

ROADMAP FOR A RESILIENT AND SUSTAINABLE MELBOURNE FOODBOWL

Summary Briefing from Foodprint Melbourne

March 2019

Summary

- Five key pillars of policy action underpin a resilient and sustainable city foodbowl – farmland protection, farm viability, water access, nutrient recycling and sustainable farming
- Farmland should be permanently protected on Melbourne’s fringe by maintaining Melbourne’s Urban Growth Boundary, mapping agricultural land and introducing a new food production ‘zone’
- Promoting the viability of farming in Melbourne’s foodbowl is as important as protecting farmland
- Water reuse for food production should be increased to address water scarcity in a warming climate
- City foodbowls offer opportunities to close the loop by returning valuable nutrients from city organic waste back to the soil
- A diverse range of sustainable farming approaches should be promoted in Melbourne’s foodbowl to increase the resilience of the city’s food system

Foodprint Melbourne

This briefing summarises the findings of the Foodprint Melbourne report *Roadmap for a resilient Melbourne foodbowl*¹. The report outlines a vision and roadmap for preserving Melbourne's foodbowl for current and future generations as a fundamental building block in a healthy, resilient, sustainable and fair food system. This vision and 'roadmap' was developed through a collaborative process involving stakeholders.

The briefing builds on the findings of the report *Food for Thought: Challenges and opportunities for farming in Melbourne's foodbowl*², which identified the policy challenges facing Melbourne's foodbowl and opportunities to strengthen food production in the region. Foodprint Melbourne is led by an inter-faculty team at the University of Melbourne. The project is funded by the Lord Mayor's Charitable Foundation and involves local governments as key partners. Christian Duell of Whitelight Education also assisted the Foodprint Melbourne team to run a series of co-design workshops with stakeholders for this phase of the project.

Introduction

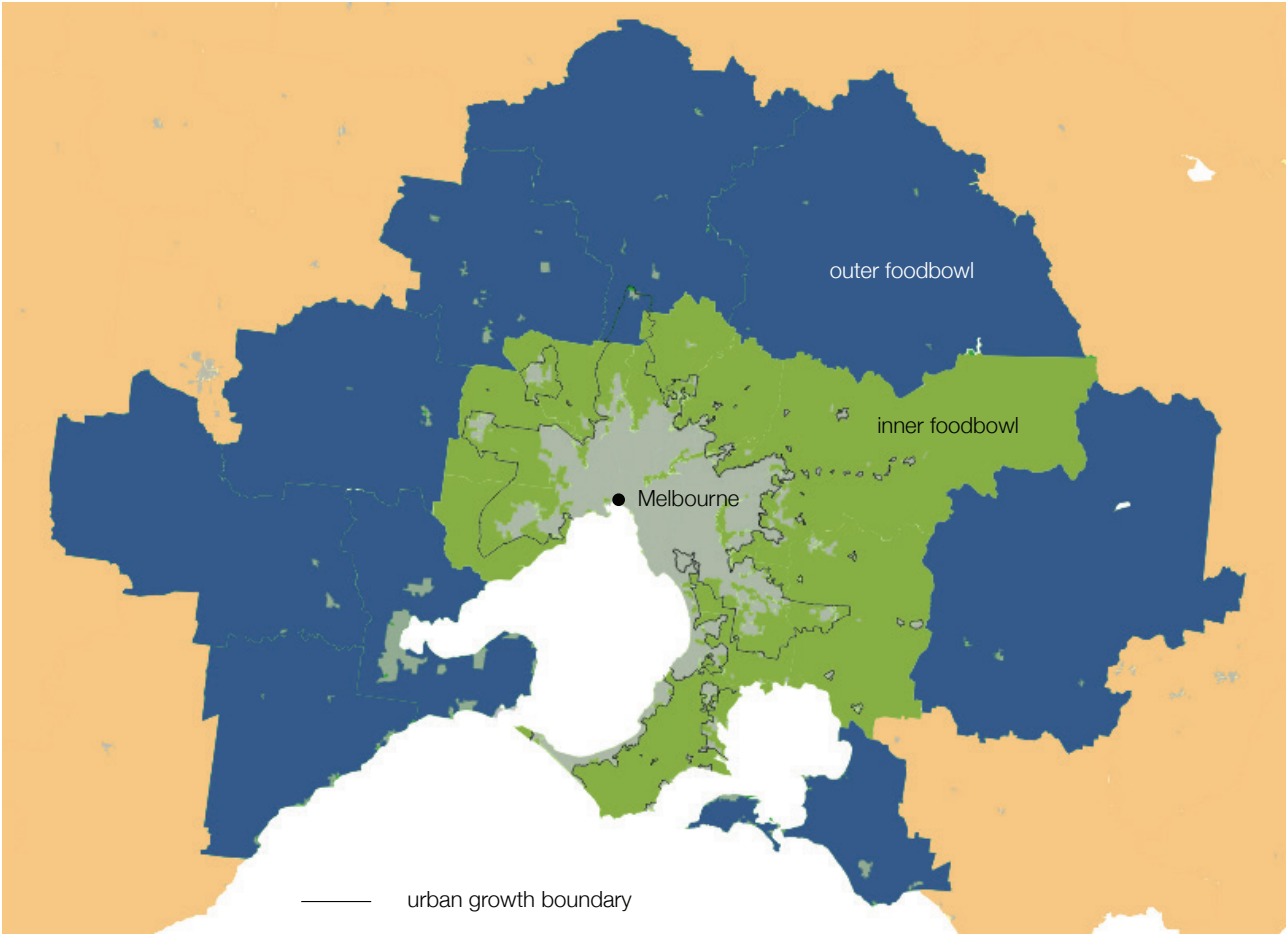
Melbourne is ringed by a highly productive foodbowl that produces a wide variety of fresh foods for city residents, as well as contributing to national and global food supply.

