

Article

“Pasture Not Pavements”: Governmental Planning Failure and the Slow Death of Melbourne’s Green Belt

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Abstract: Extensive literature on peri-urban issues has paid only occasional attention to the details of spatial planning systems and their impacts on peri-urban natural resources. This paper investigates the relationships between a deregulated land use planning system and declining natural resource and agricultural values in the peri-urban area of Melbourne, in the state of Victoria, Australia. This paper uses a case study area consisting of Melbourne’s green belt and an outer peri-urban area northeast of Melbourne, concentrating on the effectiveness of an urban growth boundary and controls over land uses. A document analysis was undertaken on the provisions of the land use planning system, supporting documents, urban and peri-urban development, land ownership, land uses, and natural resources in the case study area. Threats from urban and rural–residential development, land fragmentation, and land development were identified, and the impacts of the planning system on current and future land uses were analysed. Particular reference was given to the debate on the concept of multi-functional land uses. This paper investigates the likely impacts of peri-urban development and the spatial planning framework on a range of sectors, particularly agricultural production, biodiversity, and landscapes, and highlights the failure of the spatial planning system to protect remnant peri-urban natural resources from increasing threats.

Keywords: peri-urban development; land use; spatial planning; urban growth boundary; multi-functional land use

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1. Introduction

Although still only covering less than one percent of the world’s total land area, urban land cover is fast outpacing urban population growth. A recent assessment found that the global urban footprint had doubled in the previous 19 years by comparison with the urban population doubling in 43 years [1]. These data serve to underscore an unprecedented historical trend. Perhaps not surprisingly, in their classic 2002 text, *Cities: Reimagining the Urban*, Amin and Thrift conclude that “we see the city as an agitation of thought and practice” (p. 157) [2].

With the provisos that more recent scholarship focuses greater attention on the transition area of the rural–urban fringe and the reality of *Homo (sub)urbanus* rather than *Homo urbanus*, their description perfectly characterises the subject matter of the present contribution [3–6]. Fundamentally, Amin and Thrift emphasised that cities are always political battlegrounds over clashing values, power, and governance [7]. In particular, there have long been profound differences of opinion in Australian society over limitless growth as a central national and sub-national guiding principle and the role of the state in regulating the actions of individuals, political parties, industry groups, and institutions that hold growth as their grand vision [8–10]. From its inception, the entrenched structure of Australia’s federal government system has actively encouraged the “growth syndrome” by pitting one state against another for lucrative competitive Commonwealth funding in such areas as infrastructure, transport, and housing. The same competitive model also operates at the state and local government levels. Ever-higher population growth rates and demands for

housing lead to more pressure for continued growth. The constantly fuelled leadership competition between cities at the global level measured against a range of metrics reinforces this trend.

But growth also comes with considerable costs and is not universally embraced by local communities [11]. Population and related infrastructure and consumption pressures on natural resources are increasing exponentially, and the resulting development is leading to ongoing conflict over land and water uses [12]. Spearheaded by a number of influential think tanks, the 1970s and 1980s in Australia witnessed a sustained and, ultimately, successful attack on the welfare interventionist state and the promotion of the need to adopt a limited-government, neoliberal ideology. The predominance of this now well-entrenched political orthodoxy has led to the dismantling of the traditional regulatory role of spatial planning in Australia as a principal means for supporting sustainable land and water management. This is despite mounting pressure on natural resources and the incontrovertible evidence of serious, ongoing environmental deterioration, exacerbated by climate change.

The progressive deregulation of Australian land use planning systems follows an agenda set by the *Leading Practice Model for Development Assessment*, prepared by the Development Assessment Forum (DAF) in 2005. This forum is composed primarily of development and professional groups. Powerful property interests, such as the Property Council of Australia (PCA), Urban Taskforce Australia (UTA), the Urban Development Institute of Australia (UDIA), and the Housing Industry Association (HIA), have exerted successful political pressure on governments to progressively implement the DAF model and deregulate planning systems without public consultation [13]. These groups have concentrated on the need for the continuous ‘unlocking’ of land on the fringes of cities and in urban heritage areas for housing and a range of other commercial developments [14]. However, projected demand figures for housing and claims of an undersupply of housing have frequently been exaggerated. This advocacy strategy is widely acknowledged as *framing*, as “political actors focus attention to certain elements in detriment of others, define what is problematic about a situation, and what should be the appropriate courses of action” [15]. The re-established Commonwealth National Housing Supply and Affordability Council’s 2024 first assessment report reinforced the property industry’s position, arguing for the reduction of “impediments to supply, such as planning reforms” [16,17], and the Commonwealth government’s *National Housing Accord* and many Australian states have imposed housing targets on urban municipalities [18]. Both the imposition of large housing targets on communities and urban expansion into rural areas on the fringes of cities are increasingly being used internationally by governments.

Building upon the substantial body of published research by the Peri-Urban Research Group at Melbourne’s RMIT University, as well as Foodprint Melbourne, this paper presents a political and policy update involving the relationships between deregulated spatial planning systems and declining natural resource and agricultural values [19–22] in the peri-urban area of Melbourne, in the state of Victoria, Australia. Relatively little attention has been paid, in extensive literature on peri-urban issues, to the impacts of detailed land use planning systems on peri-urban natural resources. This paper describes the failure of land use planning systems to protect remnant natural resources in a case study area of Melbourne’s green belt and an outer peri-urban area northeast of Melbourne. It examines the use of urban growth boundaries and planning measures, such as zones, to protect the rural characteristics of green belts and broader peri-urban areas from urban-related uses. It relates the findings of these two key elements to international literature on peri-urban areas. Particular reference is given to the debate on the concept of multi-functional land uses.

This paper investigates the likely impacts of peri-urban growth and the spatial planning framework on a range of sectors, particularly agricultural production, biodiversity, and landscapes, and highlights the failure of spatial planning systems to protect peri-urban communities from increasing threats. This failure is strongly related to the lack of an effective cross-sectoral planning policy that integrates decision making across sectors, such as agriculture, biodiversity conservation, and economic and social development. Nadin

et al. [23], for example, have pointed to such integrated policy development in Europe, while Stead and Meyers [24] have pointed to an explanation of policy integration as a co-ordination of sectoral policies or policy co-operation and co-ordination. The concept of policy integration can be further explained as the need for reciprocal sectoral consideration of all the sectoral impacts of proposals and the need to relate proposals to overarching strategic objectives. This paper argues that spatial planning systems can be a major integrative policy force, focusing on the relationships between spatial planning, agriculture, and biodiversity as key elements in resource depletion or protection. Peri-urban natural resources are threatened not only by urban expansion but also by other land use factors and factors such as climate change, invasive species, habitat loss, overexploitation, and pollution. Land use practices, such as closer, small-lot rural subdivision and development; native vegetation removal; and landscape changes, also affect natural resources in rural areas beyond the threat of urbanisation. Other depletion factors, such as the impacts of pesticides or economic factors, are beyond the scope of this paper. Following McFarland, also, a core argument here is that peri-urban areas in Australia can be characterised as a “planning tangle”. In this, “Law, science, and economics actually contest the same ground... in addressing peri-urban land use, each does so using different paradigms and based on different philosophies” [25].

2. Population, Urban Growth, and Environmental Constraints: The Big Picture

With a total area of around 8 million square kilometres, Australia is the world’s sixth largest nation by size. A mere two percent of the country’s land area is classified as urban, and 86 percent of the population currently lives in urban areas. This makes Australia one of the world’s most highly urbanised countries. The United Nations defines countries as hyper-urbanised when 90 percent of their population lives in urban areas. In advance of the UK, Canada, and the United States, Australia is projected to reach this benchmark in 2044 [26].

Fuelled mostly by immigration, Australia’s rate of population increase is also one of the highest in the affluent world. Moreover, in marked contrast to Europe or the United States, for example, a small number of large cities dominate the settlement distribution. This primacy pattern was established well over a century ago. In 1900, Melbourne’s population was eleven times that of the state’s next largest city and higher than Sydney’s by nine times. These ratios have held over time, and the concentration of the population has strengthened and spread along the eastern seaboard in the three major conurbations of Sydney, Melbourne, and Southeast Queensland. Greater Melbourne is now close to being home to 80 percent of Victoria’s total population, and the comparable figure for Sydney is 70 percent.

By world standards, Australia’s cities are characterised by extremely low residential densities. Historically, detached dwellings on large blocks have been the popular norm. Especially in the immediate aftermath of World War II, this style of living was deliberately encouraged by government policies seeking to attract migrants from high-density and overcrowded European cities in particular [27–29]. Fundamental changes in the structure and form of Australia’s urban fabric have been evolving at least since the 1960s. But despite a recent boom in the construction of high-rise, strata-title apartment complexes, the ultimate dream of home ownership of a detached house with a garden persists to this day.

Thus, with a population of some 5.3 million, Greater Melbourne sprawls over approximately 10,000 sq. km. Sydney has a similar population spread over 12,000 sq. km. The average resulting population densities are 520 persons per square kilometre for Melbourne and 440 persons per square kilometre for Sydney. By comparison, Greater London takes in around 1572 sq. km and has an average population density of 5640 persons per square kilometre, and with a similar-sized population to Melbourne, Barcelona has an average population density of 16,000 persons per square kilometre. Utilising a strict statistical definition of ‘suburb’, Gordon and Maginn calculated that for Australia’s 16 largest cities, 75–80 percent of the population could be classified as ‘suburban’. They concluded, “In

short, such is the extent of suburbia in Australia; it merits specific research and policy attention" [30].

Australia's population is currently around 27 million and, at present trends, is projected to reach 30.9 million by 2034 and 40 million by 2060 [31]. Unchecked growth at this scale inevitably will place unparalleled pressure on existing agricultural landscapes and already stressed natural ecosystems, especially given the enduring low density of the large cities. As Seccombe explains, the 2060 projection is "an increase equivalent to the combined current populations of Sydney, Melbourne, and Brisbane" [32]. The recent annual population growth rate has been 1.9 percent.

