Melbourne’s food future
Planning a resilient city foodbowl

Summary

- As Melbourne grows to a population of 7-8 million people by 2050, it will need at least 60% more food, but there will be less land available to produce it.
- Melbourne’s foodbowl currently has the capacity to meet around 41% of the city’s food needs, but this could fall to 18% by 2050.
- Rising demand for food, combined with lower supply, is likely to contribute to rising food prices.
- Melbourne’s foodbowl currently contributes $2.45 billion per annum to the city’s regional economy and around 21,000 FTE jobs.
- Melbourne needs to plan for a resilient city foodbowl in order to increase the city’s food security, protect against climate impacts and strengthen the regional economy.

Introduction

Melbourne is at the centre of a highly productive foodbowl. This foodbowl is a valuable source of fresh, healthy food for the city’s population, and makes a significant contribution to the regional economy. As Melbourne grows to a predicted population of 7-8 million people by 2050, the city will need at least 60% more food, but it will have less land available to produce it.

If Melbourne’s expansion continues to follow long term trends, the capacity of Melbourne’s foodbowl to feed the city could fall significantly. City foodbowls around Australia’s other state capitals are unlikely to be able to meet deficits in Melbourne’s fresh food supply, as they are facing similar pressures from population growth and urban sprawl. If Melbourne can grow in a way that retains the capacity of its foodbowl, the foodbowl could strengthen the resilience and sustainability of Melbourne’s food supply in the face of pressures from climate change and increasing volatility in the global and national food system.

Foodprint Melbourne

This briefing summarises the findings of the Foodprint Melbourne project, which explores what it takes to feed Melbourne, vulnerabilities in the city’s food supply and the significance of Melbourne’s foodbowl for the city’s future food security.

Foodprint Melbourne is a joint research project from the Victorian Eco-Innovation Laboratory at the University of Melbourne and Deakin University. The project is funded by the Lord Mayor’s Charitable Foundation.
Melbourne's foodbowl

Melbourne's foodbowl has two distinct regions: the inner and outer foodbowl. The inner foodbowl grows a large proportion of highly perishable foods - such as fruit and vegetables - that benefit from being close to markets. It also has a high proportion of the state's poultry farming. The outer foodbowl is a more diverse region of food production. In addition to fruit and vegetable production, there is some livestock grazing and dairy production, and growing of grains and oilseeds (e.g. sunflowers).

Melbourne's foodbowl currently has the capacity to meet around 41% of Greater Melbourne's overall food needs, and around 82% of the city's vegetable needs. In fact, Melbourne's foodbowl produces around 47% of the vegetables grown in the state of Victoria. It also produces around 98% of berries grown in the state, 81% of chicken meat and 67% of eggs.²

Economic contribution of Melbourne's foodbowl

Production in Melbourne's foodbowl makes a significant contribution to the regional economy. Deloitte Access Economics carried out an economic analysis of Melbourne's foodbowl for the Foodprint Melbourne project, which found that Melbourne's foodbowl contributes $2.45 billion per annum to the regional economy and 20,001 full-time equivalent (FTE) jobs.²

<table>
<thead>
<tr>
<th>Value added ($ million)</th>
<th>Direct</th>
<th>Indirect</th>
<th>Direct</th>
<th>Indirect</th>
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</thead>
<tbody>
<tr>
<td>Employment (FTEs)</td>
<td>7,687</td>
<td>5,719</td>
<td>7,596</td>
<td>5,719</td>
</tr>
<tr>
<td>Agriculture</td>
<td>956</td>
<td>742</td>
<td>742</td>
<td>5719</td>
</tr>
<tr>
<td>Food manufacturing</td>
<td>7,687</td>
<td>5,719</td>
<td>7,596</td>
<td>21,001</td>
</tr>
</tbody>
</table>

Table 1: Economic contribution of agriculture and food manufacturing in Melbourne's foodbowl. Reproduced from Deloitte Access Economics (2016). Note that value added figures are denominated in 2014-15 dollars.

The fruit and vegetable industries make the largest economic contribution in Melbourne's foodbowl (43% of the total contribution of agriculture) and employ the largest number of people in agriculture (39% of the total number employed).

Who's going to farm?

The Australian farming sector has come under increasing pressure over the last two decades from ongoing structural change and from challenges to farm profitability. Challenges to farm profitability have been driven particularly by the rising cost of inputs – such as fuel, fertilisers and pesticides - and the growing market power of the major retailers, which has put downward pressure on farmgate prices. These pressures on farm profitability put particular stress on farms in Melbourne’s foodbowl, which may have difficulty expanding to achieve economies of scale, due to the limited availability and high cost of land, and because of land fragmentation.

Strategies to increase the resilience of Melbourne’s foodbowl will need to address the issues of farm profitability and the inflated value of farmland in multiple ways – breaking the cycle of speculative investment, introducing initiatives that enable ageing farmers to transition out of farming, and also making it easier for new farmers to access farmland in Melbourne’s foodbowl. Most importantly, initiatives are needed to help farmers to capture a greater share of the food dollar by selling produce from Melbourne's foodbowl into local and regional markets.