In 2015, this foodbowl had the capacity to meet around 41% of Greater Melbourne's food needs and over 80% of its fresh vegetable needs.³ Melbourne is predicted to reach a population of at least 8.6 million by 2066.⁴ If the city continues to grow as it has in the past, by the time it reaches a population of 7 million, the capacity of Melbourne's foodbowl to meet the city's food needs could fall from 41% to 18% due to a combination of population growth and loss of farmland.⁵

However, if Melbourne can retain its foodbowl as the city grows, it could help the city to address increasing pressures on its food supply from population growth, climate change and declining availability of the natural resources that underpin food production.

Farmers close to cities have access to water and nutrients from city waste streams. More of the city's wastewater could be made available to farmers in Melbourne's foodbowl to counter water scarcity and more of the city's organic waste could be processed into compost and biofertilisers for use on nearby farms. These strategies to increase the resilience of the city's food system will only be available in future if a precautionary approach is adopted now to retaining the city's farmland and promoting the viability of its farmers.

Figure 1 Melbourne's foodbowl



Challenges to Melbourne's foodbowl

Melbourne's foodbowl faces a range of challenges, including climate change, declining supplies of the natural resources that underpin food production (land, water, fossil fuels and phosphate rock), the impacts of unsustainable farming practices on natural ecosystems and pressures on the viability of farming in the region.

Land and soil

Melbourne's foodbowl faces challenges from loss of agricultural land to other uses and from degradation of soils. Loss of farmland due to urban expansion on Melbourne's fringe is an ongoing risk that has the potential to impact both the productive capacity of Melbourne's foodbowl and the region's economy.⁶

Victoria's soils are affected by salinity, acidification, erosion and loss of soil structure, and low carbon content.⁷ Many of these issues are caused or exacerbated by intensive agricultural production. There is a need to shift to more sustainable farming approaches that promote retention of native vegetation and continuous ground cover, and that reduce soil disturbance, over-irrigation of crops and over-application of conventional fertilisers.⁸