3. Literature Review

Peri-urban regions are areas outside urban areas into which cities expand and which cities influence. Such regions may include designated green belts located the closest to an urban area. Green belts traditionally have been defined as predominantly rural landscapes outside city limits, containing rural land uses commonly protected by legislative or land use planning controls. More recently, however, the concept of multi-functional uses, including urban-related land uses, has been proposed for green belts. Broader peri-urban regions extend, generally, up to 100 km beyond a city's edge to predominantly rural or semi-rural landscapes locating diverse activities, including smaller regional townships. They hold high strategic, social, economic, and environmental significance and generally contain important natural resources, providing recreational opportunities, health benefits, food and ecosystem services, water resources, and, often, significant reserves of remnant biological diversity. Urban growth boundaries are a clear demarcation intended to differentiate between urban and rural lands by defining an edge to urban areas. Their purpose is to protect rural landscapes outside the urban limit and to redirect growth pressures to adjoining metropolitan centres or elsewhere, such as to distant regional centres, as a part of a network-city strategy. Such boundaries may be inflexible, intended to permanently prevent the expansion of urban areas into rural areas, or aimed at growth management, and, so, subject to change in accommodating urban expansion in an orderly manner [33–36].

An urban growth boundary's effectiveness in preventing or controlling outward urban growth is determined by two factors: the status of the boundary and the clarity of the demarcation between urban and rural uses. Ultimately, planning practice depends on whether boundaries are designed to manage growth into green belts and rural lands regarded as 'urban land-in-waiting' or inviolate from urban uses [37,38]. An impermanent status will apply to boundaries that constantly expand as urban growth approaches. Nevertheless, some jurisdictions have successfully implemented the managed growth model, for example, Portland, Oregon, where several municipalities have co-operated on a regional basis over a long time period to maintain the orderly application of a growth boundary. A Land Conservation and Development Commission requires every Oregon city and county to develop a plan that meets common goals. This plan must provide for an orderly transition from rural to urban uses, prevent excessive designation of new urban land, achieve greater efficiency of urban land through higher density, and protect farmland and environmental resources.

Urban growth boundaries also are often unclear, allowing for a gradation of land uses, such as larger residential lots, rural-residential "hobby farms", and a "jumble of rural, urban, and suburban" uses (p. 13) [39] in "a polyglot of landscapes" (p. 137) [40]. Permissive zoning and other land use provisions often enable urban uses to 'leapfrog' boundaries in a de facto expansion of the boundary designed to exclude such uses [41]. Allen and Davila (2002) pointed to a multi-functional land use pattern in a peri-urban mosaic of rural and urban uses [42]; and Sturzaker and Mell, Manns et al., and Cadieux and Taylor have challenged the traditional green belt protectionist ideology and have proposed changing land use planning rules to allow for a wide range of residential, rural-residential, and commercial developments and uses [43–45]. In contrast, Buxton has proposed limiting functionality to a wide range of strictly rural uses according to Frank and Hibbard's

definition as “a condition in which rural landscapes and their communities concurrently serve production, consumption, and protection functions” [46,47]. A range of studies show that the introduction of urban growth boundaries without controls on subdivision and urban land uses outside the boundary will lead to ongoing fragmentation and urban land uses that potentially change the rural nature of rural landscapes [48,49].

Rural landscapes dominated by small rural–residential lots and a broad range of urban and rural functional uses are defined commonly as “consumption landscapes”, where landowners are said to ‘consume’ amenities and increasingly banish traditional agricultural production [50–53]. Much agricultural activity is consistent with the concept of multi-functional rural landscapes, where remnant biodiversity, native vegetation, and intact water resources co-exist, particularly with innovative localised food production contrasting with traditional industrial farming [54]. Underlying these policy approaches are three different perspectives on the nature of green belts and broader peri-urban areas. An urban perspective regards such rural areas as land within the sphere of influence of adjacent urban centres [55]. A rural perspective, in contrast, focuses on the resilience of rural activities and criticises the view that rural activities outside cities are fragile [56]. A third depiction is of a dynamic interfacial zone in transition, neither urban nor rural, where change is endemic [57–59].

These differing perspectives underlie increasing threats to long-established urban growth boundaries and green belts. The spread of urban settlements is continuing to severely impact natural resources. The extent of urbanised land is predicted to double in size in Europe within 20–40 years [60] and triple in size globally by 2050 [61]. Yet even traditional green belts in countries such as the UK, Canada, and Australia are being increasingly threatened by urban growth. These threats are being driven generally by increased housing needs arising from population growth and development pressure and point to the need to couple the protection of urban growth boundaries and green belts with the provision of urban land supply. Many commentators argue that England’s 15 green belts covering 14% of the country and the London green belt comprising over 1 million hectares are the logical locations for more housing [62,63]. Between 2011 and 2017, 4840 ha of UK green belt land was lost to development, and in 2018, 460,000 new dwellings were planned for UK green belt land despite sufficient land available for 720,000 dwellings outside green belts in municipalities with green belt land [64]. A contrasting policy position also is provided by the Vancouver, Canada, and Adelaide, Australia, green belts, which shift the focus from concentration on urban containment to defining the rural values to be maintained. This approach forces governments to look elsewhere for urban growth options.

Three-quarters of Earth’s land surface has been altered significantly, and one million species, or one-eighth of all the plants and animals, are threatened with extinction [65]. Cities are often located in biodiversity-rich areas, and the multi-functional urban nature of peri-urban areas means that significant biological resources remain in peri-urban areas. However, remnant habitat is threatened by urban expansion. Bekessy et al. (p. 140) [66] have shown that in Australia, “over 50% of threatened species occur within the urban fringe, and accelerating urbanisation is now a key threat”. National and international research projects and related policy documents addressing urban density and sprawl over the last decade emphasise the need to increase residential densities and make cities more compact to reduce urban impacts on remnant rural natural resources [67]. Increasingly, these studies use large, sophisticated datasets to compare hundreds of cities across the world in order to track changes in density and urban form over time [68]. A comparison between over 400 cities with one million+ inhabitants in both the Global North and Global South found that “cities in the Global North exhibit significantly lower UPD (urban population density) values, which have been decreasing over time’ [69]. The 2024 *Benchmarking Melbourne* report noted that “Melbourne has recently sprawled faster than others. Its total built-up footprint has grown more than 10% faster than that of its peers and is now the fourth largest of its 20 peer cities” [70]. Yet despite green belts making important contributions to protecting biodiversity globally, no international treaties govern their operation.

As Allen et al. highlight in relation to sprawl reduction in Australia, progress “has been slow and uneven” [71]. This issue has also been the focus of critical attention by the OECD in its *Rethinking Urban Sprawl* report, as well as in the Australian government’s newly released *National Urban Policy Consultation Draft* [72,73]. The debate over a favoured economic path for Australia has coalesced around national and sub-national responses to the *Sustainable Development Goals Report* (2024) [74], particularly the attainments of Goal #2, “Zero Hunger”, and Goal #11, “Sustainable Cities and Communities” [75] and the issue of ‘urban sprawl’. This report concluded that

“Cities sprawled, or grew outwards, up to 3.7 times faster than they densified, or grew upwards, from 2000 to 2020 based on recent data from 17 cities in 185 countries. Globally, from 2000 to 2010, the average annual rate of sprawl reached 5.6 percent, while the annual densification rate lagged at 1.47 percent” [76].

Urban issues are also inextricably connected with a range of other Sustainable Development Goals, particularly Goals 6 and 7 (Water and Sanitation; Energy) and Goals 13 and 15 (Climate Action; Biodiversity). A recent appraisal of global progress towards meeting food- and land-system SDG targets paints a less-than-encouraging picture [77]. Since the 1990s, global targets to arrest biodiversity decline consistently have not been met, and this is by a considerable margin. Park and Gunaydin have drawn attention to the ‘19 ecosystems in Australia that are in a state of collapse, with the potential to affect the food system and drinking water for major cities’ [78]. As further evidence, a recent study comparing the National Biodiversity Strategies and Action Plans (NBSAPs) of France, Sweden, and Australia has highlighted systemic policy design failure and the need for transformative governance change in all three countries [79]. By contrast, using a statutory metric, the UK’s 2024 *Environment Act* mandates that all new planning applications must show an associated net biodiversity gain of at least 10 percent.

Despite the diversity of traditional rural activities in multi-functional peri-urban landscapes, changing patterns in intensified industrial agriculture threaten remnant biodiversity, habitats, and landscapes. Controversy continues over the importance of peri-urban agriculture for global food production, as illustrated by debate in the US. The US National Agricultural Lands Study [80] estimated the annual farmland loss at 3 million acres and that 77 million additional acres would be needed by 2000. Others criticised both figures as overestimates [81,82]. Using the US as an example, Fischel claimed that the loss of farmland, nationally, in the US was small, that the impacts on production were minor, and that the loss of farmland could be offset elsewhere by new methods of production [83]. However, between 1949 and 1997, the US lost 20% of its agricultural land. Nelson estimated that one-fifth of the prime agricultural land in the US was located within 50 miles of the 100 largest urban areas; that between 1982 and 1992, nearly 10 million acres of cropland were lost in the US; and that the total sales of farm produce fell by over \$42 billion. In peri-urban areas, sales of farm produce fell by \$19 billion [84]. Loss is caused by urbanisation and is continuing, taking 31 million acres out of production in the US between 1992 and 2012, double those of previous estimates [85], but with 84% of the loss expected to occur in Asia and Africa. There is widespread agreement that peri-urban agriculture matters because of the irreplaceable benefits of its location near urban settlements, the prime quality of the land and produce, and the relative lack of reliance on major irrigation schemes [86].

4. Methodology

A case study examines land use in Melbourne’s green belt and an outer peri-urban area. Melbourne’s peri-urban region consists of two non-urban belts of land around the city and their associated townships extending to about 160 km from the Melbourne central business district. The first, or inner, belt is the Melbourne green belt extending from the metropolitan urban growth boundary to the outer rural boundary of 17 municipalities, encompassing over 8829 km². This area contains a complex mix of private and public lands, with national and state parks and conservation reserves making up around one-third of the

total area. For decades, successive governments have enlarged a network of regional, state, and national parks.

