining habitats that do not have these recognised values are even more vulnerable, often being slated for clearing to make way for development. Habitats to be protected can be identified by environmental mapping. These habitats can serve as buffers between the built environment and other ecological values. For example, development controls can mandate that developments located close to water courses be designed to restrict their footprint leaving space for the existing habitat between the development and the river or creek. However, protection has its limitations and on its own is not effective because it often fails to address the issues that threaten the ecosystem values (Gordon et al. 2009).

The next connection in the hierarchy is *restoring* ecosystems, which turns the emphasis to managing or being interventionist to enable the natural values to continue. Principles of restoration ecology, such as bush regeneration, have long been applied to re-transition an ecosystem to or near its pre-disturbed structure and function (Hobbs and Norton 1996). This is particularly challenging within urban environments as ongoing pressures from development persist. For restoration to be successful, the issues that caused the decline will need to be addressed. For instance, if vegetation along a riverbank has deteriorated due to heavy nutrient load, the restoration of the vegetation will need both care of the remaining plants and actions to reduce the nutrient load. This can be tricky because nutrient load is often the result of activities located away from the riverbank. Here the restoration approach aligns well with the concept of reframing the environment as a city-wide concept, where damaging elements not proximate to a 'natural' area still need to be managed and in doing so engage both the owners of private and users of public lands. Restoration does not mean that ecosystems are necessarily restored to pre-disturbed quality. Rather, with better ecological literacy, it may be recognised that they could function effectively at another level, or new equilibrium, that still supports nature in cities. This is a substantial shift in thinking for the urban ecologist and planner and one that needs to be based on scientific evidence (Zeunert 2013).

At the same time there is a need to *enhance* the habitat function and opportunities for people to connect with nature within existing public and private green spaces (such as streets, parks and gardens). This is particularly important, as urban densities and populations increase and private land lots and gardens become smaller (Hall 2010a, b) there is greater pressure on public land. London as a National Park City is an example of how this can be done at scale: the program covers the whole city but the program is made up of many small projects ranging from supporting ecology in home gardens and balconies to street and footpath landscaping, to mapping and linking open spaces across London (National Park City Foundation 2019). Enhancing ecosystems can also lessen the impacts of the urban heat island effect, an

accepted phenomena where cities are hotter than their surrounding regions due to hard surfaces, the removal of vegetation and the way cities consume power through industry, cars and air conditioners (Loughner et al. 2012).

The final component of the interconnectedness is to *create* new ecosystems. As cities are modified environments and ecology is lost, the builders of cities can engineer and create new habitats, such as green roofs, water-sensitive urban design strategies and re-engineering grey infrastructure to green, such as replacing traditional concrete drainage culverts to a more natural stream form and function. The Cheonggyecheon River in Seoul, South Korea, is generally regarded as a successful *create* project as it provided ecological, social and economic benefits to the city (Lee and Anderson 2013; Wild et al. 2011). The city demolished a freeway that had covered the river with concrete for decades. In its place, the project returned the river and established a space for biodiversity and people. This transformation saw immediate and sustainable improvements to ecological health and created a unique and much used place by people. The project also had economic benefits for Seoul. It is estimated that the project has resulted in $1.9 billion of new investment that would have been unlikely if the freeway remained (Lee and Anderson 2013; Landscape Architecture Foundation 2019; Rieh and Chang 2019).

12.3.3.3 Action 3: Maximise Positive Environmental Outcomes by Using Green Infrastructure

Green Infrastructure, commonly referred to as GI, is a broad and adaptable term for methods to integrate ecological values into urban areas (Davies et al. 2017a, b; Lennon 2015; Hostetler et al. 2011). Its methods support protection, restoration, enhancement and creation of ecosystems. GI can be an engineered response. For example, constructed wetlands where land is sculpted to capture wastewater, which is then naturally treated by plants. GI can replicate ecosystem services, such as the transformative Cheonggyecheon River project. GI can address environmental challenges: there is ample evidence that well-positioned parks, street trees and other landscaping can offset the warming microclimates of cities. When coupled with projected increases in extreme heat events, the ecosystem services provided by nature to offset the urban heat island effect are likely to be even more valuable looking forward. Put simply, cities need to plant more trees, one form of GI.

Green Infrastructure can also operate at different scales. It can operate at city level, such as linking open spaces and biodiversity corridors to ensure movement of animals and improve accessibility to these spaces for people. It is used at single lot level. For instance, when a house is built, the developer may implement water sensitive urban design by using rainwater tanks and on-site stormwater detention. The developer may also landscape the property. The subsequent owner/occupier can also add to small-scale GI by providing additional habitats for flora and fauna, such as bird boxes, bee hotels, flowering shrubs and native grasses. High-rise buildings can also incorporate GI, through, for example, green walls, roof-top gardens incorporating beehives, rainwater capture for use in landscaped areas and flushing toilets, more common in new developments.

Philadelphia's green stormwater infrastructure program is a way of demonstrating GI's diversity and its ability to work at different scales. Philadelphia was faced with problems around water supply and wastewater management for its growing city. Decades of growth had led to loss of trees and soft ground so that water was lost; nutrients and pollution built up in the river from waste water that flowed across the city; and water consumption was excessive. The City of Philadelphia Water Department adopted several green infrastructure policies, including the multifaceted *Green City, Clean Waters* plan, to address the problems (City of Philadelphia 2019; Philadelphia Water Department 2019). Implementing a range of GI at different scales, by working with different stakeholders, has led to measurable improvements in the water catchment.

Green Infrastructure initiatives at a small scale in Philidelphia included the retrofitting of public infrastructure such as carparks, streets, alleys, driveways and walkways with stormwater tree trenches and pervious pavements to capture rainwater. At the suburb scale, more vegetation was planted on public lands and institutional buildings, such as schools, and many private homes constructed raingardens and green roofs and installed rain barrels, pervious pavement and tree trenches. At the city level, Philadelphia's parks were managed as a grid, linking the re-landscaped parks to increase vegetation, including big trees, and sculpting of the land to direct rain water down to constructed wetlands for filtration before the water then proceeded back to the river – to maximise the source of fresh water for the city.

Philadelphia's GI water program is successful because the city also engaged its community. It did so by providing technical advice and, in some cases, financial incentives. Residents could access free rain barrels, and non-residential properties could access grants to enable stormwater retrofitting (Office of Sustainability 2018). The city established a web-based dashboard to enable information and successes to be communicated to the community, supporting and encouraging ecological literacy as well as providing metrics about the environment to demonstrate the achievements made by the people.

The actions by this city are reframing the environment, so that city stakeholders are participating in city management to enable better environmental outcomes and a better or sustainable city. The actions are being done at various scales – from city level to single lot – and are a wide range of actions to either protect, restore, enhance or create ecosystem services. Most of this is achieved by utilising GI.

12.4 Conclusion

The natural environment provides ecosystem services to cities, and these services are under debilitating pressure from development. In many cases, whole ecosystems have been lost or forever changed. There are impacts of these losses on cities and the people that live in them. The loss of ecosystem services is a city management problem as the interrelationship between people and the environment is not something that can be replaced.

Cities are often viewed as destructive forces, but we understand that cities are the key to enabling sustainability and this can be achieved by managing cities differently.

Cities are where most people live, are the sources of creativity and innovation and engines of economic growth. These attributes present possibilities to drive change and reconnect people to nature. This is a great challenge as the socio-political drivers that impact urban ecology are multi-levelled and multi-faceted. Similarly, urban ecology occurs across multiple spatial scales and comprises complex systems. So, actions required to create a green city must be responsive to all of these complexities.

Firstly, it must be understood that the environment is a public good. This requires a reframing of understanding among citizens and policy-makers. Cities should be positioned as liveable places within which nature and people co-exist and thrive. This shift would be a key principle underpinning city management. This reframing would challenge the notion of separateness (urban versus environment or people versus nature) and move to a management model better suited to supporting interrelatedness. This would be enacted by policies and action done at various scales and in various forms. With sufficient action, ecosystems can be protected, restored, enhanced or created. Programs and projects can incorporate green infrastructure at various scales from city-wide green grids, catchment-wide water pollution strategies, to single lot environmental enhancement by residents.

Moving towards greening cities is a shared problem and an opportunity. It requires a break from the growth at all costs mentality, that is perpetuating the incremental loss of biodiversity through development. Greening cities requires challenging established traditions, reprioritising ecology as a central tenant. This reposition is occurring in places – the examples included here show that, with sufficient motivation and commitment, cities are capable to incorporating green into decision-making for the benefit of both people and the environment. However, current actions are isolated and not fully representative of the principles and actions outlined in this chapter.

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Healthy Cities

13

Jennifer L. Kent and Susan Thompson

Abstract

The way urban structure and governance influence human health is the subject of a burgeoning body of research. This chapter provides a critical examination of this emergent health and urban planning nexus. The chapter opens with an overview of the condition of health and urban planning in modern cities. We propose the concept of a 'healthy built environment' to review some of the most common risk factors associated with the way we live in cities, and show how we can plan and manage cities to address these health risks. We conclude with reflections on key challenges for healthy built environments, with a particular emphasis on ensuring our cities are fair and equitable for all.