Farm viability

Farmers across Victoria are caught in a tight 'cost price squeeze' as the cost of inputs (like fertilisers, labour, fuel and water) rises and the farmgate price for their produce falls. In addition to these pressures, farmers in Melbourne's foodbowl face additional challenges due to the high costs of farming close to the city and the conflicts that can arise in farming close to residential areas. However, farmers on the fringes of cities can thrive and reap the rewards of their proximity to markets if strategies are implemented to actively promote the viability of farming in these areas and to address the particular challenges that they face.⁹

Climate change

The impacts of climate change on Australian agriculture are already being felt and climate change will continue to have a profound impact on agriculture in Victoria, including in Melbourne's foodbowl.¹⁰ Climate projections indicate that over coming decades Australia will experience an increase in heatwaves, a decrease in rainfall during cool seasons and more time in drought (but also more extreme rainfall events).¹¹ Long term planning is needed to put infrastructure in place that will enable farms in Melbourne's foodbowl to thrive under these conditions, including infrastructure to increase water reuse for food production.

Water

Water availability and reliability is one of the main constraints on food production in Melbourne's foodbowl and elsewhere in the state.¹² Schemes to reuse urban wastewater for food production are likely to become more important in future in a warming climate.

As Melbourne's population increases, more wastewater will be processed at the city's water treatment plants. Stormwater runoff will also increase, due to the expansion of hard surfaces in new suburbs, increasing the risk of flooding.¹³ There is an opportunity to harness more of this water for agriculture in Melbourne's foodbowl to support both the regional economy and the city's food security in a warming climate.

Fertilisers and fossil fuels

Food production is heavily dependent on synthetic fertilisers, which provide essential nutrients for plant growth. It is also dependent on fossil fuels, which provide the energy to manufacture conventional fertilisers, fuel farm machinery, and to transport and refrigerate food.¹⁴ Over-use of synthetic fertilisers and continued use of fossil fuels for food production has damaging environmental impacts, and supplies of these resources will become increasingly constrained (and more expensive) in future.¹⁵ A resilient and sustainable Melbourne foodbowl will need alternatives.

City foodbowls have the advantage of being close to markets, which reduces energy demand for transporting food and for refrigeration during transportation. They also offer many opportunities for closing the loop to return valuable nutrients from city waste back to the soil, reducing reliance on non-renewable resources.¹⁶

Biodiversity

Agriculture is one of the main drivers of biodiversity loss globally through land clearing, over-exploitation of resources and pollution.¹⁷ Clearing of native vegetation for agriculture in Victoria has led to the loss of around half of Victoria's native vegetation and widespread loss of habitats.¹⁸ There is a need to prevent further loss of native vegetation in the region. Adoption of sustainable farming approaches should also be encouraged and incentivised, including integration of native biodiversity into productive farming systems.

Roadmap for a resilient and sustainable Melbourne foodbowl

An integrated approach

Planning for a resilient and sustainable city foodbowl requires an integrated policy approach that includes five key pillars of policy action (see figure 2).