The second, or outer, belt covers over 15 000 km² and extends over a range of landscapes from mountain forests, woodlands, and lowland forests to cleared farming land and coastal areas. Seven municipalities in this outer peri-urban belt form a part of the case study area, as shown in Figure 1. These are Ballarat, Central Goldfields, Greater Bendigo, Hepburn, Macedon Ranges, Moorabool, and Mount Alexander municipalities, with a combined population of almost 400,000 people unevenly distributed throughout an area of approximately 12,130 km². The two largest regional settlements are Ballarat, with a population of 108,000, and Bendigo, with a population of 110,000. The study area also includes a number of medium-sized towns and small towns. It contains many historic features and is predominantly rural in appearance, with 23% of the land area zoned for public use and the remaining rural land zoned for rural production, rural conservation, or rural living uses. The study area is biophysically diverse, combining areas where the predominant land use is agricultural with others where forests dominate, often containing valuable native species and high levels of biodiversity. The two parts of the case study area are notable for their landscape quality, biological diversity, rural production, and tourism.



Figure 1. Outer peri-urban case study area. Source: Buxton et al. [87].

A document analysis was undertaken of the urban and peri-urban developments, land uses, and natural resources in the case study area, drawing particularly from the RMIT University studies of the Melbourne peri-urban areas and the Melbourne University studies of the Melbourne Foodbowl. Documents recording the major provisions of the land use planning system and related supporting documents were analysed, along with spatial analyses of land ownership. The land use planning system studied was established between 1997 and 2003, and its key elements affecting Melbourne's peri-urban rural land remain substantially unchanged. The relevant elements of this planning system are described and later documents addressing the performance of the system analysed. Local councils are expected to continually revise land use planning controls, but the data recorded in the RMIT and Melbourne Foodbowl studies remain substantially unaltered

today, a factor that highlights the inadequacy of the planning process. In the municipalities studied, land tenure is the key factor in a complex network of interacting variables and reciprocal relationships.

A qualitative analysis of the local planning schemes of the seven municipalities in the study area [88], together with the use of a geographic information system (GIS), was used to provide a geospatial and quantitative analysis of the distribution of planning controls [89] and recently granted planning permits [90] and to assess the capacity of the spatial planning framework to manage impacts.

Threats from urban and rural–residential developments were identified in the discussion of the results from the spatial analyses and by analysing the land use planning provisions. The impacts of the planning system on current and future land uses were then analysed. Land uses and the potential for further land fragmentation were related to existing and proposed future land uses.

The details on the land uses, natural resources, and spatial form for the case study area were then related to the broader literature, and conclusions were drawn about the consistency between the case study area and global trends and the relationships between the land use planning regimes, land uses, and spatial form. Forecast trends in land development, demand, and population growth were used to estimate the most likely environmental impacts on rural landscapes.

5. Results and Discussion

Land use planning in peri-urban areas has continually sought to reconcile competing factors, principally, the impetus to grow and protection of natural resources. Land use planning systems traditionally have been the principal mechanisms in Western countries for managing such conflicting pressures. However, the application of neoliberal ideology to land use planning has reduced the capacity of planning systems to control adverse development impacts on natural resources, particularly in peri-urban areas. In the two decades leading up to 1992, successive governments in the state of Victoria used planning systems to address adverse impacts on natural resources left by past land use practices in Melbourne’s peri-urban area, particularly a legacy of inappropriate subdivision. Progressive deregulation from 1997 abruptly reversed this trend and reduced the capacity for planning systems to remedy generally acknowledged past mistakes.

Melbourne’s peri-urban area consists of inner and outer areas. The inner area corresponds to a conventional green belt incorporating green wedges between urban growth corridors (Figure 2) depicts the urban growth boundary (the blue line) drawn around the Melbourne metropolitan area, the green belt (in light grey), and the outer peri-urban area (hatched).

Inner peri-urban area: The analysis of the documents first addresses two means for protecting or managing the Melbourne green belt: the planning system’s control of the land use and development and the delineation of an urban growth boundary. This approach follows the two basic principles adopted in Section 16 of the planning authority’s 1981 *Metropolitan Implementation Report*: (i) “to ensure the permanent retention of wedges of countryside between the urban corridors and protect scenic landscapes, farming areas, native vegetation, and wildlife habitats” and (ii) “maintain a clear demarcation between urban and non-urban uses and eliminate urban expectations from rural areas”. The evolution of land use planning controls provides a model of the failure to maintain consistent rules to protect identified natural resources in the green belt, considered as vital for the future functioning of the Melbourne metropolis. This failure has led to the urbanisation of much of the city’s original food-producing areas, loss of habitat and biodiversity, and degradation of landscapes. No fewer than 21 planning strategies have been produced since 1929, all subject to countless amendments. Most have prioritised development over other landscape values. Tsutsumi and Wyatt have summarised Melbourne’s repeated attempts at strategic metropolitan planning as being ‘fairly ineffectual’ [91].



Figure 2. Melbourne's inner and outer green belts.

Melbourne's first planning strategy and planning scheme were developed in 1929 but never implemented. Renewed post WWII confidence led to the establishment of a metropolitan planning authority, the Melbourne Metropolitan Board of Works (MMBW). This body developed a second comprehensive planning strategy and a planning scheme in 1954 for a future population of 2.5 million within an area of some 700 sq. km. 'Sprawl' and 'containment' were highlighted as issues but were never addressed [92].

Melbourne's third planning strategy in 1971 covered an area of 2400 square kilometres and officially established a green belt incorporating green wedges. The government's objectives for this area have remained constant because to protect and conserve biodiversity, natural resources, including water resources and landscapes, provide open space networks; encourage agriculture; safeguard sites for vital infrastructure, sand, and stone; and encourage diverse tourism and recreation. This strategy was reinforced in the 1981 plan, with nine green wedges being expanded into a broad green belt. The MMBW developed and administered one overall planning scheme, the Melbourne Metropolitan Planning Scheme (MMPS), applying standard zones to both metropolitan Melbourne and its hinterland. Regulatory zones in the green wedges were designated as 'non-urban', strictly excluding urban-related uses. The MMBW drew from two studies in its development of this zoning structure: the *Review of Planning Policies for Non-Urban Zones* and the *Metropolitan Farming Study*. Each recommended robust planning provisions to protect rural values. Five non-urban zones were applied to green wedges: *Conservation*, *Landscape Interest*, *Special Extractive*,

Intensive Agriculture, and *General Farming*. Over time, these were further delineated into more particular zones, such as General Farming A and B, but no Rural Living Zone.

In 1985, the planning powers of the MMBW were devolved to the local government, but the regulated zones remained. A new state government from 1997 removed these zones, replacing them with liberalised standardised zones, leading to major consequences for Melbourne's green belt. A comparison between the MMPS and the zones introduced between 1997 and 1999 demonstrates the shift away from regulation to development facilitation. The MMPS prohibited almost all forms of urban-related uses, maintaining for almost 40 years a clear pattern of non-urban zones based on a planning philosophy that aimed to separate urban from non-urban uses. Industry, retail, offices, and other forms of accommodation, such as caravan parks and hotels, other than one dwelling to a lot, were prohibited. Almost all other urban-related commercial uses, including restaurants, were also prohibited. Rural retail was prohibited, except for plant nurseries. Rural industry was allowed, subject to permits, as were educational establishments, reformative institutions, hospitals, outdoor recreation parks, tourist establishments, places of assembly, and places of worship.

In comparison, Victoria's planning system progressively introduced, from the late 1990s, a series of multi-layered provisions of a deliberately designed discretionary nature, that is, providing few mandatory measures and relying on enabling measures to assess planning permit applications. The most important provisions are zones and overlays. Zones outline intended land uses, application requirements, and conditions and classify land uses into three sections: permit not required, permit required, and prohibited. Overlays are an additional level of control applying to single issues. Guidelines to consider permit applications are generally not quantified and require interpretation according to a complicated network of policies and other measures.

The system originally included three rural zones: Rural Zone, Environmental Rural Zone, and Rural Living Zone. The main zone used, the Rural Zone, contained only three prohibited uses, allowing for offices, retail, industry, and a wide range of commercial uses. These zones abolished the urban-rural distinction and converted the green belt to a 'holding zone' for any kind of future urban development. This shift from a regulated planning system to one designed to facilitate development initiated numerous planning applications that were previously prohibited. Between 1996 and 2001, over 4000 ha was approved for residential development, along with function centres/accommodations/commercial complexes, residential estates, and small-lot rural developments. The removal of state control led to a disorderly series of permits and rezoning projects initiated by development companies and local councils. The result was rapid fundamental change [93].

In 2002, another new state government reintroduced zones intended to revert to the MMBW principles in the MMPS for separating urban from rural uses, as a part of the implementation program for a new metropolitan strategy, *Melbourne 2030*. This strategy applied four zones to a broad green belt and replaced the Rural Zone with the Green Wedge Zone as the main non-urban zone. However, these zones allowed for many commercial uses, subject to permits, contradicting the previous prohibitions on urban-related uses in the former MMPS. The government sought to control these by requiring an association with agriculture, introducing maximum development sizes and mandating minimum sizes of land for developments. However, such exemptions have led to extensive further development pressure and conflict. This government also introduced a more comprehensive mandatory suite of four rural zones in the broader peri-urban areas outside the Melbourne green belt.

The current planning controls have now operated since 2002. In 2024, the government introduced a new plan for the Melbourne green belt, the *Planning for Melbourne's Green Wedges and Agricultural Land Action Plan* [94]. This plan stated that the range of land uses competing for rural land makes green wedges the most contested areas in the state, threatening rural land uses. Parbery and his colleagues developed a preliminary typology

of green wedge landholders [95], illustrating the complex nature of competing interests, as shown in Table 1.

Table 1. A typology of rural landholders.