13.1 Understanding Healthy Cities

When the profession of planning was founded more than a century ago, improving public health was one of its main objectives. Changes to the layout of cities to separate the places where people lived from the factories in which they worked, for example, were seen as a way to provide clean and sanitary environments to prevent the spread of infectious diseases such as cholera and typhoid (Corburn 2009). See also Chap. 5.

Throughout the twentieth century living conditions in higher-income countries improved, and the link between urban planners and public health practitioners weakened (Crawford et al. 2010b). Yet, in the past five decades, we have witnessed

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a monumental increase in a set of diseases that demand a reinvigoration of this link. These are non-communicable conditions (that is, not passed from person-to-person). They include cancer, heart and lung diseases, diabetes, respiratory illnesses, dementia and depression. These illnesses have now reached epidemic proportions affecting "…people of all ages, nationalities and classes" (Daar et al. 2007 p. 494).

Health professionals have come to understand that the places where we live and work, and how we travel, pose risk factors for these diseases. Car-dominated transport, reduced opportunities for physical activity in green and open spaces, constant exposure to highly processed and packaged convenience food, and a general lack of connection to local community are all examples. Recognition of these risk factors has led to a re-alignment of urban planning and health objectives, and, increasingly, collaboration and connection between the urbanism and health professions. This is representative of a widespread and increasing appreciation of the interdependencies between environments (whether they be biophysical, built or social) and collective well-being (McLeroy et al. 1988). Known as the 'determinants of health', this broader understanding acknowledges that to be healthy, modern populations need more than quick-fix medical treatments, drug therapies and surgical interventions. An individual's income, housing, education, employment and working conditions are also significant in determining their health status.

We call urban conditions that support human health 'healthy built environments'. Principally, these are environments that have a positive impact on health. They are places where the streets, neighbourhoods, workplaces, transport and food distribution systems enable people to lead physically and mentally healthy lives, fulfil their potential and be resilient to adversity. Healthy built environments are also equitable and diverse environments, where all members of society have fair access to the health-promoting benefits of place.

In this chapter, we first outline the characteristics of a healthy built environment. We start with a focus on some of the most common risk factors associated with the way we live in cities, and show how we can plan and manage cities to address these health risks. We conclude with reflections on key challenges for healthy built environments, with a particular emphasis on ensuring our cities are fair and equitable for all.

13.2 Key Debates in Healthy Cities

In a previous work (Kent and Thompson 2014), we identified three key domains where contemporary built environments can support well-being. These three domains relate to specific behaviours that are important for better individual health:

- Getting people active – to reduce obesity and risk of major chronic conditions such as heart disease, diabetes, some cancers and mental illnesses such as depression and anxiety-related disorders.

- Connecting and strengthening communities – to reduce the risk of mental illness, particularly depression and anxiety-related disorders.
- Providing healthy food options – to reduce obesity and the risk of associated chronic conditions.

While the built environment has the capacity to influence health in many ways, we have found this relatively simple conceptualisation invaluable in the unpacking and ordering of a vast body of research. It is also a useful way to inform policy makers and urbanism practitioners.

13.2.1 Domain One: The Built Environment and Getting People Active

Physical activity is any bodily movement that exerts the muscles of the body. All bodily movement is therefore a form of physical activity, whether it is washing the car, walking to the shops or train station, going to the gym or playing a sport.

Being active enables participation in daily life, and is a key component of human flourishing. Physical activity helps us maintain a healthy weight and lowers vulnerability to many common and costly chronic diseases, including coronary heart disease, diabetes and cancer. Children and young people need physical activity to develop, both physically and cognitively. Being active is proven to lower risk for many mental illnesses, including depression, and declines in cognitive function as we age. Furthermore, physical activity, particularly weight-bearing activity, is a key factor in the prevention of muscle atrophy, osteoporosis and arthritis in the elderly. Beyond individual health benefits, physical activity is also linked to community well-being through the encouragement of social interaction.

Statistics reveal that, across the developed world, the majority of the population is not sufficiently physically active to support health. This is partly related to relatively recent shifts in the way we live. Historically, ways of working, travelling and accomplishing other basic tasks of life involved being active, which helped to maintain a healthy weight and level of fitness. This changed in the post-war era, when developments in technology and engineering had the unintended consequence of 'building out' the need to move from daily life. Today, barriers to physical activity are related to time, opportunity and motivation. The way our cities are planned can help to overcome these barriers in different ways, which we now explore.

13.2.2 Active Transport: Accessibility and the Importance of Distance, Density and Destinations

Barriers such as time and motivation can both be overcome if physical activity is incorporated into other activities in our day-to-day lives. This is often called utilitarian physical activity. Active transport is one of the most effective and well-researched

types of utilitarian physical activity. Everyone needs to get from one place to another, and if we can do that in a physically active way, there is a dual benefit – physical activity for health and transportation for mobility.

The term 'active transport' encompasses walking and cycling for transport and, in some situations, also includes public transport. This is because getting to and from public transport inevitably requires an active component such as walking, or cycling, to the bus, train or tram stop. Active transport is often contrasted with private car use, with the features of built environments to discourage private car use proposed as those that encourage active transport (Kent 2014). Sometimes, this is true. However, like so many elements of healthy built environments, it is never that simple. So, how can good urban planning promote active transport as a physical activity?

Land use features associated with active transport can be usefully categorised into five 'Ds'. The original 'three Ds', devised by Cervero and Kockelman (1997), are density, diversity and design, followed later by destination accessibility and distance (Ewing and Cervero 2010). The influence of the Ds on active transport behaviour has been tested many times over and in numerous contexts (see for example Badland et al. 2017). Table 13.1 below lists and describes each 'D' principle.

In addition to the right mix of D principles, there are other things that urban planning can do to prioritise walking and cycling over other less healthy modes of transport (namely, the private car). Sometimes this is referred to as the sixth D, because it is about managing the demand for private car use, often termed travel demand management. The built environment can be modified to decrease demand for travel in many ways. Parking is a particularly effective mechanism. Regulating on-street car parking and placing strict controls on the amount of car parking available at both residential and commercial premises can have a significant impact on private car use.

13.2.3 Recreational Physical Activity

Although incorporating activity into everyday life has many benefits, the reality is that many people both perceive and practise physical activity as a recreational pursuit. The proper positioning and treatment of recreational spaces in our urban areas is therefore also critical to getting people more active.

13.2.3.1 The Importance of Simply Having a Close-by Place

In modern lives characterised by rush and busyness, time is an oft-cited barrier to participation in regular physical activity. It is therefore paramount that people live within easy walking distance of a green, outdoor and public 'place to go' to be active. This might be a location for impromptu play with children, somewhere to walk to, or a place in which to stretch or exercise. We emphasise that these spaces should be green in recognition of the well-researched link between natural elements in the city and enhanced human health. City planners are at the frontline of the provision and protection of public recreational spaces. Public parks, gardens, walking

Table 13.1 Land use features associated with active transport

D Principle	Description
Distance	Research suggests that the average person will cycle around five kilometres and walk up to 1 km to access destinations such as shops, services and places of employment. For longer distances, most people will look to use less-active modes. In many cities, particularly in the United States, parts of Europe and Australia, this generally means getting in a private car – a way of travelling consistently associated with poor outcomes for our health and the environment. Encouraging active transport therefore requires that we reduce the distances people have to travel to access needs such as employment, school, shops and services, and to meet with family and friends.
Density	Urban environments where distances of travel are shorter often have higher residential densities. Land-use concepts, such as new urban designs, link higher density levels with increased shares of non-motorised travel, meaning that these urban forms can be navigated more easily on foot or by bicycle. The link between density and active transport, however, is very complex and increasing levels of residential density alone will not serve to promote more walking and cycling. Density needs to be accompanied by mixed and connected land uses at both local and city scales, as well as appropriate infrastructure.
Design	Design refers to the street pattern and the elements of infrastructure that make a place safe and interesting. Street networks can vary from dense urban grids of highly interconnected and straight streets to spread out suburban networks of curving roads with disconnected cul-de-sacs. It is the denser, grid-like streets that generally encourage active transport because they limit the distances between uses and are easier to navigate on foot or by bike. The way walking and cycling paths are constructed and maintained, the design and adornment of streetscapes with green and natural features, and the location and upkeep of infrastructure, such as seating, lighting, bike racks and signage, are also important design details that make an active transport journey enjoyable and easy.
Diversity	Diversity is the comparative assortment of land uses in an urban environment, such as the mixture of residential, commercial and industrial uses. Places with a greater variety of uses encourage active transport because there is a higher chance that the things we need to access are within walking or cycling distance. Diversity can also make an urban area more interesting, enhancing enjoyment for those travelling at a slower pace.
Destinations	Destination accessibility measures ease of access to trip generators such as places of employment or a set of shops and services. In some studies, it is the number of jobs or other attractions reachable within a given travel time, which tends to be highest at central locations and lowest at peripheral ones. Greater accessibility to destinations will encourage active transport modes because more destinations generally means shorter distances between uses.

