1 Introduction

Australia is an urban nation. The Australian Bureau of Statistics indicates that 86% of the population currently lives in urban centres, and project that this is expected to reach 90% by 2040. Australia is also a country of immigrants, with around one-third of the population (7.5 million) born overseas (ABS, 2020a). In 2019, just over 60% of annual growth was due to net overseas migration, with the remaining 40% due to natural increase. Migration rates have increased since the turn of the millennium: between 2000 and 2020, Australia’s population grew almost 24% to just over 25 million, with the destination of most migrants being the large cities. As a result, capital-city growth accounted for 79% of Australia’s total population increase in the year ending 30 June 2019, and currently just over 17 million people now live in the capitals (ABS, 2020b).

The greatest population increases have been in Sydney (5.3 million population, June 2019) and Melbourne (5 million, June 2019), where growth rates have averaged around 2% per annum. Maintaining this rate would see these cities double to reach 10 million residents soon after 2050. Burgeoning cities have strained infrastructure and lifestyles. There
is little evidence that sustained growth rates and business-as-usual urban planning will maintain the quality of life to which Australians are accustomed. Given that projections indicate that these growth rates will be resumed into the future following a recovery from COVID-19 (Centre for Population, 2020), we argue that Australian cities cannot afford—from either economic, social, or environmental perspectives—to continue to grow in the way they have.

National bi-partisan pro-migration policy has triggered the rapid acceleration of growth in Australian cities, but without commensurate national urban planning policies to manage it. Calls have increased for a national vision and plan for Australia’s future settlement system that focuses especially on the fast-growing capital cities (Parliament of Australia 2019; PIA, 2018). At the time of writing, the COVID-19 pandemic had interrupted international travel, granting a temporary reprieve to migratory growth in Australia, and consequently dampening that component of urban economic activity driven by population growth. Could this pause present an opportunity to reflect on current practices and develop a better set of blueprints for planning and managing future urban growth and development?

If we were to witness a widespread urban transformation in Australia, what would need to change and what form might this transformation take? This chapter contextualises the question: first, by describing the major challenges facing Australian cities due to unsustainable growth, and second, by describing the impacts and shortcomings of urban planning across the three tiers of Australian government as related to regenerative urban development. The chapter also offers some high-level recommendations on how to address these challenges and how greyfields precinct regeneration (GPR) can fit into this.

2 Challenges Faced by Australian Cities

Australian urban-development challenges can be seen from multiple perspectives. Economic perspectives are most often discussed, as real estate is a national obsession and the construction industry is a significant driver
of economic activity. The dimensionality of urban-sustainability challenges include:

1. Social challenges regarding housing supply, housing mix, affordability and access to jobs and services; and
2. Ecological and resilience challenges relating to resource consumption and pollution, such as energy demand, greenhouse gas emissions, water supply, sewerage, food and waste management, and green space and biodiversity.

These issues overlap with the economic issues mentioned above. The next sections provide some of the reasons why the planning systems in Australia have failed so far to provide solutions to such persistent challenges, centred on the greyfields.

### 2.1 Housing Needs and Services

Despite decades of rapid urban growth, the Australian built-environment sector has struggled to reinvent itself since planting its mid-twentieth-century roots firmly in suburban planning and development principles that set up the greenfield edge-of-city development model as its key objective, effectively shelving issues of residential redevelopment. There was significant de-population of inner-city suburbs from the 1950s to late 1980s, as outer suburbs boomed (creating the ‘donut’ city). Community backlash from large-scale state government attempts at inner-city high-density urban renewal programs during the early post-war period saw ‘slum clearance’ schemes in the major capital cities abandoned. Public housing thereafter was primarily built in low-density suburban greenfield estates.