Amenity Lifestyler	Green Commercial Farmer
Horse Lifestyler	Struggling Farmer
Green Lifestyler	Hybrid Operator
Part-Time Farmer	Non-Farm Businesses
Commercial Farmer	Residential Land Speculator

Source: Parbery et al. [95].

The *Action Plan* was designed to meet an election promise to “permanently protect Melbourne’s green wedges from overdevelopment by strengthening statutory planning controls... and strengthening permanent planning controls and legislation to protect and support agricultural land surrounding Melbourne”. However, it fails to deliver stronger planning controls to protect the rural land uses of green wedges. Instead, after six years of investigation, it includes measures such as policies that must compete with other contradictory policy statements and practice notes without statutory effect to guide decisions, defers action to future undefined measures, and avoids mandatory measures and prohibitions of uses that are incompatible with the rural nature of the green belt. As a result, it retains the list of non-urban uses allowed, subject to permits, in the green wedge, now including caravan parks, exhibition centres, function centres, group accommodations, materials recycling, places of assembly, places of worship, primary schools, research and development centres, research centres, residential buildings, residential hotels, restaurants, restricted places of assembly, secondary schools, and solid fuel depots. The tourism industry has been a major proponent of development in the green belt, together with a wide range of development interests pursuing housing construction and further subdivision. This process illustrates the difficulty democratic governments experience in defending public interest objectives against powerful interests and an ideology of deregulation.

The second principle was to maintain a clear demarcation between urban and non-urban uses, that is, establish an urban growth boundary (UGB). A boundary between urban and rural areas was delineated based on planning scheme maps administered by the MMBW and later by councils. However, the minister for planning could easily vary these, often without public notification or rights of objection. As a result, as a part of the 2002 *Melbourne 2030* strategy, the government removed the minister’s power to vary the boundary by passing legislation, the *Planning and Environment (Metropolitan Green Wedge Protection) Act*, requiring approval by both houses of parliament for any change. This plan continued a ‘star-like’ configuration dating back to the 1971 plan of four growth corridors for future housing and commercial developments along major transport arteries and nominated a ring of 12 green wedges of protected rural land between growth corridors, along with a broader green belt. However, damning criticisms of the implementation of Melbourne’s ‘tokenistic’ UGB, by concerned urban scholars, appeared in 2005 and again in 2021 [96,97]. At their core, these critiques highlight a serious failure of planning policy, as urban-related developments began to ‘leapfrog’ the boundary, negating its purpose, followed by expansions of the boundary. The growth corridors signalled to housing companies where to purchase adjoining rural land and lobby for its rezoning. Within six months, the boundary had been moved to expand growth corridors by 1610 ha, followed by another 11,132-hectare expansion allowed in 2005. Another revised strategy—*Melbourne @ 5 Million*—was released in 2010, leading to a further expansion by 43,000 ha to accommodate an additional 284,000 new dwellings, followed by another 2000 ha in 2013, see Figure 3.

One of the targeted areas for residential growth to the west of Melbourne features the only remaining remnants of the country’s rarest ecosystem, with less than one percent of its range now surviving. Each of these incursions could have been prevented by an increase in

the urban corridor’s density [98]. Such incremental incursions inevitably create uncertainty and establish precedents that, together, are fatal to the green wedge concept.

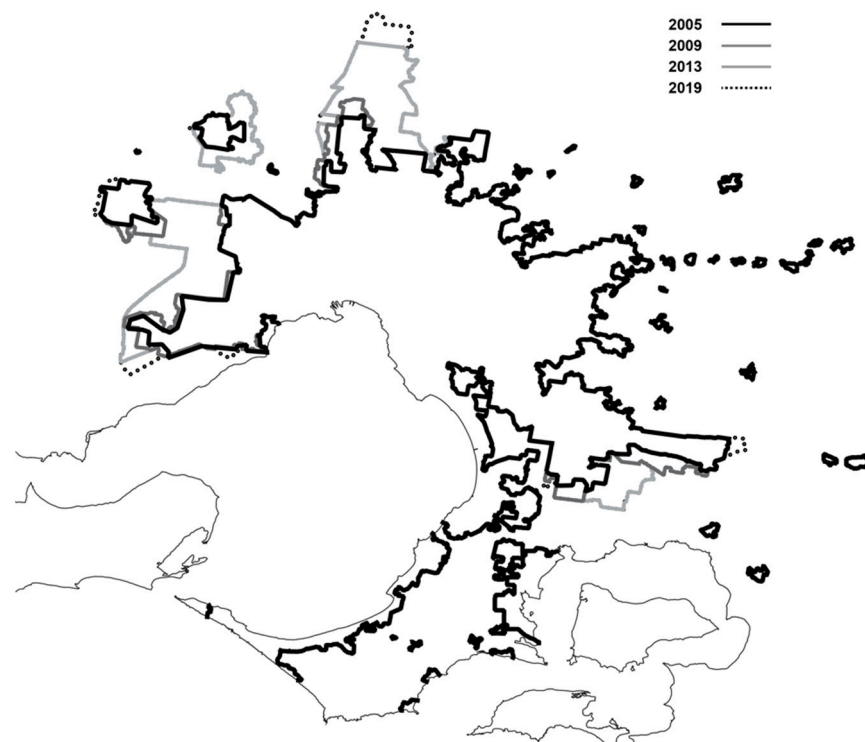


Figure 3. Progressive expansions of the Melbourne green belt. Source: Buxton and Butt [21].

Outer peri-urban region: The outer peri-urban group of seven municipalities in the case study area showed a combination of extensive land fragmentation, together with inappropriate matching of land use controls to land characteristics. A large oversupply of lots exists in the rural areas. Under business-as-usual projections, demand is unlikely to ever lead to this supply being used for housing. A total of 79,075 lots existed in the six zones studied (three rural and three township zones on the urban edge of townships), while 31,316 contained dwellings. The vast majority of the existing lots, 71,990, are situated in the three rural zones. Large numbers of these lots are situated away from population centres, where demand for new dwellings is low because of slow population growth. The total development capacity of 87,195 lots in the six zones is shown in Table 2. This comprises 47,759 existing vacant lots and a potential of 39,436 through subdivision under current planning schemes, including the three township zones currently in rural use, while the projected rural dwelling demand is only 15,010. Subdivision capacity excludes the substantial potential for additional dwellings under excision clauses (which lead to the creation of additional lots over those allowed under subdivision rules for zones). In addition, the range of non-urban uses, such as commercial uses, which are allowed in the green wedge zone, are also allowed in the rural zones, adding significantly to potential development pressures.

Table 2. Development capacity of rural lots.

Lot Size	From 0 to 4	From 4 to 10	From 10 to 20	From 20 to 40	From 40 to 80	Over 80	Total
Total Number of Lots	29,372	14,919	8072	18,370	9065	7397	87,195
Proportion of All Lots	34%	17%	9%	21%	10%	8%	100%

Source: Buxton et al. [87].

The Farming Zone contained, by far, the greatest number of existing rural lots, 47,732, on 710,686 ha and, therefore, possessed the greatest potential development capacity. Most lots are small, with almost 75 percent being 10 ha or smaller on 93,994 ha. The construction of dwellings on these small rural lots would have significant impacts on this region. The large number of ‘hobby farm’ lots would substantially reduce the agricultural capacity, remove remnant biodiversity, and alter landscapes over broad areas. Fragmentation is represented in Figure 4 as follows:

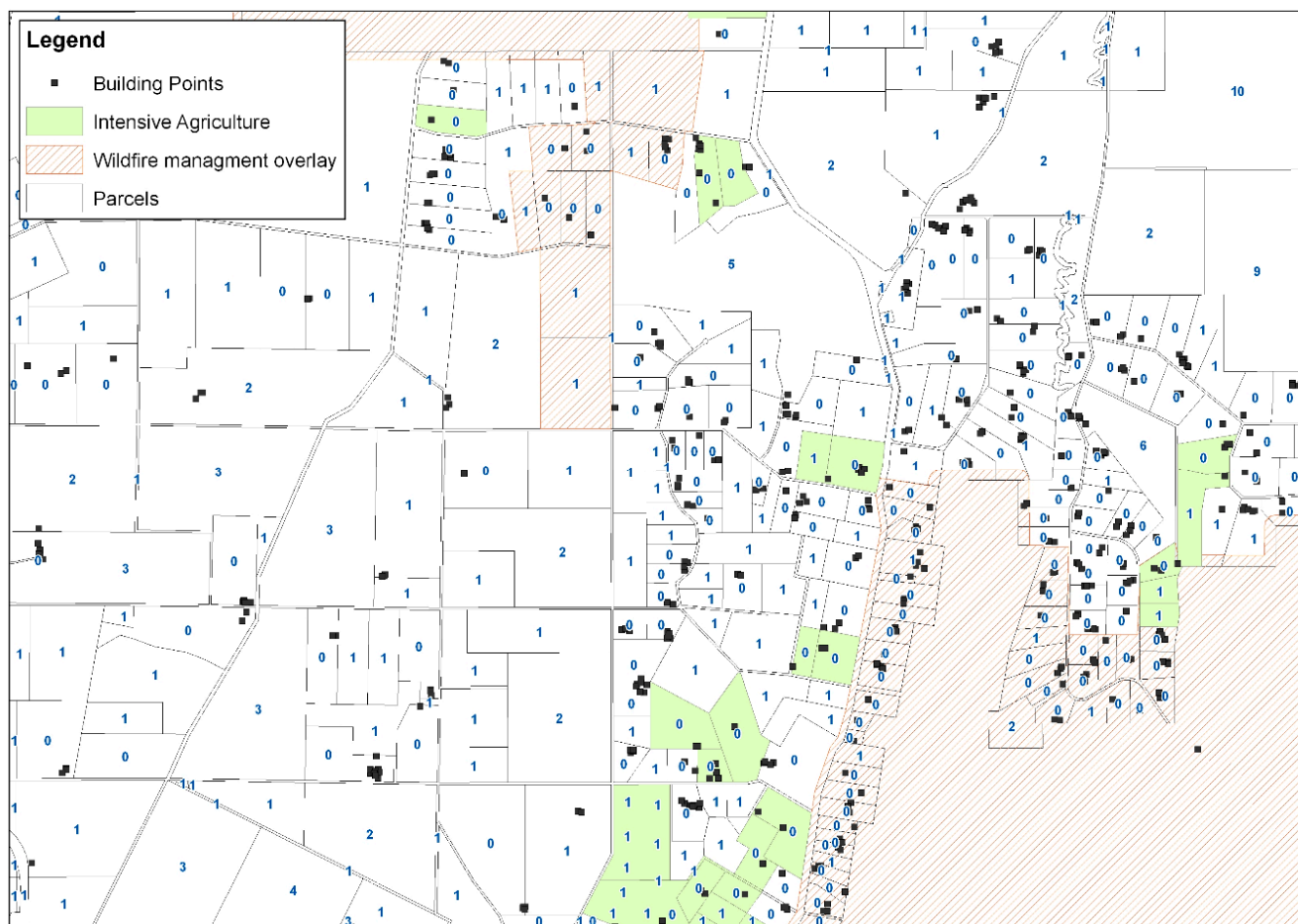


Figure 4. Lot fragmentation in Melbourne’s outer peri-urban study area. Source: Buxton et al. [87].