Source: Adapted from Kent and Thompson (2019)

trails, outdoor gyms, cycleways, ovals, off-leash dog parks, and playing fields – these are essential urban spaces that make physical activity an easy and enjoyable part of daily life.

A key concern with the way we plan and manage public open spaces in cities is not necessarily the amount provided, although that is crucial. The way these places are fitted out and maintained is equally important. There are many studies around the world that have quantified the amount of public open space available for recreation in cities (for example, see Astell-Burt et al. 2014). Less work has been done,

however, to assess the quality of open space. An exception is the 'Children Living in Active Neighbourhoods' study. Using data from 540 families in Melbourne, this research examined relationships between neighbourhood socio-economic status and features of public open spaces, hypothesised to influence children's physical activity. It was found that, compared with public open space in lower socio-economic neighbourhoods, spaces in the highest socio-economic neighbourhoods had more amenities such as picnic tables, trees providing shade, water features, walking and cycling paths, lighting and signage. There were no differences across neighbourhoods in the quantity of playgrounds or the number of recreation facilities (Crawford et al. 2008, 2010a). This suggests that while many people in urban areas do have walkable access to some kind of public open space, these spaces are not maintained consistently. To be motivated to do regular physical activity, people need spaces that are not only nearby, but are also attractive and safe.

13.2.3.2 Walking and Cycling for Recreation

Walking for recreation is one of the most popular types of planned recreational physical activities. Cycling for recreation is also popular. However, the environments that encourage walking and cycling for transport are not necessarily the best for walking and cycling for recreation. Perceived and actual safety remain of primary importance, as does the provision of street networks that are easy to navigate and well maintained, with footpaths, shade and lighting. But for recreational walkers, unlike those using active transport, aesthetics replace destinations and network density as more important. Indeed, research has found that the provision of special-purpose recreational walking and cycling trails is more likely to encourage physical activity than street networks and infrastructure specifically designed to increase active transport (Sugiyama et al. 2015).

From this discussion, it is clear that the built environment has a critical role in supporting physical activity to enhance good health. While the evidence for strong policy interventions is mounting, to be effective, built environment interventions need to be supported by a mix of social, economic and political policies. We now consider the situation in relation to our second domain of the built environment and health – that of community support and connection.

13.2.4 Domain Two: The Built Environment and Connecting and Strengthening Communities

A sense of community and belonging within the places where people live, work and travel is an influential determinant of mental and physical health. Belonging fosters feelings of security, confidence and comfort that are necessary for people to be physically active and connected to the places where they live and work. Being 'out and about' in these places provides opportunities for social interaction, which supports connection to the community, increases perceptions of safety and decreases feelings of loneliness and isolation. These are elements that also have proven links to positive health, particularly mental health.

Although we all need to interact with others, the quality and quantity of interactions required for optimal health are deeply personal and differ between individuals. Research shows, however, that a variety of interactions is essential for well-being. This has been expressed in many ways in the literature, and in some cases, can be traced to theories of psychological development. One theory is Maslow's hierarchy of needs, which places belonging as central to human flourishing. American-based neuroscientist, John Cacioppo, has written extensively about lack of social interactions as a risk factor for poor health (Cacioppo et al. 2011). He proposes a more minimal model of the types of interactions required for health, based on three levels of connections:

- Level One – up-close and personal relationships, such as with a long-term partner
- Level Two – less intense but still regular connections between extended family and friends
- Level Three – interactions with the people who inhabit the neighbourhoods, workplaces and other spaces around us

The way urban areas are planned and managed can shape all three of these levels. For example, by providing jobs in close proximity to housing, planning can help reduce commute times, providing more opportunities for people to be at home with family (Level One). Planning also influences, to an extent, housing affordability, enabling family and friends to remain in close proximity (should they choose), rather than having to move away, simply to afford a home (Level Two). These less-direct impacts of urban form on social interaction are important; however, here we focus specifically on Cacioppo's Level Three type of connection – incidental social interactions.

Incidental interactions are the day-to-day meeting and greeting of people who live, work and travel in the same spaces at the same times as us. These interactions may not be with the people we would normally choose to associate with. Indeed, we may not even know them by name, nor speak to them for lengthy periods. Yet history, research, and common sense all tell us that community and individual health are enhanced by incidental interactions. They are small events that enrich connection to place, promote a duty of caring, increase perceptions of safety and belonging, and decrease feelings of loneliness and isolation. It is through these incidental interactions that we learn to cooperate, tolerate and trust relative strangers. Furthermore, incidental exchanges pave the way for more sustained interactions with those around us. They make it possible for more organised activities to flourish, and are the first step in establishing enduring connections to people and place.

There are many ways urban spaces can be distributed and designed to encourage incidental interactions. While we do not have the space to review them here, we recommend Jan Gehl's classic text, *Life Between Buildings* (2011). First published in the early 1970s and reprinted many times, Gehl's work remains a fantastic introduction to place-making for interactions. In the next section, we simplify this rich body of research to propose a very practical approach to encouraging interactions in

neighbourhood spaces. Our approach is based on the provision of talking points across our towns and cities. Talking points are both 'places to talk' and 'things to talk about'.

13.2.4.1 Talking Points as Places to Talk

Any public place capable of hosting informal and unorganised social interactions is a talking point. By public we mean 'in the public realm', as opposed to publicly owned. Indeed, talking points can be a café or shopping mall, as much as they can be a children's playground or park bench. They can be footpaths, bus stops, bike racks or building forecourts. They can be large, such as a town square or train station, or smaller, such as a stairwell or common entry to a building. It seems the more talking points we have, the greater the opportunity for incidental interaction. The more often people's paths cross, the more chances there are to acknowledge and build respect for one another.

For many people living in cities, life occurs at an increasingly fast pace. The first step to an incidental interaction, therefore, might just be a slackening of pace. We need to provide a reason, and a space, for people to shift gears, even for a moment. This might be task-oriented – such as collecting the mail or waiting for a bus. They might also be rather whimsical – such as a work of public art, a body of water, a neighbourhood cat, a tree in full flower or a flock of noisy birds. Once we understand that interactions depend upon personal *de*celeration, or slowing, we realise why public spaces need to be designed to encourage lingering. The most obvious way to do this is to provide ample places for people to sit. Famous urban designer, William H. Whyte, was an avid supporter of the provision of seating in public places. In lamenting the lack of places to sit in American cities, he once remarked "The human backside is a dimension architects seem to have forgotten". The quote appeared in his film *The Social Life of Small Urban Spaces* (Whyte 1980). In it, he demonstrated that people linger in smaller parcels of space throughout the city, rather than within large and exposed expanses of public space. See also Chap. 4.

Aside from places to sit, there are a series of other embellishments urban planners and designers can incorporate into talking points to encourage lingering. First and foremost, they need to be the places where people feel safe and protected from the elements, including the hot sun in summer, as well as rain, wind and snow. To enable footpaths to host positive incidental interactions, we need to ensure they are wide enough to accommodate the pedestrian flow. Footpaths should be accessible to those who are mobility-impaired or pushing a pram or stroller. Indeed, the fundamentals of walkability are as important for social interactions as they are for physical activity.

13.2.4.2 Talking Points as Things to Talk About

Talking points are also 'things for people to talk about'. Humans share a degree of fascination and appreciation of nature. Greenery and animals are more prone to prompt a casual remark or smile than relatively sterile blocks of concrete or steel. This is because nature is living – it is ever shifting and unpredictable. Street art – formal or informal, large or small – is also a potential talking point. Public art

implores that we slow down, look up, and enjoy that moment with the people who happen to be nearby.

We end our discussion of incidental interactions by acknowledging that the creation of a place to talk, and things to talk about, is not a remedy to draw together an isolated community. Talking points are often deeply political and contentious spaces. Rules and regulations, as well as design, can be used both to intentionally and unintentionally exclude some users. Planning for talking points, therefore, needs to go beyond simply allocating space and must consider design and long-term management.

13.2.5 Domain Three: The Built Environment and Healthy Food Options

Our third domain is the way built environments can support healthy eating. A balanced and nutritious diet can help to prevent many contemporary health problems, including coronary heart disease, some cancers, type II diabetes and obesity. Food and the practice of eating have other implications for health, as they present opportunities for community connection, cultural acceptance and mutual respect. Food in cities can help to define neighbourhoods, shape communities and make places.