A process of private-sector gentrification in selected inner-city neighbourhoods was underway by the mid-1970s in the larger capital cities, gathering pace in the 1990s up to the present, driven largely by the housing and locational preferences of individual households. This reurbanisation process was boosted by the federal government’s Building Better Cities Program (1991–1996) that established a brownfield
redevelopment model created in partnership with all tiers of government and industry that specifically targeted abandoned port areas, disused hospital and commercial sites, and obsolete manufacturing sites, opening up significant precincts for high-density commercial and residential development (see Newton & Thomson, 2016 for an overview). However, the urban redevelopment process has not significantly engaged the greyfields from a long-term planning perspective, as outlined in Chap. 1; this has exacerbated continued sprawl, as most affordable new housing has been delivered as low-density, greenfields, project housing estates.

In parallel with urban population growth, house prices in Australia have risen 150% since 2000 while real wages have grown by less than 30% (Ryan-Collins & Murray, 2020). The average floor area of new housing constructed in Australia’s capital cities is the highest in the world at 236 square metres (Commonwealth Bank, 2020). The cost of housing in Australia is also amongst the highest in the world; as a result, homeownership rates are falling as housing has been commodified through ‘investitification’ (Hulse & Reynolds, 2017). This has exacerbated inequality, with many first-home buyers needing to ‘drive until they can afford to buy’. This inequality is captured in the increasing suburbanisation of social disadvantage in Australia’s large capital cities (Randolph & Tice, 2015) and worsened by socio-economic stress in car-dependent outer suburbs due to high fuel prices, as measured by the VAMPIRE (Vulnerability Assessment for Mortgage, Petroleum and Inflation Risks and Expenses) index (Dodson & Sipe, 2008).

Residents living in fringe developments travel greater distances to perform daily functions. Traffic congestion and commuting times are emerging as major social and economic problems. A universal travel-time budget averaging about 60 minutes per day for the journey to and from work (the Marchetti constant) appears acceptable to people living anywhere in cities around the world (Newman & Kenworthy, 1999). Exceeding this ‘30-minute city’ travel-time budget for a work trip is usually associated with a build-up of citizen dissatisfaction that triggers public calls for new metropolitan transport and land use plans. In 2019, the average commute in Sydney (77 minutes), Brisbane (67 minutes), and Melbourne (65 minutes) far exceeded the 30-minute trigger. Across the nation’s mainland capitals the average commute increased 22% between
2002 and 2017 (Wilkins et al., 2019), revealing urban growth policies as dysfunctional. Automobile-dependent suburbs also tend to be correlated with poorer health, particularly obesity and related chronic diseases, which are less prevalent in walkable locations (Newman & Kenworthy, 1999; Thompson & Stevenson, 2019). Increasing urban density can create the population thresholds necessary to support more-accessible local services and public transport, reducing travel-time budgets.

Metropolitan strategy statements revolve around land-use planning and the issue of land supply. Complaints from traditional greenfield housing industry lobby groups about a lack of land supply only ring true when considered against their particular, but still dominant, model of low-density greenfield development. There is land elsewhere in the city—it is just not used efficiently. The failings of vast areas of low-density housing are many, and well documented. Sprawling suburbs are no longer an appropriate model for our large cities. Rather, continuing sprawl is a by-product of a planning system designed in former times under different conditions. Releasing land on the urban fringe is reactive, not strategic. The government-controlled land-use planning system reacts to surges in demand of land for housing, and in the absence of planned alternative supply models the primary ‘release valve’ for affordable new housing is in greenfields sprawl. As a consequence, the system continues to produce this sprawl, although more recently inner urban brownfield infill redevelopment has begun to supply a greater proportion of new housing, albeit almost exclusively high-rise apartments (Tables 2.1 and 2.2). The system needs a new model that can supply a much larger proportion and variety of housing into areas that provide better services and are closer to most employment. These areas are the established, middle greyfield suburbs.