However, over 3500 lots over 40 ha exist on a significant land area of 286,280 ha, or about 45 percent of the rural land area. These large lots represent much of the study area’s future, allowing for diverse forms of agricultural production to continue and maintaining options for future agriculture while containing much of the remnant biological diversity.

The three main rural zones used in this case study area are the Farming Zone (FZ), Rural Conservation Zone (RCZ), and Rural Living Zone (RLZ). The RCZ is the most restrictive, with 17 prohibited uses compared to 14 in the RLZ and 9 in the FZ and a higher level of protection of environmental qualities, such as remnant vegetation and landscapes. The RCZ and FZ minimum lot sizes applying to subdivisions are generally similar. The most regulatory controls are applied the least to the bulk of the rural landscapes, with the result that further development is possible over most of the rural areas. The FZ is used the most extensively, generally applying to two-thirds of the rural land, leaving important environmental values less-well protected and reflecting the preference of rural landowners for less-regulated planning controls. Negligible use is made of the RCZ in five municipalities, as shown in Figure 5.



Figure 5. Proportion of planning zones in each case study municipality. Source: Llausas et al. [99].

The misapplication of planning controls is even more marked in the use of planning overlays. The Significant Landscape Overlay provides a much higher level of environmental protection than the Environmental Overlay but is used rarely or never in all the municipalities but one: Macedon Ranges Shire. Much of this region contains extensive areas of remnant native vegetation on private land, but the Vegetation Protection Overlay, designed for its protection, is also used rarely or not at all. State planning regulations to protect native vegetation have been weakened significantly since originally introduced as statewide measures in 1989. The lack of council protection reinforces the continuing loss of native vegetation. The misapplication of such planning measures is leading to continuing loss of agricultural land, degradation of landscapes, loss of biodiversity protection, and emerging problems in land and water management. Another feature of the use of land use planning provisions is the lack of continuity in the use of the measures between municipalities. Different planning provisions are applied over similar landscapes between municipalities, often abruptly ending a level of protection for natural resources at a municipal boundary. The cumulative effects on natural resources of individual development approvals are rarely considered. The legacy of fragmented land titles, inadequate subdivision, and land use controls led to 4000 new dwelling approvals between July 2007 and July 2013 [100], a trend that is continuing, see Figure 6.

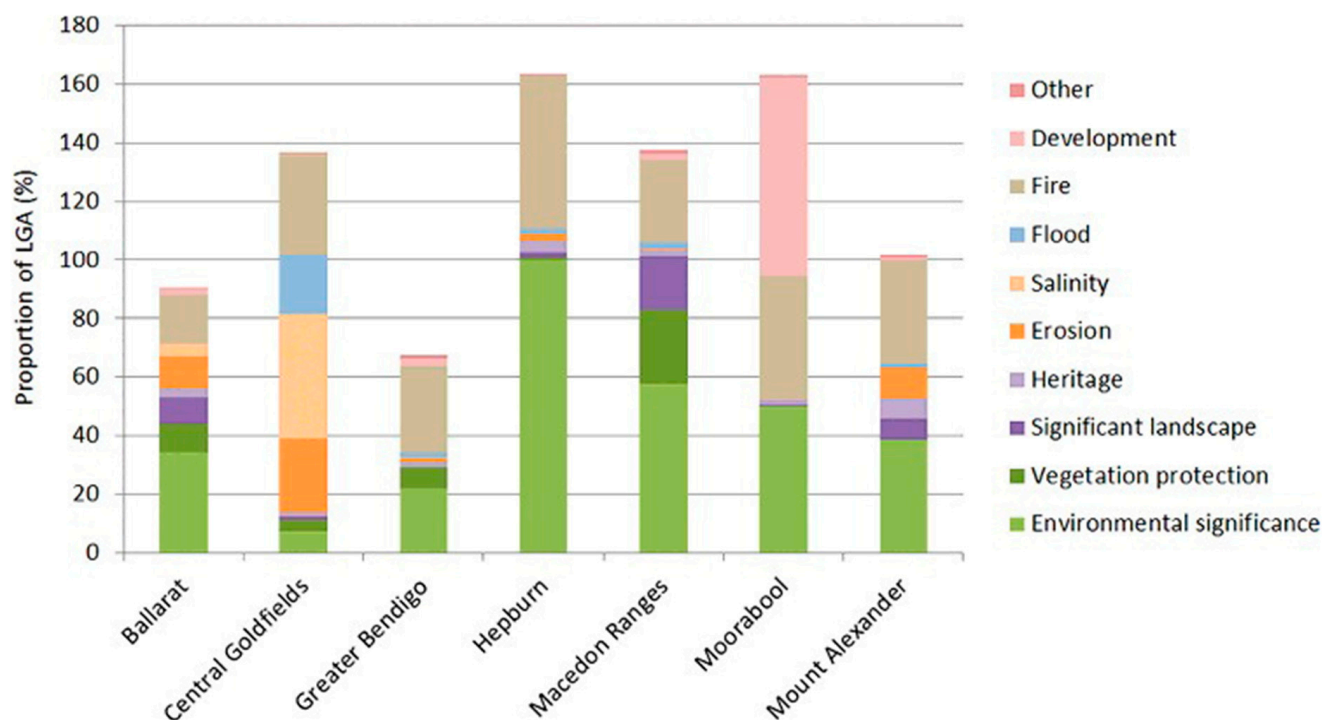


Figure 6. Use of overlays in the study area as a proportion of the municipal area. Source: Llausas et al. [101].

Agricultural practices in the inner and outer peri-urban zones: Recent years have seen growing academic and political interest in the positive role that peri-urban food production can play in increasing urban food security and resilience [102]. Australian Commonwealth and state governments also have recently begun to demonstrate increased interest in the relationships between urban development and the retention of peri-urban agriculture. The Victoria state government, in 2023, began an inquiry into securing the Victorian food supply in the context of urban sprawl and the impact of population growth on the farming industry and arable land. In November 2023, the House of Representatives Standing Committee on Agriculture, presented its final report on food security. Recommendation 13 notes that “...the Australian government, in conjunction with state, territory, and local governments, should develop a strategic plan to protect agricultural land from urban sprawl and utilisation for non-agricultural purposes” [103]. Also of note are three other related investigations in Victoria: *Protecting Melbourne’s Strategic Agricultural Land*, *Inquiry into Ecosystem Decline in Victoria*, and *Protecting Victoria’s Environment—Biodiversity 2037* [104,105].

The submissions to these inquiries provide a rich source of documentary material on the relationships between land use and agricultural practice. The Housing Industry Association (HIA) proposed that the state government “desist with the use of urban growth boundaries (UGBs) because they have proven to be an ineffective tool in facilitating new urban supply or protecting existing land uses” [106]. In contrast, most submissions, involving a wide cross-section of interest groups, such as small farmers, food justice groups, local governments, academics, and other individuals, supported retaining a fixed UGB and protecting green wedges from further non-urban incursions. The local government pointed to the costs and difficulties for protecting the green belt when confronted by a lack of government support and developer pressure. The submissions also referred to the effect on farming feasibility of the dominance of the two major supermarket chains of peri-farming pricing and produce. This matter also is being considered by the Australian Competition and Consumer Commission [107].

Agricultural practice in the peri-urban region displays different characteristics than those applying to Australia’s broad-scale agriculture. Australian agriculture is predomi-

nantly characterised by the efficient large-scale export-oriented production of commodities. Although production has risen, agriculture's share of the gross national product has declined substantially from 20% 50 years ago to 4% today, and farm numbers have halved. Agriculture accounts for less than 3% of the Australian workforce and 15% of export income [108].

However, peri-urban agricultural practice differs in many ways from this national picture. Melbourne's peri-urban region is typical of many others internationally, characterised by land fragmentation, large numbers of lifestyle 'hobby farms', rising populations, and steadily increasing development pressure from the adjacent metropolis. The heterogeneous nature of such peri-urban areas has led some commentators to describe the Melbourne green belt and broader peri-urban area as 'amenity', 'post-production', or 'multi-functional transition' landscapes. Yet Australian peri-urban agriculture matters. Intensive farming, horticulture, viticulture, vegetable growing, and diverse grazing activities co-exist with new, specialised, niche farming activities. Melbourne's green belt (or inner peri-urban area) is the second highest producer of agricultural products in the state of Victoria, with an output per hectare of four times that of the state average [109]. The average income is \$1085 per acre per year for agriculture generally and \$10,585 for vegetables [110,111]. The green belt contributes \$2.45 billion per annum to Melbourne's economy and creates 21,000 full-time-equivalent jobs, providing 41% of Melbourne's food, including 47% of Victoria's vegetables; 12% of its dairy; 67% of its eggs; most of its chicken, meat, and lettuce; and almost all its herbs, asparagus, and berry fruits [112]. Specialised forms of agriculture are highly concentrated and localised. For example, 40% of Australia's strawberries are produced in the Melbourne green belt. The number of producers has remained stable in the outer peri-urban area, dominated by small livestock businesses, with significant contributions from larger enterprises, such as horticulture, meat production, nurseries, and flower production.