In reality, many people struggle to find the right balance when it comes to food. The statistics on overweight and obesity are testimony to this. In Australia, for example, almost two-thirds (63%) of the population aged 18 and over were overweight or obese in 2014–2015. Perhaps more disturbing is that more than 1 in 4 (28%) children and young people aged 5–17 were overweight or obese (Australian Institute of Health and Welfare 2017). Research examining the food Australians eat also confirms that our relationship with food is not balanced. In 2014, 91% of people aged over 16 did not eat sufficient quantities of vegetables, 50% did not consume adequate portions of fruit, and energy-dense, nutrient-poor foods significantly contributed to children's diets (Australian Institute of Health and Welfare 2018). In short, to tip the balance to a healthier food intake, we need to eat more fresh vegetables, fruit, and grain foods, more reduced fat dairy products, more plant-based proteins, and fewer processed, nutrient-deficient foods.

How can urban planners assist with tipping this balance? Food retailing has a profound effect on dietary intake. The evidence is clear that the place where people spend most of their time, such as their neighbourhood or work environment, is a potent predictor of the food they eat (White 2007). City planners shape these spaces, as well as influence food transportation and production systems. Urban form and functioning also affect the time we have available to engage with healthy eating, and, to a degree, the money we have to spend on the food we eat. This domain is dedicated to these issues.

13.2.5.1 Food Accessibility

Echoing the direction of healthy built environment research, the study of food environments has shifted to examine contextual, structural and environmental factors

influencing food choices. This includes geographical accessibility to supermarkets and fresh food stores, as well as the variety and price of foods within these stores. The accessibility of healthy food is at the heart of this issue. Various studies in the United States have convincingly linked exposure to energy-dense foods, often featured in convenience stores and fast-food outlets, and exposure to healthier choices offered by supermarkets, with weight status (Jiao et al. 2015). Neighbourhoods with a high density of fast-food outlets are positively associated with higher body weights. Living close to fresh fruit and vegetable outlets has been identified as important in ensuring a greater intake of such foods (Li et al. 2009). Studies on this topic often use access to supermarkets as a proxy for healthy food access because supermarkets are where we can buy the ingredients for a meal to prepare at home. Research shows that people who prepare food at home, using fresh and less-processed ingredients, are more likely to incorporate variety and healthier options into their diet. Although the food available away from home varies, the research is clear that frequently eating meals and snacks bought from a fast-food shop, convenience store, café or restaurant makes it more difficult to maintain a healthy dietary intake. Meals eaten out are more likely to be energy dense and highly processed (Lachat et al. 2012). Serving sizes at out-of-home locations are also more likely to be larger, particularly in take-away food shops that market their goods as value for money. A study of major fast-food outlets in Australia, for example, found that, on average, a traditional fast-food meal accounted for almost 50% of the daily recommended kilojoule intake for healthy adults (Brindal et al. 2008).

There are, however, ongoing debates about this link, particularly in relation to the influence of socio-demographic factors (Oreskovic et al. 2009). A study in rural California, for example, found that good access to supermarkets is related to higher weight status for women (Wang et al. 2007). Another study found that residents in New Zealand neighbourhoods with the furthest access to a multinational fast-food outlet were more likely to eat the recommended intake of vegetables, but also be overweight (Pearce et al. 2009). Various methods and measures have been used to calculate the dietary and health impacts of exposure to healthy versus unhealthy foods, with an array of conclusions. Clearly, it is not simply exposure to fast-food that is the issue.

Measures of the impact of food accessibility on health often rely on the socio-economic stratification of the prevalence of overweight and obesity. Research has revealed significant relationships between socio-economic status (SES), food availability and the likelihood of buying foods recommended for good health. Many studies explore the hypothesis that the socio-economic gradient to poor health is partly a result of healthy food being more expensive and more difficult to purchase in socio-economically deprived areas. This debate has informed the concept of ‘food deserts’ – defined as places where ‘cheap and varied food is only accessible to those who have private transport or are able to pay the costs of public transport if this is available’ (Acheson 1998, p. 65, cited in Wrigley 2002). Although the actual existence of food deserts continues to be debated, research has been undertaken attempting to quantify the relationship between the location of food outlets, SES and poor health. The general finding is that residents of lower SES neighbourhoods

do have relatively constrained access to reasonably priced fresh foods, and that inequalities in this access have increased over time.

13.2.5.2 Fostering a Positive Relationship with Eating and Food

Cooking at home requires certain skills and confidence, and these are attributes that can be developed through education and exposure to a culture that celebrates fresh and healthy food. Growing fresh food at home, participating in community gardening and frequenting farmers' markets can foster an appreciation of fresh produce. Fresh food gardens in suburban locations can help too. Known as urban agriculture, this includes the use of pockets of space and larger tracts of land within our built-up areas to grow food. Community gardens, rooftop vegetable patches and the use of verge space between the footpath and road for food production are all examples of urban agriculture. This provides many health benefits, including opportunities for physical activity, and social connections (Cumbers et al. 2018). Many of these practices rely on urban planners and designers to allocate space for food production and regulate its use to ensure there is no encroachment on incompatible uses.

An appreciation of healthy eating starts in childhood, and one of the most disconcerting impacts of the way we consume food today is the toll it takes on children. It is therefore worthwhile giving some consideration to the way food is sold and marketed in and around the places where children spend their time, particularly schools. 'School food environments' encompass the food provided within the school, as well as outlets serving food within the vicinity. While the built environment has little sway over the interior food environment of schools, planning processes can, through land use zoning and regulation, influence the types of uses near educational establishments, including the density of fast-food outlets. Research shows that higher accessibility to fast-food outlets for schools in lower SES suburbs is consistently found to be associated with childhood obesity and unhealthy eating (Kestens and Daniel 2010). This research needs to be viewed in the context of the proven influence of parental food intake, which is also a very strong determinant of childhood obesity.

13.2.5.3 The Built Environment and Larger-Scale Food Production

The importance of preserving agricultural lands in and around urban areas is increasingly recognised in both the developed and developing world. In an effort to accommodate an ever-growing population, areas of arable land near cities are being re-zoned for residential purposes, often at the expense of food production. As well as supplying fresh quality produce to cities, local food production is an integral component of community building by encouraging engagement with the food system through ventures such as road-side stalls. The pressures of climate change, particularly the need to minimise the impact of carbon-intensive food transportation systems, also make the preservation of productive agricultural lands in close proximity to consumers essential (Opitz et al. 2016). Again, restricting urban sprawl as a way to preserve land for local food production is an urban planning concern, albeit one that is highly contested (Pollard et al. 2018).

In general, the link between food accessibility, exposure, choice, SES and health is accepted, as is the need to preserve agricultural lands in close proximity to cities. Nevertheless, unlike the way built environments promote physical activity and incidental interaction, research on food provision and access fails to show consistent or quantifiable relationships. This is particularly so for environments outside of North America. The mixed results prompt consideration of the possibility that there is a strong cultural attachment to the way food is purchased and consumed, compared with the way that people move and interact with their environment. The built environment's ability to provide healthy food options is potentially very sensitive to the specificities of cultural and social norms within place. Accordingly, reliance on an evidence base collated across geographical, legislative and social boundaries is unhelpful and potentially misleading. This suggests the need for qualitative, culturally relevant research which is more attuned to the idiosyncrasies that define our complex relationship with food – both its purchase and consumption.

13.3 Critical Studies in Health Cities

13.3.1 Tensions in Healthy Cities

So far in this chapter we have introduced the concept of healthy built environments and discussed some of the ways urban areas can support human health. Throughout, we have alluded to several tensions that exist in the provision of healthy cities. These generally relate to the fact that our cities are not planned, managed, or experienced, within a political, economic or cultural vacuum – wider structures of governance, finance and other contexts inevitably shape our ability to deliver many of the components we have discussed.

For health professionals, these tensions have roots in debates on whether the state or the individual is responsible for health. In line with the general neo-liberal ethos that has permeated city governance around the world, national health policy in many countries has drifted towards a focus on individual lifestyle adaptation and curative medical interventions. This is despite the evidence that addressing wider inequities in health outcomes (such as, for example, access to green open space) has a greater impact on population health than expensive, one-off medical interventions (Baum 2018). In the language of urbanism, these are debates over equitable cities. The obvious and often extreme socio-economic gradient to health outcomes unites these concerns.

In general, the higher a person's socio-economic position, the healthier he or she will be. Across cultures and geographies, people from poorer social or economic circumstances have increased rates of illness and disability, and live shorter lives than those who are more advantaged. In Australia, for example, the diabetes death rate for women in the most disadvantaged areas is 2.39 times as high as those in the highest socio-economic areas. For men, the same ratio was 2.18 times (Australian Institute of Health and Welfare 2019). Indeed, research consistently shows that

countries that are more 'level' in terms of income and other markers of social status have consistently better health outcomes (Wilkinson and Pickett 2009).

Fostering a more equitable society as a pathway to health promotion may seem logical; however, its tangible implementation is often at odds with the way many countries plan and manage both cities and health services. The remainder of this chapter reviews these tensions, providing well-researched strategies to help urbanists and health professionals work together to promote healthy built environments within the constraints of the neo-liberal system.