Table 2.3 describes the characteristic features of the three urban development arenas—brownfield, greenfield, and greyfield—together with their principal development challenges and advantages. Greenfield and brownfield precincts both present models and opportunities for regenerative urban development. Currently, this is not the case for greyfields redevelopment.
Climate change mitigation/adaptation has dominated recent planning strategies, but these are just one aspect of broader systemic sustainability challenges. Since 2015, Australia has made commitments to numerous international frameworks to achieve increased sustainable development, including urban sustainability, which has significant implications for planners. Amongst these agreements are the United Nations Sustainable
### Table 2.3 The three arenas of urban development

<table>
<thead>
<tr>
<th>Urban Arena</th>
<th>Characteristics</th>
<th>Challenges</th>
<th>Advantages</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Greenfield</strong></td>
<td>Previously undeveloped</td>
<td>Development typically displaces agricultural and/or natural landscapes</td>
<td>Unencumbered land &lt;br&gt; Cheap land &lt;br&gt; Few neighbours &lt;br&gt; ‘Tabula rasa’</td>
</tr>
<tr>
<td></td>
<td>Urban fringe/rural interface</td>
<td>Distance from centres and services, requires new infrastructure</td>
<td>Can incorporate existing site qualities and landscape features into master plan to retain nature-based services, and can accommodate water-sensitive urban design and precinct energy</td>
</tr>
<tr>
<td></td>
<td>Focus of peri-urban growth</td>
<td>Low land value encourages large, low-density plots, creating car dependence</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Far from urban employment and services</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Brownfield</strong></td>
<td>Former industrial or commercial land</td>
<td>Often contaminated; clean-up costs may make development unviable</td>
<td>Infill curtails sprawl &lt;br&gt; Typically large parcel size means no land assembly needed &lt;br&gt; Larger sites allow greater flexibility in site planning and urban design &lt;br&gt; Zoning ‘upgrade’ likely to be supported by nearby residents</td>
</tr>
<tr>
<td></td>
<td>Typically large land parcels</td>
<td>Former zoning likely to mean a dearth of social infrastructure to support residential uses</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Often in single land ownership</td>
<td>Displaces traditional employment areas</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Well located</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Greyfield</strong></td>
<td>Typically ageing, low-density residential land representing under-capitalised real-estate assets</td>
<td>Established suburbs with existing population increases potential for community resistance to change</td>
<td>Good locations &lt;br&gt; Infill curtails sprawl &lt;br&gt; Existing capacity with certain infrastructures &lt;br&gt; Established social infrastructure &lt;br&gt; Increased density can revive/attract local services (shops, transit, etc.)</td>
</tr>
<tr>
<td></td>
<td>Well located, established inner and middle-ring suburbs</td>
<td>Small lot-size requires land assembly for flexible site planning</td>
<td>Provides opportunity for greater housing variety &lt;br&gt; Opportunity to design new urban character</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Can displace suburban qualities, green space, and character housing</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Increased pressure upon certain existing physical and social infrastructures</td>
<td></td>
</tr>
</tbody>
</table>
Development Goals (SDGs) Agenda 2030 (September 2015), the New Urban Agenda (NUA, October 2016), and the Paris Climate Change Agreement (COP21, December 2015). These international goals cover a wider range of areas that affect, but were not previously considered within, the urban planning system, or, more broadly, within Australia’s national regulatory systems, now covering responsible consumption and production, affordable clean energy, decarbonisation, and sustainable communities. Precinct-scale responses to these ecological challenges are the focus of Chaps. 5 and 7, given our premise/proposition that sustainable cities require sustainable neighbourhoods to both directly (via their built environment) and indirectly (via the consumption behaviour of their occupants) drive sustainable urban systems (Newton, 2013, 2019).

### 2.3 Planning Failure

When Australian city planners look at these global and local goals, they invariably conclude that cities must reduce their urban sprawl, as not only is this kind of urban development ecologically damaging, it is the most seriously underprovided in social facilities and employment. To curtail sprawl, recent metropolitan planning strategies have highlighted the importance of urban consolidation to reduce automobile dependence by encouraging infill—redevelopment within the existing urban boundary—ideally integrated with transit. Metropolitan compact-city strategies set infill targets to increase urban density, but they fall short of describing models to deliver on these targets, with most existing development models misaligned. The section below and chapters that follow will illustrate this in major Australian cities.