Figure 2 An integrated approach

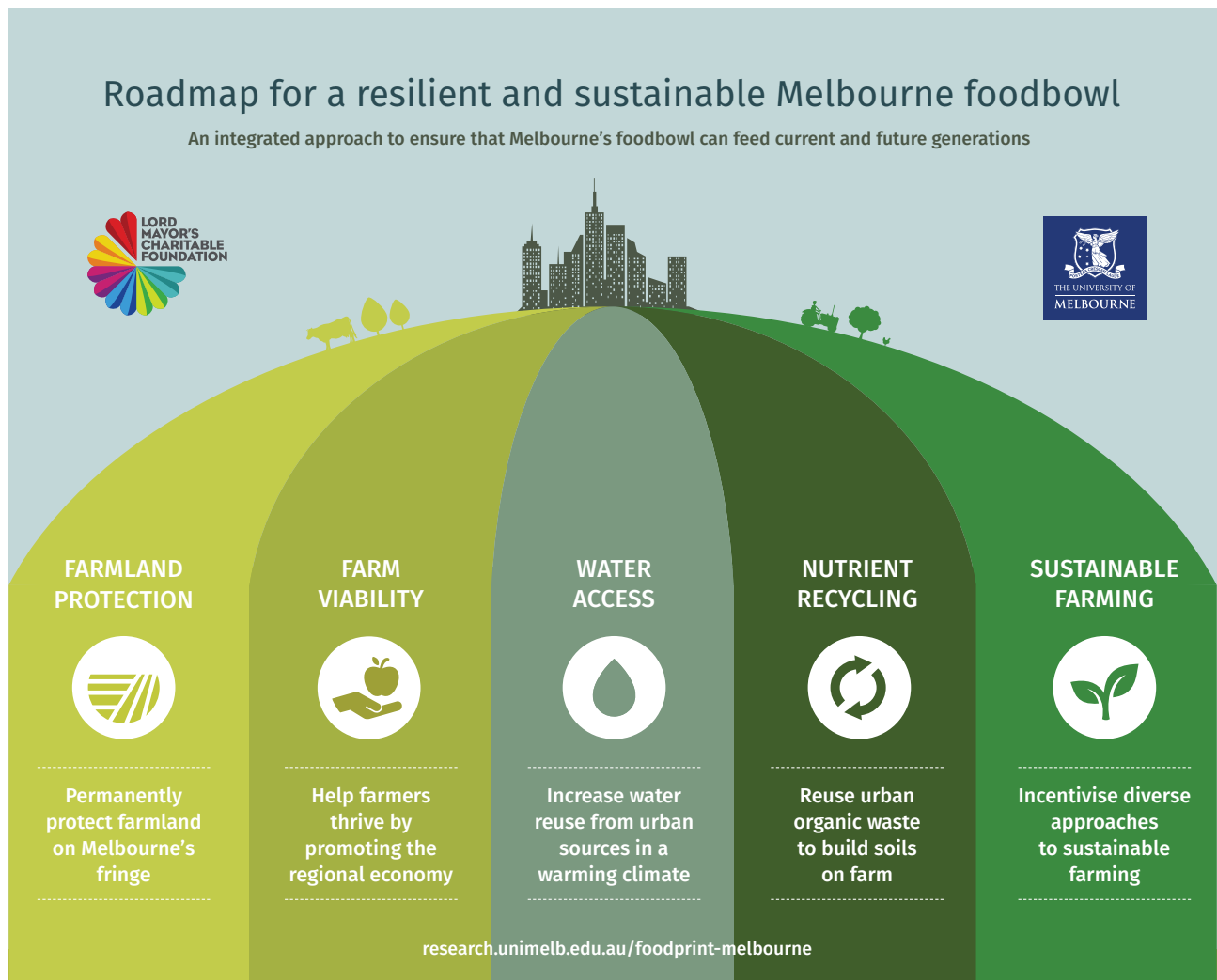


Table 1 Recommendations for a resilient and sustainable Melbourne foodbowl

No.	Recommendation	Goals this recommendation supports				
		Farmland protection	Farm viability	Water access	Nutrient recycling	Sustainable agriculture
Overarching recommendations						
	Develop a food systems planning strategy	●	●	●	●	●
	Develop skills in food systems planning	●	●	●	●	●
	Establish a local government alliance to support sustainable food production in Melbourne's foodbowl	●	●	●	●	●
	Raise public awareness of the importance of Melbourne's foodbowl and farmers	●	●	●	●	●
Farmland protection: Permanently protect farmland on Melbourne's fringe						
	Maintain Melbourne's Urban Growth Boundary	●	●	●		●
	Map agricultural land on Melbourne's fringe	●	●	●		
	Introduce a new 'food production zone' to protect farmland on Melbourne's fringe	●	●			
	Promote Melbourne's green wedges to the general public	●	●			
	Strengthen the effectiveness of green wedge management plans	●	●	●		
	Create multi-functional urban-rural buffer zones	●	●	●		●
Farm viability: Help farmers thrive by promoting the regional economy						
	Invest in infrastructure that enables small-medium scale farmers to gain greater control of supply chains and to sell direct to consumers and businesses		●			●
	Ensure that producers and support agencies in the peri-urban Melbourne area are eligible to access relevant funding streams		●	●	●	●
	Apply differential 'farm rates' to actively farmed land in all areas of Melbourne's foodbowl	●	●			●
	Provide economic development officers with agribusiness skills in Melbourne's foodbowl		●			●
	Support new farmers to access land in Melbourne's foodbowl and retiring farmers to transition out	●	●			
	Strengthen government food procurement standards to give preference to Victorian produce and to pay farmers a fair price		●			
	Develop an agricultural prospectus for the Melbourne metropolitan region	●	●			●
	Protect the rights of farmers in foodbowl areas	●	●			●
	Promote agritourism initiatives in Melbourne's foodbowl and support farmers to develop agritourism initiatives		●			
	Promote farmer wellbeing in peri-urban farming areas		●			●
Water access: Increase water reuse from urban sources in a warming climate						
	Implement a holistic approach to managing water assets in farming areas using an integrated water management framework	●	●	●	●	●
	Develop integrated assessment frameworks for costing the delivery and benefits of recycled water for agriculture		●	●		
	Investigate options for greater re-use of stormwater in and around Melbourne			●		

Set targets for water reuse and stormwater use		●	●	●
Strengthen protection for Melbourne's green wedges	●		●	●