13.3.2 Equitable Cities for Health

To promote equity, we need to define what it is we are seeking to equalise. In the context of health, it is the equitable distribution of the social determinants of health. These are the conditions in which people are born, grow, live, work and age. Factors such as income, education, employment, empowerment and social support act to strengthen or undermine these determinants, which in turn influence health and well-being. These circumstances are shaped by the distribution of money, power and resources at global, national and local levels (Wilkinson and Marmot 2003).

City planners, designers and managers are well placed to promote equitable distribution of the social determinants of health. They have access to the data and practice-based knowledge required to expose gaps in the provision of services. For example, a local infrastructure planner can readily identify the communities that do not have Internet broadband access but need it. An educational facilities planner has information ready-to-hand to prepare a geographical analysis of the at-capacity schools across a city and forecast those that will soon need to be extended. A transport planner working for the city rail authority knows all too well which train service is unreliable, and which train station is routinely missed during the peak because of overcrowding. City planners also have the skills and insights to raise concerns about shortages in the provision of residential stock, before such shortages create make housing less affordable.

The real challenge for planners promoting equity as a health outcome is the need to operate within the constraints of dominant political economies around the world. Put simply, this means the way systems of production and trade (the economy) are related to prevailing trends of law, custom and government. In many countries, we have a neo-liberal system, epitomised by "the subjugation of the public to the private, the state to the market, the social to the economic" (Clarke 2004, p. 4). This system has been enforced since the latter half of the twentieth century – a period symbolised by the introduction of economic rationalist policies and the progressive withdrawal of government intervention in many areas. The requirements of a healthy city often run counter to this prevailing system, which generally values market efficiency over land use regulation (Manning-Thomas 2015).

By analysing the political, social and economic processes underpinning a series of episodes of strategic planning in Sydney, we have worked to develop several recommendations for Australian planners seeking to promote health within the

often unsupportive confines of a neo-liberal system (Kent et al. 2017). The first is to harness the power of human health's emotive appeal. Relative to other planning concerns, such as environmental sustainability, health is an issue that relates directly to the individual. By making clear the links between good planning principles and human health, planners can leverage this emotion to promote concepts that might otherwise be ignored in developer-driven agendas. The protection of green open spaces for physical activity and community connection are good examples. These are resources that are increasingly under pressure for more lucrative uses such as residential development. By providing evidence that these spaces are critical for human health, urban planners can make a compelling and robust case for their preservation.

A second way that planning for health can leverage space in a neo-liberal system is to speak the language of the market. In most countries, expenditure on health subsumes an extraordinary proportion of the overall budget. This expenditure is often increasing from year to year, faster than the growth rates for inflation, the population or the economy. Treatments for chronic non-communicable diseases such as heart disease and diabetes are expensive, and their prevention would result in considerable cost-savings to both governments and individuals. These savings can be captured in decision-making tools such as cost-benefit analysis. Urban planners are in a powerful position to work together with public health professionals to develop a deeper understanding of the cost savings to health of better urban planning decisions, and promote the use of robust and comprehensive cost-benefit analyses in decision-making.

Finally, health can be promoted in a neo-liberal system by harnessing the power of the health fraternity. Research shows that often it is the voice of a well-versed and respected individual that can make the difference when it comes to preserving a piece of open space, funding a cycleway or protecting the use of land for a community garden (Harris et al. 2018). Health professionals are held in high esteem in the community – indeed, in Australia, medical professionals, such as nurses, doctors, pharmacists and dentists consistently feature as the most highly respected professions amongst the community (Roy Morgan Research 2017). This indicates that the voices of these professionals are trusted, potentially making them influential spokespeople for healthy built environment agendas.

Cities have enormous potential to support the health and well-being of those who call them home. Realising this potential is recognised as a central component of contemporary urban planning policy and practice. Healthy cities are those that support regular physical activity for both recreation and transport. They are places that foster a sense of belonging and attachment and where it is easy to purchase fresh and nutritious food. While full of potential, actually implementing healthy built environments is challenging. This is particularly so in complex political and economic climates, where a healthy and equitable society is too often considered a lucky outcome rather than the main concern of economic growth. Urbanists, collaborating closely with health professionals, must work to ensure our cities prioritise health concerns for all.

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Political Cities

14

Dallas Rogers and Michael Mossman

Abstract

This chapter explores the tensions between the Aboriginal context of urban development, the practices of professional planners, the participatory planning frameworks of governments and the neoliberalisation of planning governance in Australia. Rather than fitting neatly together, there are fundamental theoretical and practical tensions between Aboriginal, participatory, technocratic and neoliberal planning frameworks. Each dictates a different source of power in terms of setting the urban agenda and making planning decisions. Using the New South Wales planning system as a case study, we analyse each governance process as a discrete way of thinking about urban governance. We highlight where the political power is located to set the urban agenda and to make decisions within each of these processes. We conclude that enabling a suite of power structures in one governance space can undermine important power structures within the other governance processes.

14.1 Understanding Political Cities

Imagine a conversation in Australia between a strategic planner in a government planning department, the CEO of a large private sector infrastructure delivery company, a local resident of a neighbourhood undergoing considerable urban change, and an architect representative of the Government Architect which provides strategic design leadership in architecture, urban design and landscape architecture in the city.

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The architect reminds the group that Aboriginal custodianship of this land has existed for thousands of years, with detailed cultural knowledge about how to care for and manage the land, including what we build on Country. With over 20 years experience, she suggests ideas that are respectful of Aboriginality in managing people and place as a guide for a built environment agenda and decision-making process in the city. The strategic planner says she has a masters degree in urban planning and 10 years urban planning experience. She might argue that, with these skills, the government should have a central role in setting the built environment agenda and make decisions about the city. The private sector infrastructure delivery company CEO says she has an MBA and 10 years infrastructure delivery experience. She might argue that the private sector and the market should have a central role in setting the built environment agenda and making decisions about the city. The local resident says she has lived in the neighbourhood for over 10 years and she has lived through significant urban change. She talks about her long-term attachments to the area and might argue that local residents should have a central role in setting the urban agenda and making decisions about their city.

We could add many more people from many other professions to this imagined conversation of course; the chair of a local resident action group, a judge in a land and environment court, a representative of a local Aboriginal land council and so on. Local residents, professional urban planners, architects, urban designers and heritage professionals, the various level of government and politicians, and the private sector are important actors in the city, alongside the involvement of Aboriginal peoples, local citizens and the use of public–private amalgams for the provision of major infrastructure and social services that are increasingly common features of built environment and planning systems across Australia (Aulich 2009; McGuirk 2005). Politicians and professional urban planners, architects, urban designers and heritage professionals variously extol the costs and benefits of Aboriginal, participatory and neoliberal governance in built environment and planning practice. These debates have been translated into architectural plans, urban planning rules and urban design tools that reference the importance of including Aboriginal people, local citizens and the private sector in decisions about urban development (NSW Government 2010, 2011, 2013). But what impact these rules and tools will ultimately have in the context of a representative system of government, and how built environment professionals navigate the at times conflicting rules and tools, remains an open, but important question (Legacy et al. 2018a, b).

This chapter, then, is part reflection on the ideas we have covered in this book and part acknowledgement that we are still working out how to *do urbanism* in countries such as Australia. The aim is to provide a critical understanding of the different ways architects, urban planners, urban designers, heritage professionals, engineers and other built environment professionals approach their profession and the increasingly complex setting built environment professionals work within.

Within this context, political cities refer to the hard work *and* commitment that will be required of built environment professionals to work together in cities with complex settler-colonising histories. Or, as Libby Porter and Janice Barry (2016: 5,

citing Howitt) put it, '[c]oexistence, then, immediately signals the profound challenge of, as Howitt calls it, 'being-together-in-place' (2006: 49) with an explicit… demand for sharing space in ways that are more just, equitable and sustainable… but also an acceptance of multiple and overlapping jurisdictions' (see Chap. 2). It is beyond the scope of this chapter to discuss all of the overlapping jurisdictions and different ways of practicing urbanism discussed in this book. Thus, we will showcase four illustrative ways of thinking about how overlapping jurisdictions might be enacted at the intersection of the built environment professions, namely, (1) Aboriginal custodianship, knowledge and governance; (2) representative/technocratic governance; (3) participatory/direct governance; and (4) neoliberal or market-centric governance. These overlapping jurisdictions are rarely separated and analysed comparatively as four discrete but coexisting political philosophies, each with its own way of mobilising urban power and resistance. Such an analysis requires a degree of conceptual abstraction from the complex ways hybrid urban systems actually function in the city. The analytical benefit is, however, that it shows how each of the four built environment practices and processes affects other practices and processes.