**Sydney.** Sydney’s *A Metropolis of Three Cities* (Greater Sydney Commission, 2018) illustrates the intersection of infrastructure, housing, community and placemaking, economic development, and sustainable resilience. Objective 10, ‘More Housing Supply’, refers to three key priorities: urban renewal adjacent to significant transport nodes; local infill development, preferably near high-amenity areas; and new communities in land-release areas, which will occur mainly in the Western sub-region. The location of the first and third priorities will be determined by the
state government, whereas the second (local infill) is to be determined by councils together with the NSW state planning department. Regarding implementation, councils are provided with infill targets (spanning 5, 10, and 20 years) and will work with the Greater Sydney Commission to identify target areas. This set of policies is supported by placemaking and walkability strategies described in Objective 12, ‘Great places that bring people together’. Other than a missing-middle design guide, no other methodology is supplied.

Perth. The Plan for Perth and Peel at 3.5 Million (West Australian Planning Commission, 2018) is a strategic plan arguing for the benefits of agglomeration. While stating that there is sufficient land for future development, it also reveals that the city needs to achieve infill rates at 47% to 2050, with varying targets across the four sub-regions to achieve this. It then refers to a range of sub-regional planning frameworks, structure plans, local planning strategies, district/local structure plans, activity centre plans, local planning schemes, and local planning policy, with responsibility for implementation placed upon regional and local councils. To date, the plan’s infill targets for housing have not been reached (Prka, 2021). The MetroNet Project in Perth is building seven new rail lines out into the fringe suburban areas and is committed to building high-density Metro Hubs around the new stations, where some new designs have begun to appear. However, the middle suburbs continue to be neglected and no serious new model has been suggested to encourage precinct-scale redevelopment.

Brisbane. Brisbane’s planning covers the whole South East Queensland region. Shaping SEQ: South East Regional Plan (Department of Infrastructure, Local Government and Planning, 2017) opens with housing as its priority policy agenda, which is expressly focused on urban consolidation, particularly where new construction is close to areas served by strong transport networks and ample amenities. Rather than prescribe how this agenda will be achieved, the document specifies the infill targets for each sub-region, with approximately 60% infill for Brisbane and explicit density targets established for key activity centres (Table 2.4).

Furthermore, the Queensland Government makes commitments to sets of deliverables including planning timelines for state government departments, regions, and councils, development requirements for each
area, and, significantly, an assessment of the planning provisions and development-assessment provisions to ensure effective implementation. Sets of benchmarks are also provided. By way of ensuring compliance, the SEQ planning document states that ‘Each local government will be required to ensure their planning scheme reflects Shaping SEQ and is not inconsistent with the SEQ regulatory provisions detailed in Planning Regulation 2017’ (Department of Infrastructure, Local Government and Planning, 2017, p. 150). This makes it one of the few strategies that move from strategic overview to state-supported implementation. However, there is no evidence that infill rates are increasing, especially in the middle suburbs of Brisbane, Australia’s lowest-density city (Grodach & Limb, 2020).

**Adelaide.** Adelaide has a much lower demand for new housing than the other major cities in Australia. *The 30-Year Plan for Greater Adelaide* (Department of Planning, Transport and Infrastructure, 2017) again opens with the need for more infill housing, which, while currently operating at 76%, aims to be at 85% by 2045, the majority of which is to be focused on activity corridors (for Adelaide, ‘infill’ can occur on vacant land within a built-up area that has been leap-frogged by development in peri-urban areas). The 30-Year Plan covers a range of other policies currently being enacted, such as the Integrated Transport and Land Use Plan and a new Planning, Development and Infrastructure Act, illustrating how, together, they will provide a sustainable supply of land and dwellings into the future. While the plan indicates that the state will provide residential design guidelines and new models of housing, it, as do other cities, delegates implementation to local area planning for area