Undertake water infrastructure planning now for water to support food production in and around Melbourne in a warming climate	●	●	●	●
Increase investment in fit-for-purpose water projects for agriculture		●	●	
Invest in opening up new areas of Melbourne's foodbowl for irrigated agriculture using recycled water	●	●	●	●
Local governments should collaborate to drive investment in infrastructure that delivers fit-for-purpose water to farmers		●	●	●
Educate water customers to build understanding of the role of water re-use for agriculture		●	●	●
Investigate options for better matching the quality of water needed for different types of agriculture and crops as part of a 'fit-for-purpose' water framework		●	●	●
Support greater uptake of water-efficient crops		●	●	●
Explore with Indigenous Australians the potential for research into water-efficient indigenous food crops			●	●

Nutrient recycling: Reuse urban organic waste streams to build soils on farm

Develop approaches to prevent and manage contamination of organic resource streams		●		●	●
Collaborate with farmers to develop fit-for-purpose compost products that meet industry needs		●		●	●
Establish a Melbourne Nutrient Recycling Network to help match known sources of nutrients in Melbourne and the city's foodbowl with demand for these nutrients				●	●
Support practice change to enable farmers to effectively use recycled organic products				●	●
Develop a scheme to accredit agricultural consultants who advise farmers on recycled organic products		●		●	●
Develop recycled nutrient products for use in controlled-environment agriculture				●	●
Conduct field trials to demonstrate the productivity and environmental benefits of using organic composts for agricultural industries				●	●
Stimulate the development of new agricultural markets for recycled organics				●	●

Sustainable farming: Incentivise diverse approaches to sustainable farming

Incentivise sustainable farming practices through local government rate rebates and direct payments		●			●
Promote a diverse range of approaches to sustainable farming in Melbourne's foodbowl					●
Provide extension services in sustainable farming to peri-urban producers		●			●
Establish a Cooperative Research Centre or Rural Research and Development Corporation for sustainable peri-urban farming		●	●	●	●
Assess how existing financial supports to farmers affect environmental outcomes					●

More information

This briefing was prepared by Rachel Carey, Kirsten Larsen and Jen Sheridan.

For more information about the Foodprint Melbourne project, including project reports and infographics, see the [project website](#) or contact:

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