Before we can investigate the complex governance system—and it is complex, as pointed out by McGuirk (2005) and Minnery (2007)—we need to ask several more foundational questions. Can participatory and neoliberal built environment practices and processes comfortably coexist? And can these two governance processes fit into the broader system of representative government, a system wherein decisions are made by elected officials—assisted by the technical expertise of built environment professionals—on behalf of citizens? And what about Aboriginal pasts, presents and futures, how do these ideals fit within hybrid urban governance systems? Closer examination of the theories and ideas underpinning each of these four governance processes reveals fundamental, and at times irreconcilable, tensions amongst them.

Aboriginal custodianship and knowledge of Country is the built environment context of all contexts in settler societies such as Australia. As we learnt in Chap. 2, the built environment professions in settler societies were founded on the violent dispossession of Aboriginal peoples from their land. Putting up tents, the construction of buildings and the making of roads were literally how the colonisers stole the land from Aboriginal people; that is, they occupied it with buildings, roads and parks. Built environment professionals must not only work in this context, but must acknowledge and understand that a different set of knowledge systems exist within Aboriginal communities. These are capabilities not only applicable to architectural practitioners who identify as Aboriginal, but for the profession as a whole. It is the profession that must occupy spaces that Indigenise thought processes in architecture, to enhance community building outcomes reflective of First Nations' cultural differences.

This is the context that the technocratic work of government planners, local participatory planning and the use of the private sector under neoliberal regimes of urban governance operate within in countries such as Australia. As a result, rather

than fitting neatly together, each built environment governance process dictates a different source of power to set the built environment agenda and make decisions about cities. One way to think about this is via Michel Foucault's (1980) notion of power and resistance, which he argues is not positional (i.e. where power is held by one party over another) but rather relational (i.e. power is held in tension between parties). For example, the ability to set the built environment agenda or make decisions about a city can never really be held by one party because there is always the possibility of a counterclaim or resistance.

This is the 'wicked problem' of urban governance, that it might not be possible to bring all four—Aboriginal, neoliberal, participatory and technocratic—planning processes together as a seemingly unified system of urban governance. As with other wicked problems in the built environment, there seems to be no single right answer. However, if built environment professionals are to find ways of working in this complex urban governance system we need to take a 'step back' and understand the fundamental governance tensions within this system. We draw on the ideas around Aboriginal custodianship, knowledge and built environment governance, and theories of technocratic/ representative, direct/participatory and neoliberal/ market-centric democracy, to investigate the intellectual and practical spaces where these four governance processes converge (Agamben 2011; Badiou 2005; Peck 2010; Swyngedouw 2005). Using examples taken from the NSW (i.e. the state of New South Wales) planning system, we show how enabling a suite of governance processes in one governance space might disable or undermine important features of the other governance processes. Two sections structure the remainder of this chapter. The next section addresses each of the four planning governance regimes in turn. Each section starts by conceptually setting out where the political power to set the built environment agenda and to undertake decision-making is located within this governance process, and is followed with a short planning governance case study example from NSW. The final section discusses the intersections of these governance processes and concludes by arguing that more attention needs to be given to the theoretical underpinnings of these three planning processes, and their perhaps irreconcilable incongruities.

14.2 Key Debates in Political Cities

14.2.1 Technocratic Built Environment Professionals: Representative Democracy

In a federal system of government, power is divided amongst elected representatives at different levels of government. In Australia, it is the state-level elected politicians who hold the constitutional authority to set the planning agenda and to make planning decisions on behalf of citizens (Gleeson 2006). Each state devolves some of that power to local councils. Within both state and local governments, the requirements of technocratic government mean that elected officials defer some of their built environment agenda setting and decision-making power to planning professionals within their departments.

Here we focus on the NSW context to illustrate some of the key debates associated with technocratic planning. In the NSW context, the planning system operates within a representative system of democratic government, which relies heavily on the technocratic expertise of professional urban planners and other built environment professionals. Importantly, within this system of representative democracy, power and resistance over urban planning agenda setting and decision-making are constantly shifting, reflecting an increasingly politicised and unstable discussion about the scale (i.e. federal, state, local) at which planning governance should be undertaken. In Australia the politics of planning governance rescaling runs from the federal, through the states and territories, down to the local level. Arguably, the proposed referendum in 2013 on recognising Local Government in the Australian constitution represented one of the most significant attempts at rescaling planning governance under Australian Federalism (Gratten 2013; Ruming et al. 2014). However, rescaling also occurs within the existing constitutional framework as federal, state and territory, and local governments each vie for a greater share of urban governance power.

Over the last decade in NSW, there has been a constant push and pull between the state and local governments regarding decision-making over large development proposals (McAuliffe and Rogers 2019). In the realm of development assessment, the state government has devolved much of the decision-making power to local government. Nonetheless, the elected politicians at the state level can, and indeed do, recall this power from time to time.

The NSW Government can override local planning decisions for development and infrastructure deemed to be of state significance according to the power laid out in the State Environmental Planning Policy (State and Regional Development) 2011 regulation. Prior to 2011, Part 3A of this state policy—introduced as part of a suite of reforms in 2005—also gave the state the power to 'call in' certain developments (NSW Department of Planning 2005), but with a much broader scope for Ministerial discretion. Indeed, in the 2011 NSW state election the major political parties politicised planning governance, with the centre-right Liberal Government coming to power on an electoral platform built around handing planning governance power back to local government authorities and, surprisingly, a claim that they would even hand some power over to local citizens (NSW Government 2011). One of the first acts of the Liberal Government was to abolish Part 3A. But then in the 2013 White Paper, A New Planning System for NSW, the NSW State Government sought to claw back their governance power from local government authorities with a significant restructuring of the planning system (NSW Government 2013).

In addition to the state/local government rescaling, a form of 'new regionalism' (Paasi 2003) is driving a reworking of the political level at which citizens, businesses and community organisations are governed. This is characteristic of the NSW (and other) government's emphasis on intervention in urban policy at the scale of *metropolitan* regions rather than *local* divisions. In the 2014 A Plan for Growing Sydney the State Government divided all local councils in Sydney into one of six subregions. The intention was for these subregions to '… build on the actions

set out in *A Plan for Growing Sydney*. Councils, the community and the Greater Sydney Commission and the NSW Government will work together to finalize and implement these plans' (NSW Government 2014a: 106). The Greater Sydney Commission emerged as a somewhat new planning governance actor in metropolitan Sydney. The State Government set up the Commission to be 'independent' (NSW Government 2014b), prompting optimism from some that a metropolitan planning authority with powers over the six subregions would negate the need for Council amalgamations that were being investigated by the State Government at the time. According to Johnson (2015), 'the trade-off for councils not to have major change should be to accept a stronger role for the Greater Sydney Commission to drive the big picture issues'. What is important for us here is how the Greater Sydney Commission refocused planning governance power at the metropolitan level in Sydney and set up a process for the state to 'work together' with local councils and the community.

In recent decades the Federal Government has also played an increasing role in urban planning in Australia, further complicating the planning governance landscape in Australia. In practical planning and political terms, the constitutional power to plan Australian cities resides with the states and territories and through them the local government authorities. In December 2010, the Australian Federal Government released the *Our Cities Our Future—Building a Productive, Sustainable and Liveable Future* discussion paper. This was quickly followed with a policy framework for implementing a National Urban Planning Framework in partnership with state, territory and local governments, business and the community' (Australian Government 2011: 2). The policy framework set out the Federal Government's ambitions for a national approach to the planning and governance of Australian cities (Australian Government 2011). While the policy was subsequently scrapped by the newly elected Liberal Government in 2013, the National Urban Policy Framework remains significant as an attempt by the federal government to coordinate the state and territories' urban agendas and reinterpret the constitutional demarcations of governance power under Australian Federalism (Gleeson 2006; Ruming et al. 2014). Whether future federal governments will make similar attempts remains to be seen. In the meantime, the federal government continues to exert its considerable influence over state and local planning through funding 'big-ticket transport infrastructure projects' and city deals (Legacy and Minicucci 2014).

There are two broad points to take away from this discussion. First, the intra-governmental politics amongst federal, state and local governments that relates to the rescaling of planning governance within Australia's representative democracy will continue in Australia and other countries. Second, however, the technocratic system of representative democracy that structures this politics—a foundational feature of the democratic government systems in many countries around the world—is likely to remain intact. This raises a key question: where does direct community participation sit within a built environment governance system that is underwritten by representative democracy?

14.2.2 Participatory Built Environment Professionals: Direct Democracy

In direct democracies, sovereignty resides with an assembly of ordinary local citizens instead of a collective of elected representatives and their technocrats (Farrar 2007). Citizens in more direct forms of democracy (see Chap. 8)—often through governance tools such as citizen juries and referenda—set the agenda and hold decision-making power, while the elected representatives and technocrats have a limited, if any, role to play. What we need to understand is the way—the method or the process—through which these processes of local-level democracy are incorporated into a system of representative democracy (Rogers 2013: 6).