<table>
<thead>
<tr>
<th>Centre type</th>
<th>Dwellings per hectare</th>
<th>Within 400–800 m of ‘centre’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principal regional activity centre</td>
<td>150–400</td>
<td>100–175</td>
</tr>
<tr>
<td>Major regional activity centre</td>
<td>80–200</td>
<td>40–100</td>
</tr>
</tbody>
</table>

Source: *Shaping SEQ: South East Regional Plan* (Department of Infrastructure, Local Government and Planning, 2017, p. 44)
identification, urban renewal policy, and rezoning, all of which are to be implemented by councils. This has generally been the case in all Australian cities since the 1950s, although the state government planning minister can intervene in any development project.

Melbourne. *Plan Melbourne 2017–2050* (Department of Environment, Land, Water and Planning, 2017) sets policies relating to economic development, housing, placemaking/liveability, infrastructure, and sustainability. The areas of focus directly related to housing include:

- Direction 2.1 Manage the supply of new housing in the right locations to meet population growth and create a sustainable city.
- Direction 2.2 Deliver more housing closer to jobs and public transport.
- Direction 2.3 Increase the supply of social and affordable housing.
- Direction 2.4 Facilitate decision-making processes for housing in the right locations.
- Direction 2.5 Provide greater choice and diversity of housing.

All of these illustrate the relevance of increasing housing options in a market dominated by detached three-bedroom dwellings and, notably, the placement of these new housing options. Regarding location, there is a clear emphasis on proximity to transport, but also a focus on greyfield infill. Policy 2.2.4, under Direction 2.2, aims to ‘Provide support and guidance for greyfield areas to deliver more housing choice and diversity’, which is closely linked to Policy 5.2.1: ‘Urban renewal precincts, greyfield redevelopment areas and transit-oriented development areas (such as railway stations) are enablers in the development of an integrated transport system. Well-designed infrastructure for walking and cycling are critical elements. The Victorian Government will work with local governments and other stakeholders to create neighbourhoods that support safe and healthy communities’ (p. 100). These policies indicate that there is clear support for the concept of greyfield regeneration, not only as a housing solution, but also as a solution to suburban amenity and liveability. But what about implementation?

These strategies contain policies on liveability, walkability, and placemaking, framed variously through the lenses of healthier places or connected places, or as ways to reduce congestion. However, other than the
Brisbane plan, none provide information on their implementation, deferring to regional collectives of local governments. But despite this focus on application, Brisbane remains the Australian capital city with the lowest residential density (only marginally lower than Perth and Adelaide at approximately 17 persons/ha; Loader, 2011), indicating that pathways to application are still nowhere close to real, demonstrable implementation. Most states also have redevelopment agencies that work mostly on government land and try to demonstrate innovations such as the White Gum Valley (WGV) project in Perth through Development WA. However, the vast majority of development comes from the private sector, following the statutory guidelines provided by state and local governments.

The statutory regulations guiding development in greyfields are all set up for small-lot subdivision; hence, the present small-lot infill model dominates the greyfields property development market. Existing development models and processes for housing projects above small scale (Table 1.2) tend to focus on either new greenfield subdivisions, brownfields, or inner-city high-rise apartments, as they are established and require little government intervention. By comparison, greyfield models are not attracting the desired level of medium-density housing redevelopment (the ‘missing middle’), as reflected in Table 2.2, and the proportion of medium-density housing remains a relatively fixed proportion of the housing stock across the major capitals. The construction of high-rise apartments in inner areas is more readily positioned to respond to shifts in demand, such as international students and retirees, but limits to land-supply opportunities are shifting the demand into middle suburbs, where meeting infill rates is currently not possible with medium- or high-density housing due to zoning restrictions.