Water scarcity

South-east Australia is a water scarce region, and climate change is likely to further reduce the amount of water available for agriculture. There is a significant opportunity to increase the delivery of recycled water for agriculture in Melbourne’s foodbowl. Around 6% of the recycled water available from Melbourne’s two main water treatment plants (the Eastern and Western Treatment Plants) is currently used for food production, while 84% is unused and disposed of at sea. Around 10% of this unused water would be enough to grow half of the vegetables needed to feed Melbourne. Increased investment in delivery of recycled water from the city’s water treatment plants could create “drought-proof” areas of food production in Melbourne’s foodbowl.

Food waste

Feeding Melbourne generates around 207 kg of food waste per person per year. Around 40% of this waste is ‘post-consumer’ waste, generated by households and in restaurants and cafes. Around 60% of the waste is generated at earlier stages of the food supply chain – on farm and during processing and distribution.²

This waste undermines the sustainability and resilience of Melbourne’s food system. It is a significant source of avoidable GHG emissions, and also represents a waste of the land, water, energy and other inputs that were used to produce the food. There are opportunities to reduce food waste across the food supply chain and to strengthen the resilience of Melbourne’s food system. They include harnessing city food waste as an alternative source of fertilisers (and animal feed) for nearby farms on the city fringe, and finding new markets for edible ‘B grade’ farm produce that fails to meet the strict product specification standards of retailers and might otherwise be wasted on farm.
Planning a resilient foodbowl

Melbourne can plan for a resilient city foodbowl that:

• provides fresh, healthy food to meet the needs of Melburnians as the city grows
• fosters a vibrant regional food economy
• increases resilience to future food system stresses and shocks
• promotes sustainable food production and consumption, for current and future generations

This infographic presents a visual concept of a resilient city foodbowl for Melbourne. In this vision, Melbourne retains its city fringe farmland as a source of fresh, healthy food as the city grows, reducing the city’s dependence on distant sources of food. Valuable city waste streams are harnessed for food production to counter decreasing supplies of water and conventional fertilisers. Areas of farmland close to the city’s water treatment plants are developed as “drought proof” areas of food production. Food from Melbourne’s foodbowl is easy to identify and widely available throughout the region, and local and regional food systems are strengthened, growing the regional economy.
We present here a framework that brings together some of the elements that are likely to be necessary in planning a resilient city foodbowl, with five overarching policy objectives that emerge from the findings of the Foodprint Melbourne project. We do not recommend specific policy solutions, as ‘fit for purpose’ policy solutions will be best identified through a cross-sector and collaborative policy process. However, we have identified and outlined a range of possible policy approaches as a basis for further policy development.

<table>
<thead>
<tr>
<th>Policy objective</th>
<th>Potential policy approaches to achieve the objective</th>
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| Protect farmland in Melbourne’s foodbowl | - Fix the Urban Growth Boundary as a hard boundary  
- Strengthen regulatory measures to reduce land fragmentation and prevent the introduction of urban-related land uses to non-urban areas  
- Reduce pressure on growth boundaries by increasing densities in new outer urban and established metropolitan areas and shift development pressure from the fringe to existing urban areas  
- Introduce a specific planning mechanism for areas of food production  
- Explore the potential of transferable development rights  
- Encourage the establishment of a farmland trust |
| Encourage farmers to farm in Melbourne’s foodbowl | - Make it easier for new farmers to access land in the foodbowl, and support sustainable farming approaches  
- Recognise and reward the ‘public good benefits’ of farming in Melbourne’s foodbowl e.g. ecosystem services  
- Reduce land use conflict through information provision, ‘acceptable farm activities’ policy amendments or right to farm approaches |
| Grow a vibrant regional food economy | - Develop communications, marketing or labelling to promote food from Melbourne’s foodbowl  
- Introduce a state government food procurement scheme that includes a preference for regionally produced food  
- Develop clusters and networks to support regionally-focused food production, processing and distribution enterprises  
- Consider developing ‘Cottage Law’ regulations appropriate for small scale producers and processors |
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| Reuse water to grow food in a drying climate | - Invest in infrastructure to increase the delivery of recycled water to farmers  
- Set a target in state water policy for delivery of recycled water for agriculture  
- Establish ‘drought proof’ areas of food production in proximity to key water treatment plants  
- Explore options for potential use of stormwater in city fringe farming |
| Reduce and reuse food waste and organic waste | - Invest in infrastructure to process city food waste and organic waste into animal feed and fertilisers for use on farm  
- Establish a grant scheme for innovative new enterprises that use second grade produce from Melbourne’s foodbowl  
- Establish a food waste network that brings stakeholders from across Melbourne’s food system together to tackle food waste |

Foodprint Melbourne, 2016
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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Endnotes:

4  The directions in current planning policies were considered in these scenarios. See full report for detail.