Yet continuing urban pressures threaten the future of this foodbowl. The beliefs that the process of urban expansion and that the relocation and substitution of rural land uses in green belts can continue indefinitely have long dominated Australian urban planning to the marginalisation of food as an issue [113]. Between 2000 and 2006, Melbourne, Adelaide, Perth, and Sydney lost between 4% and 11% of the land area available for fruit production. The equivalent for vegetable production fell by 28% in Brisbane and 14% in Perth. Then, between 2011 and 2016, the land classified as being under primary production in the Foodbowl of Greater Western Sydney declined from 292,643.9 ha to 99,519.2 ha, a fall of 66 percent [114].

Historically, the area of the agricultural land has been substantially reduced over time, declining by 18% between 1986 and 2001 [115], a trend that is continuing [116]. Even controls on urban development are likely to further reduce agricultural output. Scenarios modelled by Deloitte Access Economics [117] showed a reduction in the value of the agricultural output from Melbourne's Foodbowl of \$32 million per annum in a 'constrained urban sprawl' scenario compared to \$111 million for a 'moderate urban sprawl' scenario. Foodprint Melbourne showed that population growth and urban sprawl could reduce the region's food production capacity from the current 41% to 18% by 2050 [118].

Melbourne's peri-urban food production is important for the reasons such areas remain important globally. First, the location of many cities on fertile soil in liveable climates provides a resource that should be protected for its high-value, high-intensity food production capacity. Second, the location close to metropolitan areas provides efficient and effective transport systems with ready access to markets. Third, water resources are available at a reasonable cost through adequate rainfall or recycling programs using urban storm- and wastewaters. Fourth, chronic and uncertain social and physical circumstances are likely to place increasing pressure on global food resources and supply chains as transport costs rise and the availability of food from distant sources becomes increasingly tenuous, reinforcing the need for caution in continued reliance on distant sources of food.

6. Conclusions

The introduction of a more-deregulated land use planning system in Victoria in the late 1990s led to closer relationships between the Victorian government and development interests. It separated spatial planning from other sectoral activities, fragmented decision making, and replaced decades-long government attempts to integrate policy for Melbourne's green belt and broader peri-urban area. There was no place for cross-sectoral policy in a governance regime devoted to deregulation and reducing the role of the government.

The potential of the land use planning system to protect peri-urban natural resources depends on its role as a means for integrating decision making over a range of other sectors. The deregulation of the Victorian planning system led to a weakening of planning controls and to progressive developments incompatible with the protectionist principle that led originally to the establishment of a green belt. A brief period of partial reregulation in 2003 could not resist for long the prevailing neoliberal ideology.

Land use planning also is a powerful independent factor affecting peri-urban areas by defining allowable land uses and affecting other factors, such as land prices, amenities, and production. The land use planning system is the principal cause of the land use transition in peri-urban municipalities, as it allows for the creation of small lots and the introduction of a multi-functional commercial landscape. Yet the details of land use planning systems and their impacts on natural resources are understudied internationally. The three most important peri-urban land use factors in the Melbourne peri-urban areas are the large number of existing rural lots, which, if developed, would change the character and functioning of the region, the potential for future subdivisions of larger properties into smaller lots, and the permitted uses for land and accompanying developments.

Effective land use planning is a necessary but not a sufficient condition to manage rural landscapes and land use. Regulatory controls can prevent unwanted activities but cannot ensure desired uses of land. Nevertheless, regulatory land use measures, such as zoning, can increase the likelihood of desired land uses by preventing incompatible uses and developments, controlling land prices, and maintaining future land use options. Lot sizes and prices are strongly correlated, with the per hectare value of smaller lots being much higher than that of larger lots. Exclusive farm zones can protect agricultural land from development. Large-lot requirements for subdivision help to maintain lots of an adequate size for feasible farms and protect the environment by preventing development. Zones, or their equivalent, can require owners to amalgamate multiple small lots when constructing new dwellings or can prevent building on small lots. In these ways, zoning can maintain future options that help communities to adapt to change.

Land tenure becomes the key factor in a complex network of interacting variables and reciprocal relationships. Without the use of stronger spatial planning techniques to prevent further land fragmentation, it is unlikely that other measures will be able to maintain peri-urban landscapes because income from rural uses, such as farming, or the value of incentives cannot usually compete with short-term financial gains from development. Spatial planning factors can reinforce the expression of the price in the suitability of the land for agricultural production, increase the comparative rate of return from agriculture, and facilitate land purchases for the creation of larger agricultural lots.

The historical relationships between the land tenure, land use planning controls, and natural resources in the Melbourne peri-urban region have aroused international interest and contain implications for broader practice.

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References

1. Angel, S.; Parent, J.; Civco, D.L.; Blei, A.; Potere, D. The dimensions of global urban expansion: Estimates and projections for all countries, 2000–2050. *Prog. Plan.* **2011**, *75*, 53–107. [\[CrossRef\]](#)
2. Amin, A.; Thrift, N. *Cities: Reimagining the Urban*; Polity: Cambridge, UK, 2002.
3. Maginn, P.J.; Anacker, K.B. (Eds.) From dreamscape to nightmare? In *Suburbia in the 21st Century*; Taylor & Francis Group: Abingdon, UK, 2017; pp. 1–22.
4. Keil, R. *Suburban Planet: Making the World Urban from the Outside In*; John Wiley and Sons: Chichester, UK, 2017.
5. Phelps, N. The first suburban nation in a suburban world. In *Planning in an Uncanny World. Australian Urban Planning in an International Context*; Phelps, N.A., Bush, J., Hurlimann, A., Eds.; Routledge: Abingdon, UK, 2023; pp. 133–148.
6. Gibson, G.; Elliott, R. (Eds.) *The Next Australian City: The Suburban Evolution*; Connor Court Publishing: Sydney, NSW, Australia, 2024.
7. Jessop, B. Governance failure, metagovernance failure, and the pedagogy of failure. In *The Routledge International Handbook of Failure*; Mica, A., Pawlak, M., Horolets, A., Kubicki, P., Eds.; Routledge: Abingdon, UK, 2023; pp. 237–251.
8. Pierre, J. Pro-growth governance. In *The Politics of Urban Governance*; Bloomsbury: New York, NY, USA, 2011; pp. 67–75.
9. Van Assche, K.; Buenen, R.; Gruezmacher, M. *Strategy for Sustainability Transitions*; Edward Elgar: Cheltenham, UK, 2024.
10. Molotch, H. The city as a growth machine: Toward a political economy of place. *Am. J. Sociol.* **1976**, *83*, 309–332. [\[CrossRef\]](#)
11. Dollery, B.; Subba, Y.; Thanh Dung Tran, C. The impact of population growth on local community satisfaction in the Victorian local government system. *Public Adm. Q.* **2024**, *48*, 65–79. [\[CrossRef\]](#)
12. UN Habitat. *Envisaging the Future of Cities*; UN Habitat World Cities Report; UN Habitat: Nairobi, Kenya, 2022.
13. Sandercock, L.; Berry, M. *Urban Political Economy: The Australian Case*; Allen & Unwin: Sydney, NSW, Australia, 1983.
14. Property Council of Australia (PCA). *The Premier State. New South Wales Budget 2024–2025 Submission*; Property Council of Australia: Sydney, NSW, Australia, 2024.
15. Lago, M.G.; Plant, R.; Jacobs, B. Re-politicising soils: What is the role of soil framings in setting the agenda? *Geoderma* **2019**, *349*, 97–106. [\[CrossRef\]](#)
16. National Housing Supply and Affordability Council. *State of the Housing System*; Australian Government: Canberra, Australia, 2024.
17. Karp, P. Australia’s housing crisis to worsen with ‘significant shortfall in supply’, Labor’s expert council says. *Guardian Online*, 3 May 2024.
18. Chalmeras, J. *National Housing Accord. Working Together to Tackle Housing Challenges*; Commonwealth Government, Minister for Housing, Minister for Homelessness: Canberra, VIC, Australia, 2022.
19. Buxton, M.; Tieman, G.; Bekessy, S.; Budge, T.; Mercer, D.; Coote, M.; Morcombe, J.-A. *Change and Continuity and Peri-Urban Australia. State of the Peri-Urban Regions: A Review of the Literature*; RMIT University: Melbourne, VIC, Australia, 2006.
20. Buxton, M.; Alvarez, A.; Butt, A.; Farrell, S.; O’Neill, D. *Planning Sustainable Futures for Melbourne’s Peri-urban Region*; RMIT University: Melbourne, VIC, Australia, 2008.
21. Buxton, M.; Tieman, G.; Bekessy, S.; Budge, T.; Butt, A.; Coote, M.; Riddington, C. *Change and Continuity in Peri-Urban Australia, Peri-Urban Case Study: Bendigo Corridor: Monograph 2*; RMIT University: Melbourne, VIC, Australia, 2007.
22. Carey, R.; Murphy, M.; Behen, T. *Planning a Resilient Food System for Victoria*; A Foodprint Melbourne Report; The University of Melbourne: Melbourne, VIC, Australia, 2024.
23. Nadin, V.; Stead, D.; Dabrowsky, M.; Fernandez-Maldonado, A. Integrated, adaptive and participatory spatial planning: Trends across Europe. *Reg. Stud.* **2021**, *55*, 791–803. [\[CrossRef\]](#)
24. Stead, D.; Meyers, E. Spatial planning and policy integration: Concepts, facilitators and inhibitors. *Plan. Theory Pract.* **2009**, *10*, 317–332. [\[CrossRef\]](#)
25. McFarland, P. The peri-urban land-use planning tangle: An Australian perspective. *Int. Plan. Stud.* **2015**, *20*, 163–164. [\[CrossRef\]](#)
26. United Nations. *World Urbanization Prospects. The 2018 Revision—File 21; Annual Percentage of Population at Mid-Year Residing in Urban Areas by Region, Sub-Region and Country, 1950–2050.9*; United Nations: New York, NY, USA, 2018.
27. Halkett, I. *The Quarter-Acre Block*; Australian Institute of Urban Studies: Canberra, Australia, 1976.
28. Davison, G. The past and future of the Australian suburb. *Aust. Plan.* **1993**, *31*, 63–69. [\[CrossRef\]](#)
29. Bunning, W.R. *Homes in the Sun: The Past, Present and Future of Australian Housing*; W.J. Nesbit: Sydney, NSW, Australia, 1945.
30. Gordon, D.; Maginn, P. *Estimating the Size of Australia’s Suburban Population*; PATREC PERSPECTIVES, The Planning and Transport Research Centre (PATREC) University of Western Australia: Perth, WA, Australia, 2015.
31. Centre for Population. *2023 Population Statement*; Australian Government: Canberra, Australia, 2023.
32. Seecombe, M. The dangerous debate. *The Saturday Paper*, 11 May 2024; p. 3.
33. Mumford, L. *The City in History: Its Origins, Its Transformations and Its Prospects*; Secker and Warburg: London, UK, 1961.
34. Stoel, T. Reining in urban sprawl: What can be done to tackle this growing problem? *Environment* **1999**, *41*, 6–11. [\[CrossRef\]](#)
35. Johnson, M. Environmental impacts of urban sprawl: A survey of the literature and proposed research agenda. *Environ. Plan. A Econ. Space* **2001**, *33*, 717–735. [\[CrossRef\]](#)
36. Phillips, J.; Goodstein, E. Growth management and housing prices: The case of Portland, Oregon. *Contemp. Econ. Policy* **2000**, *18*, 334–344. [\[CrossRef\]](#)