Greyfield infill development is thus resulting in suboptimal outcomes. It is following the statutory guidelines that allow piecemeal redevelopment approach of ‘knock-down-rebuild’, involving the demolition of older structures and replacement with either a new detached dwelling or small-lot subdivisions that have many shortcomings (as outlined). Despite infill policies, net housing yields and density gains in the greyfields are small (e.g., 1:1, 1:2–4). Where redevelopment infill ratios are low, further site assembly and higher-order development outcomes are squandered by the virus-like knock-down-rebuild residential supply currently occurring
(Leshinsky et al., 2018). If infill is to be successful in curtailing sprawl, higher densities need to be achieved through redevelopment opportunities linked with lot consolidation and precinct-scale regeneration.

In the absence of greyfield redevelopment at precinct scale, small-lot infill subdivision of single properties typically results in loss of private green space due to more area dedicated to buildings and car space. Loss of green space has multiple negative impacts, as described in Chaps. 5 and 7. Collectively, poor-quality infill development, perceptions of developer greed and overdevelopment, loss of green space, and erosion of suburban qualities—what we have termed a ‘virus’ (Fig. 1.9)—stigmatise infill development, strengthening community resistance in the form of NIMBYism. It is not hard to feel sympathy for such NIMBY reactions, as there is no opportunity to see different kinds of precinct-scale development, apart from a few demonstration sites such as WGV (Chap. 3) and the City of Maroondah precinct project (Chap. 7). The problems lie in the barriers set up in planning structures and the whole approach to redevelopment, which this book sets out to change.

2.4 Urban Structure

Overcoming sprawl and more successfully engaging with greyfield regeneration in the established urban fabric requires a more strategic approach to planning. This includes finding larger parcels of land in the best locations for higher-density infill, which, in turn, depends on finding the right land parcels in the appropriate urban arena and then creating an appropriate urban structure.

Urban structure relates to the arrangement of blocks, streets, buildings, open space, and other features of an urban area that are set into statutory controls along with other regulations such as density, setbacks, and urban mix. Getting the urban structure right matters, at both the city level and the neighbourhood level, as the urban structure dictates the potential of a redevelopment location and whether larger-scale developers can make sufficient money out of a site, or a collection of sites, to warrant them seeking investment finance. If not, and without the prospect of municipality-initiated rezoning, the original urban structure will
continue to favour the single-lot subdivision redevelopments that we are now seeing.

At the neighbourhood or precinct scale, where single lots can be consolidated because the urban structure allows or even encourages this, whole street blocks can be redeveloped into greyfield regeneration sites capable of accommodating denser, mixed land use that supports distributed infrastructures and more-active forms of mobility. These can be unlocked from the barriers in the planning system that prevent their aggregation into precincts, as will be explained in more detail throughout this book. However, they may still not be sufficiently well structured to allow their full regenerative potential to be reached, as they may not be linked closely enough to major utilities’ planned infrastructure retrofits or to the introduction of new urban services, especially quality public transport, as will be outlined further in Chap. 4. A new framework and associated principles and processes for integrated urban and water planning pioneered by the CRC for Water Sensitive Cities (Chesterfield et al., 2021) has identified pathways for how a district greenlining process might proceed.

At the larger city scale, a good urban structure is essential to reduce travel-time budgets and, as outlined in Chap. 4, this may need new mid-tier transit systems to be built along main roads so that land value improves enough for urban developers to want to invest in larger-scale urban redevelopments in the middle suburbs. Thus, the national push towards creating cities of walkable/cyclable neighbourhoods, such as Plan Melbourne’s ‘20-minute neighbourhoods’, is only possible by clustering land uses, such as residential uses, close to daily activities linked to shops, services, work, and school, to improve proximity and allow efficient transport modes for longer trips. In bigger cities, the most efficient transport mode is frequent mass transit. Sprawling suburbs and car dependence create the congestion on arterial roads that has seen travel-time budgets increase across all major cities. Wider roads simply do not help, as the bottlenecks still occur somewhere else, such as at popular destinations like employment or shopping centres. Given that mass transit can move 10–50 times the number of people per hour per kilometre of lane space compared to a suburban street or freeway (Newman & Kenworthy, 2015), it becomes clear that to maximise transport and land use efficiency, big cities must be built around transit, not cars.
This must now include middle suburbs that were generally built in the early days of car dependence, and where the resulting urban structures need to be changed if they are to be given opportunity for regeneration and increased density. Thus, integrating land-use and transport planning, specifically with higher-density residential, services, and employment uses within walking distance of mass transit, must be part of middle-suburb redevelopment. Such transit-oriented developments (TODs) are the key to developing a good city-scale urban structure, as they support public transport use and reduce the need to drive; Chap. 4 discusses this in detail.