Recent decades have seen a trend in the planning literature towards recommending a move away from so-called 'top-down' comprehensive planning towards strategic planning based on citizen participation. Many of the citizen participation processes that are developed by built environment professionals are underwritten by theories of direct democracy and Jürgen Habermas' ideas about communicative action (Maginn 2007; Mouffe 2005; Purcell 2009; Rogers 2016; McAuliffe and Rogers 2018). In these processes, citizens are positioned to play a direct role in decision-making about public affairs (Held 2006). Following debates within planning theory and practice by scholars such as Healey (2007) and Albrechts (2006), there have been calls for urban planning to be based less on planners 'imposing' their technical expertise on the public and more on planners engaging in a dialogue with local residents on an on-going basis in order to formulate policies based on a consensus of what the community 'wants' for their local area. Aulich (2009) argues that the move towards more direct citizen participation in local government in Australia is aimed at addressing the shortcomings of representative democracy. In effect, by increasing local citizen input into policy-making, the government can respond to demands for participation from a better educated, more articulate and more demanding citizenry, many of whom express, somewhat ironically, a declining level of trust in political institutions and a belief that representative democracy often results in a 'democratic deficit'. This belief is expressed in demands for supplementary engagement of citizens beyond the traditional democratic processes of 3- or 4-year elections, with calls for more meaningful exchanges with government (Aulich 2009: 52). The overall argument is that planning policy formulation and implementation is much more effective when local residents are involved 'directly' with built environment professionals (NSW Government 2005, 2011, 2013), rather than being in an ongoing antagonistic relationship with environment professionals such as urban planners (Bäcklund and Mäntysalo 2010; Rogers 2016).

While the argument for direct citizen involvement at particular moments has proved discursively and politically powerful for built environment policy-makers in NSW, where it has been implemented in practice local community uptake has been varied (Atkinson and Cope 1997; Cornwall 2004; Mouat et al. 2013; Rogers 2016). McAuslan (1980) points out that the ideology of public participation does not sit comfortably with the ideology of private property (which sees the role of law as

protecting private property interests) and public interest (whereby elected officials and experts determine what is in the best interests of the community). As such, the tendency of the NSW Government is to 'pay lip service' to notions of public participation, while participation is often managed on terms that are dictated by government and, increasingly, in ways that are deemed acceptable to private property interests. Essentially, this form of participation is stripped of its social democratic foundation:

> Public participation cannot in other words be admitted on an equal basis to help shape the frame-work of law and administration because its ideology represents a threat not just to the existing forms of law and administration of planning but to what those existing forms are there to protect and enhance – private property relations. At best, therefore, public participation is brought into the existing system minus its ideology and on terms acceptable to, and interpreted by, public officials and judges. At which point, according to the ideologists of public participation, it ceases to be public participation. (McAuslan 1980: 145)

A large body of research supports the claim that in practice public participation ends up being more about an information-sharing process between built environment professionals in government and local citizenries: a process through which the built environment professionals might convince residents of the correctness of the planning decisions that they have already taken (Atkinson and Cope 1997; Cooke and Kothari 2001; Cornwall 2004; Legacy 2016).

This research raises a fundamental concern about participatory governance that has not been sufficiently dealt with by the built environment professions within government: that tensions arise when governments attempt to incorporate participatory planning processes into representative democracies. As Meadowcroft (2001) points out, the foundational notion of representative democracy is that representatives make decisions on behalf of residents (citizens) based on the representatives' perceptions of what is in the best interests of those residents. This might coincide with what those residents desire, but it might not. Ultimately the final decision will be based on what the representatives perceive, based on their own expertise and the advice of their built environment experts and advisors, is in the 'public interest'. Meadowcroft (2001: 39) points out that where residents' desires and the perceived public interests are in conflict, representatives will end up 'acting as the trustee of their constituents' interests rather than as a delegate mandated to serve the numerical majority'. In practice, when a government calls for more public participation, in the context of a representative system of democracy, the decision-making power ultimately resides with a suite of bureaucrats operating within one or more institutional sites, meaning that limited power—including the power to resist—resides with citizens in the government-driven participatory process.

To illustrate this point, since 2005 there has been a sustained effort by the NSW State Government (2005, 2010, 2011, 2013) to reframe planning policy in terms of ideals around local democracy, social inclusion and citizen participation. Documents such as the NSW State Plan, the Sydney Metropolitan Strategy and, to a somewhat lesser extent, the Plan for Growing Sydney call for the returning of 'planning powers to the community and giv[ing] people a say on decisions that affect them' (NSW

Government 2011: 6). However, as an intersecting suite of governance processes, the suggestion that the government could defer some of the technocratic decision-making powers of their built environment professionals over to the local community is highly problematic. For example, the NSW State Plan states, 'essential to our strong democracy … [is] enabling citizens to critique government services, and finding more ways to involve people in government decision making … Making it easier for citizens to interact with government through modern, innovative and engaging tools' (NSW Government 2011: 55–58). As independent governance processes, critiquing government services, involving citizens in decision-making and interacting with citizens via new media tools are underwritten by different ideas about citizen participation. 'Critiquing' the government can be deployed as a form of resistance, for example, by accessing the government's urban planning information through freedom of information (GIPA) legislation that does not necessarily require a fundamental restructuring of technocratic planning governance (i.e. the ministers and the urban planners act and then the citizens review and critique). Equally, when governments 'interact' with citizens via new media tools, they do not necessarily defer some of their decision-making power to citizens through this process. This might partly explain why there has been limited uptake or community interest in online community consultations in NSW. In short, governments can implement both of these governance processes without undermining the technocratic power of their planning professionals; that is, without deferring their technocratic decision-making power to a local citizenry.

However, to truly 'involve citizens directly' in decision-making, in political philosophy terms, would require a fundamental restructuring of the representative system of government that currently frames planning governance in NSW. What is being proposed represents a political challenge to the representative system of democratic government in Australia, one that would require that some of the technocratic power of built environment professionals be deferred to non-government actors via non-technocratic and non-representative governance processes. The government's solution to this governance dilemma, where they have sought to acknowledge and address it, has been to use the language of direct democracy and the tools of communicative consensus-seeking action (see, e.g. NSW Government 2011: 55–58). However, as McAuslan (1980: 145) identified, this is political discourse 'minus the ideology'. The more direct forms of democracy that the government is rhetorically proposing, such as citizen involvement in built environment decision-making, would dilute the power that has been deferred to built environment professionals within the government departments because it would require the introduction of a new set of decision-makers (i.e. citizens) who would need to directly interact with the built environment agenda setting and decision-making processes of representative government.

As a local citizenry could never be assumed to hold the technocratic expertise of built environment professionals, the following questions must be asked: through what governance process should local citizens be granted built environment agenda setting and decision-making power, if at all? And, if citizens are not granted this power, then in what sense are these participatory processes being called democratic?

Further compounding the democratic oxymora that sits at the intersection of direct and representative models of democracy within this governance system is the introduction of yet another built environment governance process, namely, the neoliberalisation of built environment governance.

14.2.3 Neoliberal Built Environment Professions: Market-Centric Democracy

We have heard about neoliberal planning and the neoliberalisation of built environment in other chapters. What is important for us here is that even within neoliberalising governance, elected politicians still hold the constitutional authority to set the built environment agenda and make decisions. However, the requirements of neoliberal governance suggest that built environment professionals should defer some of their agenda setting and decision-making power to market forces and to the private sector through various contractual arrangements with private and non-government urban actors.

In the NSW context we have been discussing, the power to enable or restrain private sector power, and to incorporate neoliberal and technocratic governance processes, remains with elected politicians within the representative system of democracy. However, the responsibility to manage private sector insolvencies and the fall out of other market failures, when the NSW Government enters a contractual agreement with a private sector actor, largely falls to the government's technocratic mangers. The NSW Government (2011) regularly makes claims about being coerced by market forces and rising public debt, or the need to offload outdated urban infrastructure to the private sector who is better placed to regenerate this infrastructure. In contrast to these claims, McGuirk (2005) and Rogers (2014) have demonstrated that the government is not a passive actor in the neoliberalisation of planning governance in NSW, but rather they are a key player who remains responsible for shaping and reshaping cities. The government's collective decisions to use the private sector as the provider and/or manager of infrastructure and social service provision is an ideological choice that is reshaping planning governance processes in NSW (NSW Government 2011, 2013). It is a decision that disorders the technocratic power of built environment professionals through further enabling private sector power structures. Private sector involvement complicates participatory planning objectives through the introduction of additional private sector actors, 'the market' and 'economic key performance indicators' in built environment agenda setting and decision-making processes.

Through neoliberalising governance processes, governments are encouraged to position financial criteria, market conditions and economic performance as important urban drivers and decision-making mechanisms. These conditions make it harder for citizens to contribute to the policy debates about the reconfiguring of their cities, for they are rarely thought of as valid planning 'knowledge holders' about their cities (i.e. they are not technocratic planning experts), nor are many citizens financial share-holders in the state-sponsored private interests that are central

to neoliberal planning. Neoliberal governance raises a fundamental concern about what types of planning governance processes are freedom-creating, and for which social strata or social group (Peck 2010; Soja 2010). Through the selection of certain ideologically mediated market mechanisms over others, such as public–private partnerships, the NSW planning system is changing the conditions through which local citizens and private sector actors might engage in the planning of their state.