37. Angelo, H. From the city lens toward urbanisation as a way of seeing: Country/city binaries on an urbanising planet. *Urban Stud.* **2016**, *54*, 158–178. [[CrossRef](#)]
38. Friedberger, M. The rural-urban fringe in the late twentieth century. *Agric. Hist.* **2000**, *74*, 502–514. [[CrossRef](#)]
39. Audirac, I. Unsettled views about the fringe: Rural-urban or urban-rural frontiers? In *Contested Countryside: The Rural Urban Fringe in North America*; Furuseh, O., Lapping, M., Eds.; Ashgate: Aldershot, UK, 1999; pp. 7–22.
40. Nelson, A. The exurban battleground. In *Contested Countryside: The Rural Urban Fringe in North America*; Furuseh, O., Lapping, M., Eds.; Ashgate: Aldershot, Nelson, 1999; pp. 137–150.
41. Han, H.; Go, M. Explaining the national variation of land use: A cross-national analysis of greenbelt policy in five countries. *Land Use Policy* **2019**, *81*, 644–656. [[CrossRef](#)]
42. Allen, A.; Davila, J. (Eds.) *Mind the Gap! Bridging the Rural-Urban Divide*; Insights 41; Peri-Urban Interface Program, Development Planning Program, University College: London, UK, 2002.
43. Sturzaker, J.; Mell, I. *Green Belts: Past, Present, Future?* Routledge: New York, NY, USA, 2017.
44. Manns, J.; Hunter, A.; Matthews, A.; Prady, R.; Turner, B.; Young, W. *Green Sprawl: Our Current Affection for a Preservation Myth?* The London Society: London, UK, 2014.
45. Cadieux, K.; Taylor, L. (Eds.) *Landscape and the Ideology of Nature in Exurbia: Green Sprawl*; Routledge: New York, NY, USA, 2013.
46. Buxton, M. Green Belts: Past; Present; Future? *Plan. Theory Pract.* **2019**, *20*, 311–314. [[CrossRef](#)]
47. Frank, K.; Hibbard, M. Production, consumption and protection: The multifunctional transition in rural planning. In *Routledge Companion to Rural Planning*; Scott, M., Gallent, N., Gkartzios, M., Eds.; Routledge: London, UK, 2019; pp. 68–78.
48. Gillham, O. *The Limitless City: A Primer on the Urban Sprawl Debate*; Island Press: Washington, DC, USA, 2002.
49. Robinson, L.; Newell, J.; Marzluff, J. Twenty-five years of sprawl in the Seattle region: Growth management responses and implications for conservation. *Landsc. Urban Plan.* **2005**, *71*, 51–72. [[CrossRef](#)]
50. Argent, N.; Tonts, M.; Jones, R.; Holmes, J. A creativity-led rural renaissance? Amenity-led migration, the creative turn and the uneven development of rural Australia. *Appl. Geogr.* **2013**, *44*, 88–98. [[CrossRef](#)]
51. Barr, N. *The Changing Social Landscape of Rural Victoria*; Department of Primary Industries: Tatura, VIC, Australia, 2005.
52. Perkins, A. Land suitability assessment and Adelaide's evolving green belt. *Urban Futures* **1994**, *4*, 80–87.
53. Tonts, M.; Greive, S. Commodification and creative destruction in the Australian rural landscape: The case of Bridgetown, Western Australia. *Aust. Geogr. Stud.* **2002**, *40*, 58–70. [[CrossRef](#)]
54. Mert-Cakal, T.; Miele, M. 'Workable utopias' for social change through inclusion and empowerment? Community supported agriculture (CSA) in Wales as social innovation. *Agric. Hum. Values* **2002**, *37*, 1241–1260. [[CrossRef](#)]
55. Houston, P. Revaluing the fringe: Some findings on the value of agricultural production in Australia's peri-urban regions. *Geogr. Res.* **2005**, *43*, 209–223. [[CrossRef](#)]
56. Bunce, M.; Walker, G. The transformation of rural life. In *Contemporary Rural Systems in Transition. Volume 2: Economy and Society*; Bowler, I., Bryant, C., Nellis, M., Eds.; Redwood Press: Melksham, UK, 1992; pp. 49–61.
57. Nelson, A.; Dueker, K. The exurbanization of America and its planning policy implications. *J. Plan. Educ. Res.* **1990**, *9*, 91–100. [[CrossRef](#)]
58. Davis, J.; Nelson, A.; Dueker, K. The new burbs. The exurbs and their implications for planning policy. *J. Am. Plan. Assoc.* **1994**, *60*, 45–59. [[CrossRef](#)]
59. Adell, G. Theories and Models of the Peri-urban Interface: A Changing Conceptual Landscape. In *Strategic Environmental Planning and Management for the Peri-Urban Interface Research Project*; Development Planning Unit, University College London: London, UK, 1999.
60. Piorr, A.; Ravetz, J.; Tosics, I. *Peri-Urbanisation in Europe: Towards a European Policy to Sustain Urban-Rural Futures—A Synthesis Report*; Forest & Landscape University of Copenhagen: Copenhagen, Denmark, 2001; p. 144.
61. Guneralp, B.; McDonald, R.; Fragkias, M.; Goodness, J.; Marcotullio, P.; Seto, K. Urbanization forecasts, effects on land use, biodiversity and ecosystem services. In *Urbanization, Biodiversity and Ecosystem Services: Challenges and Opportunities: A Global Assessment*; Elmqvist, T., Fragkias, M., Goodness, J., Guneralp, B., Marcotullio, P., McDonald, R., Parnell, S., Schewenius, M., Sendstad, M., Seto, K., et al., Eds.; Springer: Dordrecht, The Netherlands, 2013; pp. 437–452.
62. Tabbush, J.; Mitchell, M.; Cottell, J.; Harding, C. *Homes Fit for Londoners: Solving London's Housing Crisis*; Centre for London: London, UK, 2023.
63. Cheshire, P.; Marley, I.; Sheppard, S. *Development of a Microsimulation Model for Analysing the Effects of the Planning System Housing Choices: Final Report*; London School of Economics: London, UK, 1999.
64. CPRE (Campaign to Protect Rural England). *State of the Green Belt*; Campaign to Protect Rural England: London, UK, 2018.
65. IPBES. Global Assessment Report on Biodiversity and Ecosystem Services, Summary Report for Policy Makers. In Proceedings of the 7th Session IPBES Plenary, Paris, France, 29 April–4 May 2019.
66. Bekessy, S.; White, M.; Gordon, A.; Moilanen, A.; McCarthy, M.; Wintle, B. Transparent planning for biodiversity and development in the urban fringe. *Landsc. Urban Plan.* **2012**, *108*, 140–149. [[CrossRef](#)]
67. Easthope, H.; Kerr, S.-M. Addressing the unanticipated consequences of compact city policies. In *Australian Urban Policy: Prospects and Pathways*; Freestone, R., Randolph, B., Steele, W., Eds.; ANU Press: Canberra, Australia, 2024; pp. 203–222.
68. Behnisch, M.; Jehling, M.; Krüger, T. Editorial to the Special Issue "Limiting urban sprawl: Relations between spatial trends, drivers, and planning policies". *Land Use Policy* **2024**, *143*, 107168. [[CrossRef](#)]