The term ‘precinct’ can be considered a synonym for ‘neighbourhood’ or ‘district’. It is a unified area of urban land with a clearly defined geographic boundary, representative of the typical building blocks of cities. Figure 2.1 shows arrangements of precincts, including a string of precincts capable of being built along a high-capacity transit route to form a high-density transit-activated corridor (TAC; described in greater detail in Chap. 4), or a cluster of precincts that form a sustainable municipality and, ultimately, city region. A typical precinct will contain private and public land with shared infrastructure, with larger precincts being typically characterised by:

- medium- to high-density development (to optimise the use of the land);
- mixed-use zoning (residential mixed with retail, services, and employment to reduce daily travel needs);
- provision of good active or public transport (to reduce car dependency);
- access to high-quality urban green space and an emphasis on integrating pedestrian and public spaces to create a ‘village’ feel in a city context (to enhance quality of life).

Fig. 2.1 Regenerative precincts as the building blocks of sustainable cities. a) Idealised scale for a precinct: 10 min/800m walk radius. b) Collection of walkable precincts: building blocks of a sustainable city. c) Transit-activated corridor of precincts. (Source: Thomson et al., 2019)
To increase densities within the walkable catchment of transit, medium-high density development is needed. Of particular interest is *medium-density, mid-rise precinct scale development*, which we define as ‘the missing middle’ from a housing perspective. Policies by planning authorities (particularly in Melbourne and Sydney) need plans to encourage more of this dwelling typology. While definitions vary, the consensus is that the missing middle needs to be represented by upwards of 30–50 dwellings per hectare, rather than the 12 found in traditional car-dependent suburbs. This equates to terraces, multi-dwelling townhouses, and residential apartment buildings, with building stock between three and eight storeys high—the type of density commonly seen in European cities and in Australia’s older urban areas.

The higher-density end of this range is likely to be restricted to TACs. Other greyfields precincts that are more place-activated than transit-activated, adjacent to activity centres, schools, health facilities and green spaces, could be redeveloped with multiple advantages at the lower end of this range. Both transit-activated and place-activated GPR require land assembly as a prerequisite. This will be critical to greening the greyfields and is a step that planning systems need to recognise as being the ‘missing step in creating the missing middle’.

As suggested above, one of the main reasons greenfield development on the fringes still dominates city growth in Australia despite the numerous advantages of infill (in both brownfield and greyfield) is the greater complexity of delivering infill projects. Different development models involving planning, urban design, finance, construction, and community engagement are required for each. This book will outline how to achieve better redevelopment of greyfield middle suburbs via GPR. A key difference between brownfield and greenfield sites, on the one hand, and greyfields, on the other hand, is that the latter need much more attention given to land assembly to enable scaling up to a precinct.

From an urban standpoint greyfield redevelopment offers the greatest benefits, but also the greatest challenges. Greyfields come with lot sizes averaging roughly 600 square metres, depending on state and municipality, existing physical infrastructure (utilities, roads), and social services (schools, shops, parks, and health care). Delivery of missing middle GPR in the locations with the highest regeneration potential is frequently
challenged by property owners of nearby occupied residential lots. Larger (amalgamated) lots provide greater flexibility for design innovation. But another challenge, less tangible but no less significant, is cultural. In the established inner- and middle-ring suburbs in Australian cities, built when the ‘quarter-acre dream’ was marketed as an aspiration for all home-buyers, the quarter-acre block (or at least a detached dwelling) remains a tightly held ideal, albeit fading (Chap. 6). Established communities tend to have a strong identity and to resist change, and there are many examples of residents banding together to oppose redevelopment and changes to the existing ‘character’ (Dovey et al., 2009). As this is entirely understandable, a different model needs to ensure that the character of a place is enhanced whilst enabling other benefits of urban change to occur.