Within neoliberal governance processes, sovereignty is increasingly exercised by a small group of powerful and wealthy businesses and business owners (Hay 2013; Peck 2010). Like participatory planning, neoliberal governance represents an extra-representative government form of political power in relation to the NSW planning system. The market-rights that are created within the governance processes facilitate a suite of new power structures that enable private sector businesses to act from outside of the government system. The result is a neoliberalising built environment governance system that requires a restructuring of the relationships between the private sector and the governments' built environment professionals (Rogers 2016). Public–private partnerships are a good example of the planning mechanisms that are required within this type of built environment governance system. The democratic securities and protections that were previously regulating the public sector built environment governance system (e.g. through representative and technocratic urban planning that was largely undertaken within government) must be reconfigured to make them more compatible with neoliberalising market-based governance processes.

Arguably the government and private actors have both contributed to urban infrastructure delivery for many millennia, for example, private citizens funded public services in ancient Athens (Farrar 2007). What makes neoliberal governance different is that private sector actors are increasingly invited to be 'responsible' in economic and legal terms, for public infrastructure and social service delivery, but may not necessarily deliver the desired broader public benefits that are bounded up in delivering these projects. The private sector is not expected to be responsible for the 'public good', but rather, might achieve some 'public benefit' while chasing a financial return. In other words, the responsibility for social democracy still resides with the government even though the goods and services can be contracted out to the private sector. The large infrastructure projects that the private sector now manages have significant social and spatial justice imperatives that were previously considered the remit of, and perhaps only protectable by, governments. In fact, when public–private partnerships fail in NSW (Hawthorne 2013), the political discussion quickly turns towards the democratic implications for citizens, such as government bailouts that might be needed to ensure the 'public' infrastructure and/or services are still provided. In this respect, it is the elected representatives, and the built environment technocrats to some degree, who remain responsible for the strategic planning of large-scale infrastructure deliverables in NSW.

Finally as an overarching fundamental framework to connect infrastructure with territory, a case for all built environment professionals and professional bodies to understand and acknowledge Aboriginal custodianship of Country, Aboriginal knowledge of Country and broader Indigenous ways of learning about and

governing cities requires critical attention. The complex governance arrangements discussed above sit within a broader context (which some people have called the *context of all contexts* in settler societies) that profoundly challenges many of the non-Indigenous knowledge systems, assumptions and practices that have guided the built environment professions in settler countries such as Australia since colonisation. The broader statement that all built environments are constructed on unceded Aboriginal land is fundamental to present and future directions of associated professions and systems.

Methods of approaching built environments that privilege Country, Indigeneity and Indigenous community concerns and aspirations lies at the heart of an Indigenous methodology. '*What must be emphasized here is that, from an Indigenous perspective, my people's interests, experiences, and knowledges must be at the center of research methodologies and the construction of knowledge about us.*' (Rigney 1999) An example is the former NSW Government Architect's Office specialisation in Indigenous Design which provided architectural and community contributions that resisted, and worked with, the contextualised settler narrative. Along with its main focus to incorporate Indigenous user group worldviews and experiences, there must be opportunities to share this approach with non-Indigenous projects and participants to add a uniquely contextualised layer of grounded information to the built environment. This, in turn, will lead to new knowledge created with Indigenous communities and it will foster innovative dialogue across different governance systems. In many cases, engagement with neoliberal systems is the norm and requires agile mindsets to navigate the cross section of competing interests. Ideally, through strong advocacy and expert capabilities, Indigenous methodologies can facilitate and promote the importance of Indigeneity within broader built environment governance frameworks.

14.3 Critical Political Cities

Today we find ourselves in a difficult urban governance arrangement in countries such as Australia. Democratic systems of government are premised on a basic precondition that citizens have the freedom to question the power of their sovereign ruler (Farrar 2007). However, political philosophers have long debated which amalgamation of governance processes might best enable this basic democratic right to be realised by citizens (Agamben 2011; Badiou 2005). Planning systems are similarly dynamic amalgamations of various governance processes, which are not always brought together in obvious ways (Swyngedouw 2005). Nor are the governance relationships without an urban politics (Allmendinger and Haughton 2012; McGuirk 2005). A very clear urban politics is driving the configuration of various governance processes in the NSW planning system (Rogers 2014, 2016). There is intra-governmental politics between different levels of government, which spans federal, state and local governments. This is largely about the rescaling of planning governance within Australia's representative democracy, and largely does not undermine, although it does recalibrate, the technocratic power of planning

professionals. It represents a rescaling of the government levels within which technocratic planning power is placed. Within this politics of planning governance, the elected representatives (i.e. Ministers) and the planning professionals hold the constitutional authority to set the planning agenda and they hold the decision-making power. Of greater concern for us in this chapter is the extra-governmental politics amongst government, citizenries and businesses of participatory and neoliberal planning within the NSW planning system. The rhetorical introduction of 'the market' and 'citizens' as planning agenda setters and decision-makers seems duplicitous and has proved difficult to manage in practice. The duplicitousness suggests the state might violate the democratic principles that enable the technocratic power of planning professionals if they devolve some of their decision-making and agenda setting power to 'the market' or 'local citizens,' or indeed both.

Further research is needed in two key but inter-related areas, one theoretical and another practical. At the theoretical level, fundamental tensions between Aboriginal custodianship of Country, technocratic, participatory and neoliberal governance processes need to be teased out. Fundamentally, each governance process dictates a different source of power in terms of setting the planning agenda and making planning decisions. In empirical terms, a better understanding of the practical planning relationships between top-down and bottom-up planning governance is needed. If involving the private sector and local citizenries in planning matters is going to remain a key objective of governments, more work is required to map out these planning governance inter-relationships and tensions. Without this understanding, rolling out a participatory planning or neoliberal governance process in one location might undermine important features of technocratic and Aboriginal planning governance in another location, and vice versa.

We have not discussed the significant citizen involvement in planning that originates from outside of the planning system (Legacy 2016; Rogers 2016), and we are not arguing against the inclusion of citizens in local or state planning matters. We are arguing that it might not be possible to include citizens and businesses in planning governance processes in the ways that the NSW Government has proposed. The government is yet to develop an effective way for citizens and businesses to collectively work alongside the technocratic processes that guide the NSW planning system. Furthermore, the neoliberalising and consensus-seeking government-led participatory planning regimes that do exist could stifle other forms of ongoing agonistic political engagement in planning matters (Mouat et al. 2013). Local citizenries have long used political tools that are complementary to technocratic planning—such as freedom of information, lobbying politicians, submitting planning objections, accessing the land and environment court or going to the media—and while these political tools are not always preferred by planners or developers, nor are they without their own politics and shortcomings, they do have some historical credibility (Rogers 2016). Extensive research suggests that the formal participatory planning processes of governments might in fact be placating, or at the very least rendering less visible, these long-standing and effective citizen participation processes (Cooke and Kothari 2001; Cornwall 2004; Maginn 2007). Discourses of local consensus and collective decision-making have replaced local discontent and

activism as the modus operandi for citizen participation without any real process for handing planning governance power over to local citizens (Cooke and Kothari 2001; Cornwall 2004).

Compounding this urban governance dilemma, the government's decision to use the private sector and 'the market' to inform planning decisions to drive economic growth further disorders the technocratic power of planning professionals. Professional planners are now required to apply financial criteria to social and physical planning concerns, and economic performance has become a key decision-making mechanism. The enabling of neoliberal governance auditing, and the private sector power structures that this governance process qualifies, undermines both the participatory desires and the technocratic planning realities of government. The power of professional planners, as important planning agenda setters and decision-makers—and the aim for more 'local community' input for that matter—are diluted by the private sector contracts that lock-in planning decisions and rule out transparency (e.g. commercial-in-confidence of 30-year public–private partnership contracts). This, we argue, is the very dilemma the NSW Government finds itself in as it searches for an impossible ménage à trois of incompatible governance processes across difference scales of government. What is needed is a critical reappraisal of bringing participatory, technocratic and neoliberal planning together within the NSW (and other) planning system—a reappraisal that acknowledges how each governance system might enable or mitigate the efficacy of other governance processes.

Finally, it is prudent that Aboriginal custodianship of Country, Aboriginal knowledge of Country and broader Indigenous ways of learning about and governing cities is on the bulit environment agenda. This debate profoundly challenges many of the existing knowledge systems, assumptions and practices that have guided the built environment professions in settler countries such as Australia since colonisation and can only strengthen the fabric of our cities. Indigenous ontologies and methodologies are guiding contemporary Indigenous built environment professionals and their practices, and these provide both a powerful critique of non-Indigenous built environment professionals and an equally powerful suite of possible pathways for moving forward.

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