69. Chakraborty, S.; Novotny, J.; Maity, I.; Lemoine-Rodriguez, R.; Follmann, A. Same planet but different worlds! Diverging convergence pattern of urban form typologies across 413 cities with million+ inhabitants and their sustainability trade-offs. *Habitat Int.* **2024**, *145*, 103024. [[CrossRef](#)]
70. The Business of Cities. *Benchmarking Melbourne 2024*; Media Release; Committee for Melbourne: Melbourne, VIC, Australia, 2024.
71. Allen, C.; Biddulph, A.; Wiedmann, T.; Pedrecini, M.; Malekpour, S. Modelling six sustainable development transformations in Australia and their accelerators, impediments, enablers, and interlinkages. *Nat. Commun.* **2024**, *15*, 594. [[CrossRef](#)]
72. OECD. *Rethinking Urban Sprawl*; OECD: Paris, France, 2018.
73. Australian Government. *National Urban Policy Consultation Draft*; Australian Government: Canberra, Australia, 2024.
74. Bandari, R.; Moallemi, E.; Kharrazi, A.; Sakic Trogrlic, R.; Bryan, B. Transdisciplinary approaches to local sustainability: Aligning local governance and navigating spillovers with global action towards the Sustainable Development Goals. *Sustain. Sci.* **2024**, *19*, 1293–1312. [[CrossRef](#)]
75. United Nations Human Settlement Programme. *SDG 11 Synthesis Report 2018: Tracking Progress Towards Inclusive, Safe, Resilient and Sustainable Cities and Human Settlements*; UN-Habitat: Nairobi, Kenya, 2018.
76. United Nations. *The Sustainable Development Goals Report 2024*; United Nations: New York, NY, USA, 2024.
77. Sachs, J.; Lafortune, G.; Fuller, G. *Sustainable Development Report 2024. The SDGs and the UN Summit of the Future*; Dublin University Press: Dublin, Ireland, 2024.
78. Park, S.; Gunaydin, E. Australia as an ecocidal middle power. *Aust. J. Int. Aff.* **2024**, *78*, 395–417. [[CrossRef](#)]
79. Coffey, B.; Damians, F.; Hysing, E.; Torabi, N. Assessing biodiversity policy designs in Australia, France and Sweden. Comparative lessons for transformative governance of biodiversity? *J. Environ. Policy Plan.* **2023**, *25*, 287–300. [[CrossRef](#)]
80. USDA and PCEQ (Dept of Agriculture and President’s Council on Environmental Quality). *National Agricultural Lands Study*; US Government Printing Office: Washington, DC, USA, 1981.
81. Vesterby, M.; Heimlich, R.; Krupa, K. *Urbanization of Rural Land in the United States. Agricultural Economic Report No. 673*; US Department of Agriculture: Washington, DC, USA, 1994.
82. Gottlieb, P. Is America running out of farmland? *Choices* **2015**, *30*, 1–7.
83. Bren d’Amour, D.; Femke, C.; Reitsma, F.; Baiocchi, G.; Barthel, S.; Güneralp, B.; Erb, K.-H.; Haberl, H.; Creutzig, F.; Seto, K. Future urban land expansion and implications for global croplands. *Proc. Natl. Acad. Sci. USA* **2017**, *114*, 8939–8944. [[CrossRef](#)] [[PubMed](#)]
84. Fischel, W. *Zoning Rules! The Economics of Land Use Regulation*; Lincoln Institute of Land Policy: Cambridge, MA, USA, 2015.
85. Nelson, A. Economic critique of prime farmland preservation policies in the United States. *J. Rural. Stud.* **1990**, *6*, 119–142. [[CrossRef](#)]
86. Gonzalez, S. Report Outlines Dramatic Loss of US Farmland Between 1992–2012. *Agriculture Policy*, 23 May 2018.
87. Buxton, M.; Phelan, K.; Groenhart, L.; Fish, B.; Farrell, S.; Kennedy, M.; Butt, A. *Alternative Futures for Melbourne’s Peri-Urban Region*; RMIT University, Spatial Vision, La Trobe University: Melbourne, VIC, Australia, 2014.
88. DTP (Department of Transport and Planning). *Planning Schemes*; Government of Victoria: Melbourne, VIC, Australia, 2024.
89. VGDD (Victorian Government Data Directory). *Victorian Government Data Directory. Raw Data of the State Government Victoria*; Victorian Government: Melbourne, VIC, Australia, 2016.
90. PPARS. *Planning Permit Activity Reporting System*; Department of Transport, Planning and Local Infrastructure, Victorian Government: Melbourne, VIC, Australia, 2016.
91. Tsutsumi, J.; Wyatt, R. A brief history of Metropolitan Planning in Melbourne, Australia. *Applied GIS* **2006**, *2*, 7.1–7.10. [[CrossRef](#)]
92. McLoughlin, J. *Shaping Melbourne’s Future? Town Planning, the State and Civil Society*; Cambridge University Press: Melbourne, VIC, Australia, 1992.
93. Buxton, M.; Goodman, R. *Maintaining Melbourne’s Green Wedges: Planning Policy and the Future of Melbourne’s Green Belt*; RMIT University: Melbourne, VIC, Australia, 2002.
94. DTP (Department of Transport and Planning). *Planning for Melbourne’s Green Wedges and Agricultural Land. Action Plan*; Victorian State Government: Melbourne, VIC, Australia, 2024.
95. Parbery, P.; Wilkinson, R.; Karunaratne, K. *Square Pegs in Green Wedges? Landholders and Natural Resource Management in Melbourne’s Rural Hinterland*; Victoria Department of Primary Industries: Melbourne, VIC, Australia, 2008.
96. Birrell, B.; O’Connor, K.; Rapson, V.; Healy, E. The Urban Growth Boundary. In *Melbourne 2030: Planning Rhetoric Versus Urban Reality*; Birrell, B., O’Connor, K., Rapson, V., Healy, E., Eds.; Monash University Publishing: Melbourne, VIC, Australia, 2005; pp. 60–76.
97. Lu, J.; Liu, C.; Buxton, M. The impact of Urban Growth Boundaries in Melbourne on urban sustainable development. *Eng. Herit. J. (GWK)* **2021**, *5*, 34–41. [[CrossRef](#)]
98. Buxton, M.; Scheurer, J. Density and Outer Urban Development in Melbourne. *Urban Policy Res.* **2007**, *25*, 91–111. [[CrossRef](#)]
99. Llaugas, A.; Buxton, M.; Beilin, R. Spatial planning and changing landscapes: A failure of policy in peri-urban Victoria, Australia. *J. Environ. Plan. Manag.* **2016**, *59*, 1304–1322. [[CrossRef](#)]
100. PPARS. *Planning Permit Activity Reporting System*; Department of Transport and Planning, Council permit data, Government of Victoria: Melbourne, VIC, Australia, 2024.
101. Llaugas, A.; Buxton, M.; Belin, R. *Framing Land Use Change in Rural Areas of Peri-Urban Victoria: Drivers, Impacts and Responses*; RMIT University, University of Melbourne: Melbourne, VIC, Australia, 2014.

102. Olsson, E. Peri-urban food production as means towards urban food security and increased urban resilience. In *Routledge Handbook of Landscape and Food*; Zeunert, J., Waterman, T., Eds.; Routledge: London, UK, 2018; pp. 197–212.
103. House of Representatives Standing Committee on Agriculture. *Australian Food Story: Feeding the Nation and Beyond. Inquiry into Food Security in Australia*; Parliament of Australia: Canberra, Australia, 2023.
104. Environment and Planning Committee, Legislative Council. *Inquiry into Ecosystem Decline in Victoria*; Parliament of Victoria: Melbourne, VIC, Australia, 2021.
105. DELWP (Department of Environment, Land, Water and Planning). *Protecting Victoria's Environment—Biodiversity 2037*; Government of Victoria: Melbourne, VIC, Australia, 2017.
106. Housing Industry of Australia. *HIA Submission to the Inquiry into Securing the Victorian Food Supply. Submission No. 57*; Parliament of Victoria: Melbourne, VIC, Australia, 2024.
107. ACCC. *Supermarkets Inquiry 2024–25*; Issues Paper; Australian Competition & Consumer Commission: Canberra, Australia, 2024.
108. ABARES. *Agricultural Commodities Statistics*; Australian Bureau of Agriculture and Resource Economics and Sciences: Canberra, Australia, 2017.
109. Buxton, M.; Butt, A. *The Future of the Fringe: The Crisis in Peri-urban Planning*; CSIRO Press: Melbourne, VIC, Australia, 2020.
110. Buxton, M.; Carey, R.; Phelan, K. The role of peri-urban land use planning in resilient urban agriculture: A case study of Melbourne, Australia. In *Balanced Urban Development: Options and Strategies for Liveable Cities*; Maheshwari, B., Singh, V., Thoradeniya, B., Eds.; Springer: Dordrecht, The Netherlands, 2016; pp. 153–170.
111. Carey, R.; Sheridan, J.; Larsen, K. *Food for Thought: Challenges and Opportunities for Farming in Melbourne's Foodbowl, Foodprint Melbourne Report*; Faculty of Veterinary and Agricultural Sciences, University of Melbourne: Melbourne, VIC, Australia, 2018.
112. Carey, R.; Larsen, K.; Sheridan, J.; Candy, S. *Melbourne's Food Future: Planning a Resilient City Foodbowl*; Victorian Eco-Innovation Lab, University of Melbourne: Melbourne, VIC, Australia, 2016.
113. Budge, T. Is food a missing ingredient in Australia's Metropolitan Planning Strategies? In *Food Security in Australia. Challenges and Prospects for the Future*; Farman-Bowers, Q., Higgins, V., Millar, J., Eds.; Springer: New York, NY, USA, 2013; pp. 367–379.
114. Lawton, A.; Morrison, N. The loss of peri-urban agricultural land and the state-local tensions in managing its demise: The case of Greater Western Sydney, Australia. *Land Use Policy* **2022**, *120*, 106265. [[CrossRef](#)]
115. Barr, N.; Wilkinson, R.; Karunaratne, K. *Australia's Farmers: Past, Present and Future*; Land & Water Australia: Canberra, Australia, 2005.
116. Ramsey, R.; Gallegos, D. What are the implications of peri-urban agriculture on food security in Australian cities? In *Proceedings of the Second National Food Futures Conference*, Hobart, Tasmania, Australia, 22–23 November 2011.
117. Deloitte Access Economics. *The Economic Contribution of Melbourne's Foodbowl: A Report for the Foodprint Melbourne Project*; University of Melbourne: Melbourne, VIC, Australia, 2016.
118. Sheridan, J.; Larsen, K.; Carey, R. *Melbourne's Foodbowl: Now and at Seven Million*; Victorian Eco-Innovation Lab, University of Melbourne: Melbourne, VIC, Australia, 2015.

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