2.5 An Urban-Planning Transformation Agenda

To unlock the potential of the greyfields will require nothing less than a precinct-focused urban planning transformation agenda—but one that goes beyond the few large-scale, economically focused precincts currently on state government agendas for major cities. These include transport-node-oriented precincts around established or new metro rail stations and regeneration/renewal/redevelopment precincts, where there is a change in the underlying use of the existing land. This includes regenerating obsolete industrial land or repurposing an ongoing major use, such as shopping centres reimagined as town centres and mixed-use precincts with residential, commercial development and civic uses integrated into the existing use; and economic and innovation precincts that are co-located with globally significant government or industrial R&D centres. These are seen to require enabling through public- and private-sector strategic planning, policy, partnerships, and engagement (PCA, 2020). These equate to the existing major activity centres of cities illustrated in Fig. 1.12. This figure also draws attention to the significant categories of greyfield precinct that lie outside the ‘mega-precincts’ currently on the radar screens of government and industry: green-space-oriented development and place-activated and transit-activated GPR.
Greening the Greyfields represents an agenda that seeks opportunities for site amalgamation through incentives or mandating minimum lot sizes for infill redevelopment that can be used to enable lot amalgamation. Lot amalgamation usually requires the involvement of redevelopment authorities as facilitators for land packaging that delivers good-quality and desirable medium-density, mid-rise, mixed-use, transit-oriented precincts that local people will want rather than try to oppose them through NIMBY groups.

If this happens well in the middle suburbs, new developments in peri-urban suburbia that are car-dependent and far from major urban services will die away as an option for continuing the growth of traditional low-density Australian suburbs. The demand will simply be replaced by a better option. Well-designed, well-located, mixed-use, medium-density precincts can regenerate the urban fabric of middle suburbs by creating twenty-first-century urban villages that are well-designed to create demand for a new desirable way of living. These need to be well-located close to public transport, and offer a housing mix to cater to diverse populations and integrated land uses to place residents closer to jobs, services, recreation, retail, and transport.

However, it is not only the urban structure that would benefit from changes in the planning system. To address ecological sustainability requires a response to rapid changes in technology for energy, water, and waste services as well as mobility that can help with an urban sustainability transformation; but these are not yet being applied to urban infill because we lack the right planning framework to facilitate their introduction. This will be pursued in Chap. 3.

2.6 Conclusion

This chapter has shown that the greatest need in Australian cities is to regenerate the middle suburbs, or ‘green the greyfields’. It has also shown that all the current metropolitan strategic planning statements support consolidating such areas, but are failing to deliver them. The key reason that has been shown here is that the middle suburbs require significant land-assembly instruments to make precinct-scale regeneration viable;
hence, the only product that meets the statutory requirements at present is low-density, small-lot subdivision. Larger-scale regenerative development has happened in the inner areas in the brownfields and on the greenfield fringes where consolidated land ownership has made it possible. Thus, greening the greyfields in ageing established suburbs requires planning and delivery processes that include a significant land-assembly focus capable of delivering greyfield precinct regeneration. This does not need significant government funding unless the whole redevelopment process is done by government itself. The Building Better Cities Program in the 1990s set up land-assembly and development processes with state and local governments and multiplied the capital funds through partnerships with the private sector. A similar process of partnerships would be needed to generate the right land assembly, design, community engagement, and sustainability outcomes for place-activated and transit-activated GPR (described more fully in later chapters).

References


Open Access  This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter’s Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the chapter’s Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.